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Ex Post Evaluation of England Rural Development Programme
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1 Summary

The England Rural Development Programme (ERDP) was drawn up by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1999 to implement the Rural Development Regulation (RDR) of the European Union (EU) (Council Regulation (EC) No. 1257/1999). The ERDP brought together previously disparate rural development activities under one umbrella programme [Section 2.1]

Implementation: ERDP supported two broad areas of activity: ‘land-based’ schemes to support positive environmental management, and ‘project-based’ schemes to stimulate socio-economic and environmental adaptation within and beyond farming, in rural England. In general, the land-based schemes were mostly well established under previous programmes and were thus simply brought into the ERDP framework in 2000. These included Farm Woodland Premium Scheme (FWPS), Woodland Grant Scheme (WGS), Environmentally Sensitive Areas (ESA), Countryside Stewardship (CSS) and Organic Farming Scheme (OFS). By contrast, the socio-economic schemes were newly created for ERDP, although they drew heavily on past experience from similar programmes: Vocational Training Scheme (VTS), Rural Enterprise Scheme (RES), Processing and Marketing Grant (PMG) and Energy Crops Scheme (ECS) [Section 2.3].

Changing policy and institutional background: Since the Mid Term Evaluation (MTE) was published (ADAS & SQW, 2003) several national policy evaluations, reforms, reviews and strategies have influenced the further development and delivery of the programme. These have involved a significant degree of institutional reorganisation, in addition to the reform and relaunch of significant elements of the ERDP schemes and wider rural and agricultural policies. Recent changes have seen WGS and FWPS combined into the English Woodland Grant Scheme (EWGS), and the launch of Environmental Stewardship, comprising Entry Level Scheme (ELS), Higher Level Scheme (HLS) and the Organic Entry Level Scheme (OELS). CSS, ESA and OFS are closed to new business [Section 2.2]

1.1 Ex Post Evaluation terms of reference

Hyder Consulting (UK) Ltd with sub-consultants ADAS UK Ltd and the Countryside and Community Research Institute (based at the University of Gloucestershire) are appointed as independent evaluators. The evaluators are to produce an Ex Post Evaluation (EPE) that meets the requirements of the Rural Development Regulation, its Implementing Rules (Council Regulation (EC) No 1257/1999 and Commission Regulation (EC) No 817/2004) and associated EU Commission guidance. The set of common evaluation questions defined for the MTE must again be applied in the context of the Ex Post Evaluation. This report therefore follows guidance issued for the MTE1, at the European Commission’s direction2. The Ex Post Evaluation (EPE) is funded under the technical assistance component of the Rural Development Programme for England (RDPE), 2007 – 2013 [Section 2.4].

1.2 Methodology

The evaluative method was largely driven by the questions of the European Commission. These were mapped against available evaluations and data to show the gaps in information. A survey

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2 http://ec.europa.eu/agriculture/eval/ms_note_en.pdf
was designed to fill the gaps in the data. Three regional focus groups were held in Yorkshire Humber, East Midlands and the South West, attended by public sector and non-governmental organisations. Detailed consultation interviews were also completed [Section 3]

1.3 Achievements

The ERDP had two priorities at a Programme level:

**Priority A: Creation of a productive and sustainable rural economy**

**Priority B: Conservation and enhancement of the rural environment**

**Priority A** objectives were to assist projects which contribute to more diverse and competitive agricultural and forestry sectors, the creation of new jobs, new products and market outlets, encouraging collaborative marketing and provision of targeted training. Output indicators were applied where impact indicators were not available. The first result (in italics) provides information from the MTE. The second result (in bold) refers to the situation at the close of the ERDP in 2006 [Sections 4.3 to 4.6].

- To increase farm revenues from diversified sources by 25% on full time farms in England by end 2006: Not answered in MTE. [To be completed] EPE
- To assist 6,000 – 7,000 projects under the Rural Enterprise Scheme by 2007: 1,079 from monitoring-MTE. **3,028 from monitoring** (ERDP Annual Report 2006 page 38)
- To assist 370 businesses with Processing and Marketing Grants by 2007: 79 from monitoring-MTE. **248 from ERDP Annual Report 2006 page 38**
- To assist 200 village initiatives through the Rural Enterprise Scheme by 2007: 33 from monitoring-MTE. **548 from monitoring** (ERDP Annual Report 2006 page 38)
- To create 4,000 – 6,000 Full Time Equivalent jobs through the Rural Enterprise Scheme: 1,799 from monitoring-MTE. **14,553 from monitoring** (Defra ERDP Annual Report 2006 page 38)
- To create 2,200 Full Time Equivalent jobs through Processing and Marketing Grants by 2007: 2,105 from monitoring-MTE. **8,393 from monitoring** (ERDP Annual Report 2006 page 38)
- To provide 48,000 full cost equivalent training days for people in farming and forestry by 2007 to support successful delivery of measures under this Programme: 14,256 from monitoring-MTE. **156,000 from monitoring** (ERDP Annual Report 2006 page 38)
- To increase by 21,000 Ha the area of agricultural land planted with trees by 2007: 9,623 ha from monitoring-MTE. **30,921 ha. from monitoring** (ERDP Annual Report 2006 page 39)

Evidence collated within answers to the common evaluation questions suggested that costs were reduced in key production chains e.g. ERDP assistance reduced ECS costs by approximately half (indicator X.4-1.1).

**Priority B** had objectives to increase significantly the area covered by the schemes operated under the agri-environment measures, and to maintain the sustainable management of an appropriate size of the Less Favoured Area.

- To deliver by 2007 the 5-year 2010 Biodiversity Action Plan targets for creation of field margins through the Countryside Stewardship Scheme: 17,326 ha by the end of 2002 from monitoring-MTE. **Scheme closed; target met** (ERDP Annual Report 2006 page 39)
- 60% of farmed land in England to be covered by an Entry Level Environmental Stewardship agreement by 2007: Scheme launched after MTE. **39% of farmland in England** (ERDP Annual Report 2006 page 39)
- To achieve an additional 525,000 ha of land under a combination of Countryside Stewardship and Environmental Stewardship (Higher Level) agreements by 2007: **304,000**
ha by the end of 2002 from monitoring-MTE. Achieved (ERDP Annual Report 2006 page 40).

- 40,000 ha of land converted or converting to organic farming by 2007 by:
  (a) Attracting, retaining and transferring 280,000 ha of fully organic land and land converted and under agreement within the OFS to the organic strand of the Environmental Stewardship scheme (OELS) in 2005: N/A in MTE. **168,045 ha (OELS) by end of 2006 (ERDP Annual Report 2006 page 41), which is 60% of 280,000.**
  (b) Increasing the area of land under conversion and under agreement within the OELS by 20,000 ha per annum in 2005 and in each year thereafter. N/A in MTE. **Not reported in ERDP Annual Report**

- To maintain at least the current areas of land in either ESA or Environmental Stewardship agreements: **Target achieved to maintain at least the current areas of land under ESA-MTE. Transfer rate to ES was 24.39%. 377,072 ha of existing land under agreement retained within ESA until the close of the programme (ERDP Annual Report 2006 page 40).**

- To maintain extensive grazing on 1.4 million ha in the Less Favoured Areas: **Achieved-MTE.**

- To increase by 10% the proportion of land in higher ESA tiers by 2004: **Achieved-MTE. Scheme closed (ERDP Annual Report 2006 page 40)**

1.4 Financial effectiveness

The ERDP had an overall budget of approximately £1.6bn from European Agricultural Guidance and Guarantee Fund (EAGGF) and UK Treasury.

![Figure 1 Comparison of total budgeted and actual spend by ERDP chapter](image)

The ERDP was funded 29.3% by EAGGF, 11.9% by modulation (which indirectly also came from EAGGF) and 58.8% by the UK Treasury. The modulation funds were concentrated on Chapter 6 Agri-environment spending which received £186.6 million or 99.7% of the total modulated funding [Sections 4.1 and 4.2].

1.5 Conclusions

The process of drawing up and implementing the ERDP was an innovation in consultation and partnership for integrated rural development which most stakeholders, whatever their
reservations, saw as a constructive development when compared to previous exercises [Section 5.1.1].

Socio-economic schemes varied in performance against targets, with shortfalls in the number of businesses reached by RES and PMG but jobs created exceeded targets, as did the number of training days. It should be noted that these figures are based on the ex-ante judgement of likely jobs created by projects at the time of awarding the grant; and not upon actual ex-post impact [Section 5.1.1].

The financial effectiveness of ERDP schemes has varied with project based schemes generally becoming more effective as the programme progressed and the agri-environmental schemes apparently less effective, at least in the short-term. The socio-economic schemes were negatively influenced by the foot and mouth epidemic in 2001. Woodland schemes have been effective in meeting their targets [Section 5.1.3]. To firmly establish effectiveness it would be necessary to have more output based objectives and measure their achievement.

The evidence for the wider effectiveness of the socio-economic aspects of ERDP (mainly the project-based schemes) is weak, but this is largely due to a significant lack of evaluation evidence rather than any demonstrable weaknesses in performance. Based upon simple output indicators, scheme performance appears positive, and this is supported by a range of stakeholder opinion as expressed in interviews and discussions. However, the relatively small scale of socio-economic support in ERDP by comparison to the size of the rural economy and the apparent impact of wider policy and market developments during the period suggest that at the macro level, ERDP impacts will be modest. Results from the EPE survey should help to increase our understanding of the nature and significance of these impacts [Section 5.1.2].

Given the emphasis of expenditure within ERDP, an enhanced environment should have been the main impact of the programme. The evidence for this at present relates mainly to investment elements within the programme (both in the land management and in the wider rural economy schemes). The lasting benefit of ongoing environmental management under the agri-environment and woodland schemes is likely to be significant simply in view of the ongoing commitments under these schemes. The initial level of transfer from closed agri-environment schemes to the new Environmental Stewardship schemes has been low, but numerous, interrelated factors affect whether land is transferred to new schemes, and further research has been published (e.g. Defra and Natural England, 2008) [Section 5.1.2].

Judged by targets and programme outputs, ERDP appears to have performed reasonably well, but this ignores the varying efficiency with which inputs were transformed into net benefits. Very limited evidence is available upon which to draw conclusions about value for money. The challenge of identifying the counter factual for a widespread scheme with high take up is also acknowledged. The better measurement of results and impacts of programme expenditure, using quantitative methods where appropriate alongside qualitative evaluation, will enable the assessment of net benefits [Section 5.1.3]. Target setting needs to be both bottom up and top down to ensure stakeholder support, and needs increasingly to look beyond simple outputs, to capture programme results and impacts. Target setting should be needs related and the process should help motivation and ownership by delivery bodies and stakeholder groups.

The ERDP Programming Document explained that priority would be given to measures which contribute to the delivery of more than one objective … or are combined… to achieve additional benefits (paragraph 6.1.51). There was limited integration between schemes at the level of individual beneficiaries but this partly because the spend was so concentrated upon agri-environment schemes. Expenditure was heavily concentrated on attempting to deliver positive environmental outcomes with 94% of projects and 90% of expenditure concentrated upon these. However, the benefits of integration at a more strategic level were apparent, and efforts to encourage a more integrated approach to the targeting and cumulative impact of programme funding developed throughout the programme period [Section 5.1.4].
Sustainability, or lasting effects, arising from ERDP is underpinned by several factors including the optimum blend of advice and promotion and a high standard of business planning from beneficiaries. Collective direction, with a sufficient volume of activity to raise the profile with well-established schemes, is important in developing cumulative benefits from rural development. Strategic planning and promotion of landscape and filière-scale outputs is important in ensuring the resilience of programme gains [Section 5.1.2].

Facilitation includes advice, skills enhancement, and business support. It is applicable throughout the project lifecycle: from promotion, to application screening, the application itself, and subsequent implementation. ERDP schemes vary in the amount of facilitation in both amount (simple resource cost) but also in type, timing and quality (which may be independent of simple resource cost). Evidence from the consultations and other research highlights the importance of facilitation, but stresses that it is expensive and must be delivered at an optimum level in order to maximise the impact [Section 5.1.5]. Rural development programmes should try to induce permanent changes in behaviour, not just changes which revert when the funding ends.

It is apparent that Defra have not yet designed and implemented a robust system for the monitoring of running costs. The evaluators are therefore unable to draw meaningful conclusions about efficiency of the ERDP delivery. The limited evidence available suggests that running costs vary considerably. Initial high running costs of new agri-environment schemes include the costs of new technology; greater efficiencies should be demonstrated further into the new programming period. It is recognised that whilst costs should be controlled, complex schemes such as HLS are more expensive to run than simple schemes such as HFA [Section 5.1.3].

The ERDP experienced many changes to its own operations [Section 4.5], and in a broader rural development context in England [Section 2]. The impact of such changes exposed weaknesses in the management of new or complex schemes. Defra and its agencies were not alert and rapidly responsive to implementation problems and factors affecting beneficiary perceptions, accessibility and uptake. This is particularly pertinent when many different and challenging developments were due to occur over the same time period [Section 5.1.6].

Valuable lessons have also been learned from the implementation arrangements. At the beneficiary level, an apparent decline in the relationship between farmers and government agencies has been reported in consultations and elsewhere. Whilst this may not be directly related to ERDP design or implementation, it may have affected the ERDP’s effectiveness. The relationship between government agencies, stakeholders and other intermediaries is extremely important to the successful delivery of RD programmes. Indeed, ERDP represented a new beginning in some forms of consultation which were favourably discussed in consultation interviews. Problems encountered during ERDP reflect the real difficulties of change management and the importance of better planning to reduce adverse impacts on the businesses and groups who are the customers for rural development, not least because these impacts will, in turn, affect programme outcomes. Finally, consistency of objectives and scheme implementation is extremely important: consistent messages and continuity of aid enable relationships, trust and respect to develop between the ERDP management, and its beneficiaries [Section 5.1.6].

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3 Key production chains
2 Introduction

2.1 The England Rural Development Programme and the wider policy context

The England Rural Development Programme (ERDP) was drawn up by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1999 to implement the Rural Development Regulation (RDR) of the European Union (EU). The RDR is Council Regulation (EC) No. 1257/1999. The RDR drew together a number of activities that had previously been financed under separate legal provisions and budgets. It made possible financial support from the European Agriculture Guidance and Guarantee Fund (EAGGF) for new rural development initiatives. Separate programmes were prepared in each EU country or region; and in the UK, programmes were also drawn up in Wales, Scotland and N. Ireland. The ERDP was a seven year Programme from 2000 to 2006 inclusive, which, with funding from EAGGF and the Treasury, spent a total of £1.6bn.

The ERDP was approved by the European Commission (EC) in October 2000 and launched publicly in the autumn of that year. The Programme provided for the continuation and funding of several existing schemes. These were: the agri-environment schemes - Environmentally Sensitive Areas (ESAs), the Countryside Stewardship Scheme (CSS) and Organic Farming Scheme (OFS); Less Favoured Area (LFA) aid in the form of the Hill Farm Allowance (HFA); and forestry schemes – the Farm Woodland Premium Scheme (FWPS) for the afforestation of farmland and the Woodland Grant Scheme (WGS) for other forestry activities. In addition, four new schemes were created to support the adaptation and diversification of rural areas: the Rural Enterprise Scheme (RES), Vocational Training Scheme (VTS), Processing and Marketing Grant Scheme (PMG) and the Energy Crops Scheme (ECS). This was the first time that a number of rural schemes had been brought together under the umbrella of an overall programme of this size, available across the whole of England.

The programmes implemented under the RDR created a new ‘Pillar II’ of the Common Agricultural Policy (CAP), as part of the Agenda 2000 reforms, while CAP Pillar I comprises the long-standing commodity support regimes and other market management measures. Under further reforms of the CAP agreed in June 2003, steps were agreed to increase gradually the spending on rural development under Pillar II, at the expense of reductions in Pillar I spending, a process known as ‘compulsory modulation’. An increased rate of compulsory modulation has been agreed in November 2008 under the latest so-called CAP ‘Health Check’ reforms, to be implemented from 2009 (see http://www.defra.gov.uk/farm/policy/capreform/index.htm for further details). These decisions to increase the share of RD within the CAP budget make it increasingly important to learn from the performance of the first Rural Development Programmes (RDPs), in order to ensure that future RD funding is used to best effect.

In 2005, the Government published A Vision for the Common Agricultural Policy (HM Treasury and Defra, 2005) to contribute to debate about the future shape of the policy beyond the lifetime of the current programmes, which run until 2013. The Vision calls for a CAP which is more strongly focused upon support for the provision of public goods from agriculture, through policy mechanisms similar to those found under Pillar 2, currently. Again, this highlights the value of learning lessons from the use of these instruments in past programmes, and in particular, from the ERDP experience.
The changing policy and institutional context for ERDP

The ERDP was subject to MTE in 2003. Since this evaluation was published, several national policy evaluations, reforms, reviews and strategies have influenced the further development and delivery of the programme. These have involved a significant degree of institutional reorganisation, in addition to the reform and relaunch of significant elements of the ERDP schemes and wider rural and agricultural policies.

Agri-environment and the 2003 CAP reform

The government invited Sir Don Curry to chair a ‘Policy Commission on the Future of Farming and Food’, which was stimulated by the twin crises of sharp declines in farm incomes during the late 1990s and the serious Foot and Mouth disease outbreak of 2001-2. The Curry Commission presented its report to Government in January 2002. The government’s December 2002 response, a Strategy for Sustainable Farming and Food: Facing the Future built upon the Policy Commission’s work. A central recommendation from the Curry report was to create a new, ‘entry-level’ agri-environment scheme that all farmers could access, and to fund this scheme from the increase of so-called ‘voluntary modulation’, a provision under the CAP which allows individual Member States to shift funding from Pillar 1 to Pillar 2, within their territories, which the UK has implemented since 2001. The Sustainable Farming and Food Strategy (SFFS) thus initiated a major review of agri-environment schemes in England during 2003 and from the review, a new pilot entry-level scheme was devised. 600 farms participated in a trial of the scheme, during 2004. The new agri-environment approach for England, called ‘Environmental Stewardship’, was confirmed and launched in Spring 2005. Environmental Stewardship comprises an Entry Level scheme (ELS) which is available to land managers across England, as well as a more targeted Higher Level Scheme (HLS) and an Organic Entry Level Scheme (OELS) to support the environmental benefits of organic farming. The funding to enable the new approach was secured through the application of increased voluntary modulation up to a rate of 6% of Pillar 1 receipts, by 2006.

Also significant during the second half of the ERDP programme period was the implementation in England of almost full decoupling of Pillar 1 farm supports, as a result of the 2003 reforms to the CAP. This led to the replacement of former production-linked direct payments by a new ‘single payment scheme’ (SPS) for all pillar 1 aid in England, from 1 January 2005. The new SPS system required the creation of a new Rural Land Register (RLR) from which all entitlements to payments would be established, and entailed a gradual shift of the calculation of SPS support from a historical to a flat-rate area system, over 7 years from 2005. This change to the pillar 1 support system was highly significant and proved to have been inadequately planned and implemented, in its initial years. Thus in 2005 and 2006, a significant proportion of farmers experienced major delays and difficulties in obtaining their pillar 1 SPS payments under the new decoupled system. This negative experience had knock-on effects for the ERDP, in that the new agri-environment schemes also required information from the new RLR in order to process and approve applications. Thus the significant delay in establishing the RLR correctly also delayed the initial roll-out of the ES scheme.

The Rural Delivery Review and institutional reorganisations

In a separate development, Lord Haskins was asked by the Secretary of State for Environment, Food and Rural Affairs in November 2002 to carry out an independent review of the arrangements for delivering rural polices in England. This ‘Rural Delivery Review’ was stimulated by a perception that there were too many disparate funding streams, institutions and initiatives seeking to support aspects of rural policy, across England. The subsequent report, referred to as the Haskins Review, took eight months to complete and engaged with over 350
organisations and around 300 customers of rural delivery services. The review identified numerous challenges to be overcome, including poor coordination, a lack of accountability and evidence of confused customers. Lord Haskins made 33 key recommendations which can be seen at http://www.defra.gov.uk/rural/ruraldelivery/report/text/annex1.htm, and can be summarised in three themes:

- Improve accountability through a clearer separation of responsibility for policy and delivery functions;
- Bring delivery closer to the customer by devolving greater power to regional and local organisations to design and deliver economic and social policy;
- Make things better for the customer and get greater value for money for the taxpayer through a more integrated approach to regulation and simpler services (Haskins, 2003).

The Government responded to the Haskins review by developing a new Rural Strategy (Defra, 2004). This identified the priorities for policy delivery in rural England over the next three to five years, and set out how the Defra aim of achieving sustainable development was to be implemented, through three main delivery routes:

- Economic and Social Regeneration - supporting enterprise across rural England, by targeting greater resources at areas of greatest need;
- Social Justice for All - tackling rural social exclusion wherever it occurs and providing fair access to services and opportunities for all rural people; and
- Enhancing the Value of our Countryside - protecting the natural environment for this and future generations.

The bulk of the Rural Strategy was implemented through the Modernising Rural Delivery (MRD) Programme, which started in July 2004 and was completed in December 2006. The MRD Programme aimed to deliver rural services more efficiently, through a smaller number of organisations in a more streamlined way. The reader is referred to http://www.defra.gov.uk/rural/ruraldelivery/default.htm for further details, including a full report on progress against the commitments made. The MRD Programme led to significant changes to the delivery of rural services, several of which required legislation.

The Natural Environment and Rural Communities Act (2006) mandated the creation of a new delivery agency for the natural environment and countryside in England - Natural England. Natural England was officially created towards the end of the ERDP, in October 2006, but its genesis involved nearly 2 years of gradual institutional change, prior to this. It brought together English Nature (the government’s former nature conservation agency) with the landscape, access and recreation elements of the government’s former Countryside Agency – both bodies which had previously been policy and delivery agencies operating within the Environment Ministry’s sphere, and the environmental land management delivery functions of Defra’s Rural Development Service (the executive agency of Defra which had hitherto delivered agri-environment schemes in England for the former Ministry of Agriculture). The NERC Act also confirmed the independence of a new ‘Commission for Rural Communities’, a small agency created in April 2005, with the role of rural advocate, expert adviser and independent watchdog over rural policy delivery, but without any executive delivery functions.

The Haskins Review recommended that delivery of rural services be brought closer to customers, through regional administrations and delivery bodies. There are eight Regional Development Agencies (RDAs) in England which were set up in 1999 to promote socio-economic development within their territories and which have had a longstanding involvement in the delivery of EU Structural Fund programmes and other nationally-funded socio-economic initiatives. Accordingly, in the closing months of the ERDP, the socio-economic schemes within
the programme (VTS, PMG, RES and Producer Group element of ECS) were transferred from Defra’s Rural Development Service to the eight RDAs. The RDAs are now responsible for the design and delivery of Axes 1, 3 and 4 of the Rural Development Programme for England (RDPE), 2007 – 2013. Parts of Axis 1 (related to energy crops) and Axis 3 (historic environment) are delivered by NE.

The MRD Programme saw Defra revise its own rural funding streams, moving to a reduced number of schemes within a simplified framework, related to Defra’s three strategic objectives of Natural Resource Protection, Sustainable Food and Farming, and Sustainable Rural Communities. It is notable that ERDP cuts across all three objectives and its funds are therefore ‘divided’ between these goals.

It was within this context of major policy review, modernisation, institutional change and external influences such as the 2001 Foot and Mouth Disease outbreak that the ERDP operated. Thus although this evaluation examines its achievements against the original programming document and goals of the programme, the influences of these wider changes should not be underestimated.

2.2 Context for the ERDP – rural challenges and opportunities

Of the total population in England, 19% or 9.5 million people live in rural areas and although the population of England has increased by 6% overall since 1981, rural areas have experienced the biggest increases (Defra, 2005). In general, rural areas tend to attract older people and families with young children, whilst the younger people move to urban areas for education and enhanced job opportunities. Census data indicates that 11% of people in rural areas are aged between 18 and 29, compared with 16% in urban areas. 46% of people in rural areas are 45 or over, compared with 38% in urban areas (Defra, 2005a). It can be difficult for rural areas, particularly those furthest from major conurbations, to maintain the presence of young skilled workers, which may in turn affect the location decisions of businesses.

Rural and urban areas have broadly similar employment structures, with the exception of agriculture. Industries traditionally associated with rural areas, such as farming, mining, and seaside tourism are no longer the major sources of employment. The proportion of the total national workforce employed in farming has fallen from 2.8% in 1984 to 1.8% in 2003 (Defra 2004). The mean total income for farmers has increased from £16,900 in 1999/2000, to £20,500 in 2004/5. However, farmers consistently report lower incomes than other taxpayers with earned sources of income (Defra and ONS, 2007).

The drivers of productivity in England are the same for all areas, urban and rural: skills, investment, innovation, enterprise and competition. However, the context in which the drivers operate differs between rural and urban areas, and even between different rural areas (for example, between more and less remote areas). In general, rural areas perform as well as urban areas in terms of skills, innovation and enterprise but less well in terms of competition and investment. The other key driver of economic performance, employment, is also high in rural areas, with even the lowest-performing rural areas experiencing higher levels of employment than urban areas. There are also high levels of economic participation in terms of age and gender, in rural England (Defra, 2007).

The financial pressure on the agricultural industry was intense from the time of the developing slump in farm output prices from the late 1990’s which continued into the whole period of the ERDP. One possible business response to this was to diversify from old lines of production
supported by the CAP into new niche areas of farm production such as novel crops or livestock. Other business responses were to develop non-agricultural diversifications such as tourism, craft or property letting enterprises. In addition, value adding to the CAP supported products could develop products which fitted up market opportunities and which, if astutely run, gave better return on capital than the production of the raw agricultural product itself. These various business responses themselves required new skills among the farm entrepreneurs and those they employed. At one step away from the farm gate, if the food processing sector could be encouraged to add greater value to mainstream agricultural production, then that was a good way to improve prices for producers. These, and other ways of restructuring such as the shedding of labour and the creation of larger scale specialist farm production units, were just some of the ways in which agriculture was adjusting to change at the start of ERDP.

The gradual restructuring of the agricultural sector is not without impact upon wider society. Lobley et al., in an evaluation of Farm restructuring in England (2005), report evidence of both successful adaptation and resistance to change by a land management community which is becoming increasingly diverse in its social composition and behaviour. Few of the farmers interviewed for this study planned to leave their businesses in the next 5 years. Those who had actively restructured their business reported reduced stress and enhanced family/social time, as a result. But there was also evidence of farm businesses who were suffering financial and personal stress as a result of insufficient attention to the need to rethink their business strategies. It is not insignificant that among all sectors of employment, farming has one of the highest recorded suicide rates.

A uniquely different problem in rural areas is that of service provision which is the consequence of the more dispersed settlement in rural areas compared to urban ones. Important services such as Job Centres, free cashpoints and post offices are predominately located in urban areas. The number of some of these in rural areas (for example Job Centres) fell much faster than in urban areas between 2000 and 2006 (21.2% and 11.3% (State of the Countryside, CRC, 2007, p 39). Service provision in rural areas cuts across many different public (for example NHS and education) and private remits (for example retailing, domestic repairs) but was one of the aspects of rural development where services could by supported under Article 33 of the RDR.

Research suggests that 38% of the recent, positive change in rural populations can be accounted for by indicators of environmental quality (Park et al. 2004) – i.e. people are moving to areas where the environment is perceived as better. Thus the balance between environmental quality and broader socio-economic development underpins the sustainability of England’s rural areas. Environmental quality remains a concern, but steady improvements are being made through a combination of policy and societal change. For example, the proportion of designated nature conservation Sites of Special Scientific Interest (SSSI) in target condition increased from 63% in 2004 to 73% by mid-2006.
The total area of agricultural land fell by 1% between 1986 and 2005 (Defra, 2006), whilst total woodland cover increased very slightly from 1999 to 2005. Nearly half of all woodland is in personal ownership, whilst the State is the second-largest woodland owner. Almost 40% of owners have less than 20 hectares of woodland (Defra, 2007).

As shown in the table above, most of the environment in England is made up of different types of agricultural land. This has been subject to pressures from agricultural intensification over a very long period. These pressures stem from technical change (for example in the agro-chemical, plant breeding and mechanisation fields) and price pressures stemming from the market (for example due to a rising population) and from agricultural policy (for example the supported price regime of the CAP). The pressure for increased agricultural production had resulted in overgrazing, habitat degradation and fragmentation and problems of water quality (because of diffuse pollution from agriculture) and trends in landscape quality and character which produced widespread disquiet. Policy to address these issues began with early nature conservation initiatives and the Environmentally Sensitive Areas Scheme in England in 1986 which subsequently developed into a much wider agri-environment programme supported by Pillar 2 of the CAP. These drivers of agricultural change and environmental damage continued throughout the ERDP and will be present for the foreseeable future.

### 2.3 Implementation

ERDP’s main strategic goals were the creation of a productive and sustainable rural economy, and the conservation and enhancement of the rural environment. Thus the basic conception of the programme was in two halves: so-called ‘land-based’ schemes to support positive environmental management, and ‘project-based’ schemes to stimulate socio-economic and environmental adaptation within and beyond farming, in rural England. In general, the land-based schemes were mostly well established under previous programmes and were thus simply

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4 Indicates grasses over and under 5 years old, and sole right and common rough grazing

5 Set aside and other land on agricultural holdings, e.g. farm roads, yards, buildings, gardens, ponds. Excludes woodland on agricultural holdings which is included in "Forest and woodland”.

6 Forestry data for GB is compiled by the Forestry Commission and covers both private and state-owned land. Estimates are based on the provisional results of the National Inventory of Woodland and Trees for 1995-1999 and extrapolated forward using information about new planting and other changes

7 Figures are derived by subtracting land used for agricultural and forestry purposes from the Total land area. Figures include land used for urban and other purposes, e.g. transport and recreation, and non-agricultural, semi-natural environments, e.g. sand dunes, grouse moors and non agricultural grasslands, and inland waters.
brought into the ERDP framework in 2000. By contrast, the socio-economic or ‘project-based’ schemes were newly created for the programme, although they each drew upon prior experience in designing and delivering similar kinds of scheme within Objective 5b programmes, 1994-9, and under even earlier ‘agricultural restructuring’ schemes which applied in England during the late 1980s and early 1990s. For example, PMG was closely modelled on a scheme of similar name which was available during this period, but adapted to attempt to address some of the weaknesses of the old approach which had led to the scheme’s demise as a result of funding cuts in the late 1990s.

A summary of schemes and delivery agencies is provided in Table 2. The Rural Development Service delivered many of the ERDP schemes until 1 October 2006 when most of its functions were transferred into the newly created Natural England. Management of the project-based schemes (VTS, RES and PMG) was transferred to the RDAs at this time, along with the Producer Group element of ECS. The two woodland schemes, WGS and FWPS, were delivered by the separate agricultural and forestry agencies (RDS and Forestry Commission - FC) until the creation of EWGS, when the new scheme was delivered wholly by the FC. The Rural Payments Agency (RPA), which was created in July 2000 as an executive agency to fulfil the EU requirements for an appropriate Paying Agency for EAGGF funds, was made responsible for the delivery of the HFA scheme alongside its more substantial role in the disbursement, inspection and enforcement of all Pillar 1 payments under the CAP.

As explained briefly in section 1.1, various individual ERDP schemes evolved throughout the programme’s lifetime, responding to individual reviews and broader policy evaluations. A summary of the major changes is provided in this report.

The ERDP had an overall budget of approximately £1.6bn from European Agricultural Guidance and Guarantee Fund (EAGGF) and UK Treasury fund sources (including the proceeds of modulation). The modulation of CAP pillar 1 funds (both ‘voluntary’ from 2001, and compulsory from 2004) to Pillar 2 (rural development) has also contributed to the ERDP funds and in particular, has been a source of funding for the Project Based Schemes and the continued expansion of agri-environment schemes in England over the lifetime of the programme. Had it not been for the application of voluntary modulation by the UK, the budget for ERDP would have been insufficient to allow the agri-environment schemes to remain open to new applicants beyond the first year of the programme. Voluntary modulation with the N+2 rule created pressure to launch Environmental Stewardship in 2005 to use the resulting funds.

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8 Indicates that programmes are required to spend funds by the end of the second year following the year in which they are allocated
<table>
<thead>
<tr>
<th>Schemes</th>
<th>Project Based Schemes</th>
<th>LFA</th>
<th>Organic Farming</th>
<th>High Conservation Value agri-environment</th>
<th>Low Conservation Value CV agri-environment</th>
<th>Forestry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continued after ERDP?</td>
<td>No (except for rollover programmes in some RDAs)</td>
<td>Yes – HFA (delivered by RPA)</td>
<td>Yes – OELS (delivered by RDS(^9))</td>
<td>Yes – HLS (delivered by RDS then NE)</td>
<td>Yes ELS (delivered by RDS then NE)</td>
<td>Yes – EWGS (delivered by Forestry Commission)</td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td>Environmental Stewardship: OELS, HLS and ELS (delivered by RDS then Natural England)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EWGS (delivered by Forestry Commission)</td>
</tr>
<tr>
<td>2004</td>
<td>RES, PMG, VTS, ECS including Producer Groups (delivered by Rural Development Service then RDAs)</td>
<td>HFA (delivered by Rural Payments Agency)</td>
<td>OFS (maintenance payments introduced 2003) (delivered by Rural Development Service then NE)</td>
<td>ESA (delivered by Rural Development Service then NE)</td>
<td>CSS (delivered by Rural Development Service then NE)</td>
<td>FWPS (delivered by RDS then FC) and WGS (delivered by Forestry Commission) afforestation and management</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>2001</td>
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<td>HLCA</td>
<td></td>
<td></td>
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<tr>
<td>2000</td>
<td></td>
<td></td>
<td>HLCA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existed before ERDP?</td>
<td>No</td>
<td>Yes - HLCA</td>
<td>Organic Aid Scheme</td>
<td>Yes - ESA</td>
<td>Yes - CSS</td>
<td>No</td>
</tr>
</tbody>
</table>

\(^9\) RDS was created in 2001, when the Farming and Rural Conservation Agency merged with the then Ministry of Agriculture, Fisheries and Food’s regional service centres.
2.4 The evaluation process and terms of reference

The evaluation requirements for programmes under the Rural Development Regulation are set out in EU legislation and the Commission also issues guidance. There is a requirement for independent evaluation throughout the programming cycle from planning of the implementation of the RDR with an accompanying ex-ante evaluation, through a MTE in 2003 to an Ex Post Evaluation after the close of the programmes. The ex ante evaluation was carried out in 1999 and the evaluators’ report formed part of the original ERDP document which was submitted to the Commission for approval at the end of that year.

The evaluation of the RDR requires the answers to a considerable number of evaluative questions, set within a ‘Common Monitoring and Evaluation Framework’ determined by the European Commission, with specific ‘Common Evaluation Questions’. When replicated for the relevant ERDP schemes, these amount to approximately 560 separate questions for which a response should be determined, wherever applicable.

Planning for the MTE of the programme was begun by the Department for Environment, Food and Rural Affairs (Defra) in 2001. It drew up an ERDP MTE strategy document which was agreed by the Commission. This set out, among other things, the number of questions which it was judged appropriate to answer for the ERDP MTE. In the spring of 2002, Defra let a tender for the ERDP MTE Baseline Study (Hill et al, 2002). This study examined the data sources comprehensively and made recommendations for which questions should be answered, for which schemes and in what manner. The tender for the MTE was awarded to ADAS Consulting Ltd. and SQW Ltd and the main MTE report was compiled in October 2003.

Defra let the tender for the Ex Post Evaluation in April 2008 via the Office of Government Commerce Catalyst Environmental Advice, Support and Delivery Services framework. Hyder Consulting (UK) Ltd was appointed, with sub-consultants ADAS UK Ltd and the Countryside and Community Research Institute (based at University of Gloucestershire).

The Ex Post Evaluation contractors are appointed as independent evaluators. The evaluators are to produce an Ex Post Evaluation that meets the requirements of the Rural Development Regulation, its Implementing Rules (Council Regulation (EC) No 1257/1999 and Commission Regulation (EC) No 817/2004) and associated EU Commission guidance. A Project Plan was submitted to Defra in July 2008, with the main report due in December 2008.

The set of common evaluation questions defined for the MTEs must again be applied in the context of the Ex Post Evaluation. This report therefore follows guidance issued for the MTE\(^{10}\), at the European Commission’s direction\(^{11}\).

The Ex Post Evaluation is funded under the technical assistance component of the Rural Development Programme for England (RDPE), 2007 – 2013.

2.5 Previous evaluations

The ERDP has been subject to regular monitoring and evaluation. The Programme as a whole was subject to a MTE carried out in 2003. In addition, Annual Reports of the ERDP have been


submitted in accordance with Article 48(2) of Council Regulation 1257/1999 and Article 61 of Commission Regulation 817/2004. Under the provisions of national policy and legislative practice, other evaluations were carried out on individual elements of the ERDP, at predetermined intervals which relate to the period since each was first launched. Generally, all policy instruments must be reviewed at either 3 or 5 yearly intervals following their establishment. Table 3 identifies a selection of these studies, and their focus.

The MTE suggested that good progress had been made, but highlighted that the 2001 foot and mouth disease epidemic had caused major disruption at the start of the period. The main agri-environment schemes within ERDP were meeting or exceeding their objectives, but there were some specific issues related to the management and targeting of the project-based schemes which should be addressed, to improve their performance.

Evidence from the MTE, together with evidence from the national monitoring and evaluation studies listed in Table 3 and other broader policy reviews (see reference list), has underpinned subsequent scheme development.

**Table 3 ERDP Programme and Scheme Evaluations**

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Author</th>
<th>Date of completion</th>
<th>Link</th>
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<tbody>
<tr>
<td>Annual Reports of the ERDP</td>
<td>Defra</td>
<td>Various</td>
<td><a href="http://www.defra.gov.uk/erdp/docs/ann_rep.htm">http://www.defra.gov.uk/erdp/docs/ann_rep.htm</a></td>
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<tr>
<td>An Economic Evaluation of the Processing and Marketing Grant Scheme</td>
<td>ADAS Consulting Ltd and University of Reading</td>
<td>2003</td>
<td><a href="http://statistics.defra.gov.uk/esg/evaluation/pmgs/wholerep.pdf">http://statistics.defra.gov.uk/esg/evaluation/pmgs/wholerep.pdf</a></td>
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<tr>
<td>Evaluation</td>
<td>Author</td>
<td>Date of completion</td>
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</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>--------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
</tbody>
</table>

Source: RDPE Programme Document, Annex to Chapter 3.4
3 Methodology

3.1 Mode of working

The EPE has been completed within a challenging timeframe, to enable Defra to meet Commission deadlines. Experience gained at the MTE proved beneficial and enabled the team to learn from previous challenges. The Project Plan, established upon contract award, was used to manage and meet deadlines. SharePoint software enabled the team to share files and collaborate online, even when geographically dispersed.

Regular teleconferences were held throughout the evaluation. The Project Manager managed communications between the Steering Group and the wider consultant team. A series of workshops were used to bring the team together and consider the evidence that underpins the EPE’s conclusions. The Peer Reviewer provided additional insights and a fresh perspective to the evidence.

The common evaluation questions, at Annex 5, provided a core task. Monitoring data from Defra and its agencies enabled these questions to be answered. Further evidence has been sought from the literature including previous evaluations. Consultations have been held with public and private sector ERDP stakeholders. Finally, a postal survey has been commissioned of ERDP beneficiaries.

3.2 Common evaluation questions

The common evaluation questions are published by the EC. The EPE applied the same questions and indicators as the MTE. A key tool for the project management was the development of a data map that mapped the full list of EC questions and sub questions, the data required to answer each of the EC questions, the schemes relevant to each question, and the source of that data. The key starting point for this activity was the ERDP MTE baseline assessment (Hill et. al., 2002), and the MTE data map held by ADAS. Each of the scheme specialists were then asked to comment on the suitability of available data to answer questions and identify any information gaps. During this time the project team consulted with Defra and data holders, who were asked to provide metadata regarding databases. At the end of this process, an information collection strategy was prepared. This involved seeking information from scheme managers and database holders, identifying relevant literature, and identifying information that could be obtained from survey research.

Once the data collection strategy was agreed, the data map them became a project management tool and was used to monitor the progress of data collection.

Detailed answers presented in Annex 5, and summary tables are presented within the EPE main report.

3.3 Survey

The data map identified several indicators that could not be answered from monitoring data, and required primary data to be gathered from beneficiaries. The completion of the survey enabled further common evaluation questions and indicators to be answered, in particular, the cross cutting questions (e.g. population profile of those receiving assistance, employment created, productivity and income levels).
The survey was completed in two phases. Phase 1 involved the preparation of the survey, sampling strategy and submission to Defra’s Survey Control Liaison Unit (SCLU) for Ministerial approval, granted in late October 2008. In Phase 2 10,000 beneficiaries of eight of the ERDP schemes (VTS, RES, PMG, ECS, EWGS, ELS, OELS and HLS) were sent the survey questionnaire by post. The sampling strategy was designed by a professional market researcher, who worked in partnership with statistical experts at Defra and the wider consultant team.

The survey questionnaire is included in Annex 4.

### 3.4 Consultations

#### Scheme Policy Owners

Interviews with public sector Scheme Policy Owners were carried out by the team’s Scheme Specialists, from ADAS. The Specialists identified key persons to interview for each of the schemes. The interviews allowed the team to gain an insight into the practicalities and issues with scheme delivery. Interview results were used to inform the scheme profiles, at Annex 2.

A full report on the interviews with Scheme Policy Owners is included in Annex 3a.

#### Regional Consultation

The Regional Consultations were carried out by Hyder Consulting in September-October 2008. Focus groups brought together public sector representatives and non-governmental organisations. The focus groups enabled closer understanding of the ERDP’s operation, and examination of key lessons learned. As with the MTE, the regions studied were the South West, East Midlands and Yorkshire Humber.

A full report on the Regional Focus Groups is included in Annex 3b.

#### Interviews

The interviews were carried out by Hyder Consulting. One to one interviews were held with public sector representatives (‘delivery agencies’) and non-governmental organisations (‘stakeholders’). The interviews enabled detailed perspectives to be gained on the successes, challenges and key lessons from the ERDP.

A full report can be found in Annex 3c.

### 3.5 Reporting

The EPE report is a collaborative effort between the Hyder Consulting and ADAS team, compiled by the Project Manager and Technical Manager. The report follows the common structure outlined in Annex II of the European Commission’s Information Note: Ex Post Evaluation of rural development programmes 2000 – 2006.

### 3.6 Steering Group

The purpose of the steering group was:

1. to ensure that the Ex Post Evaluation of the ERDP is delivered in line with Regulatory and European Commission requirements, and;
to provide advice and direction to Hyder Consulting on elements of the project related to:

- the development of recommendations on the monitoring and evaluation of the RDPE and;
- recommendations, arising from the Ex Post Evaluation project, which could inform proposals for future CAP development.

The members of the steering group, and those that were copied in on papers, are listed in the table below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Responsibility</th>
</tr>
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<tbody>
<tr>
<td><strong>Members of the Steering Group</strong></td>
<td></td>
</tr>
<tr>
<td>Jill Wordley</td>
<td>Senior Responsible Owner</td>
</tr>
<tr>
<td>John Allsopp</td>
<td>RDPE Programme Team &amp; Contract Manager</td>
</tr>
<tr>
<td>David Lees</td>
<td>RDPE Programme Team</td>
</tr>
<tr>
<td>Dominic Rowland</td>
<td>RDPE Programme Team</td>
</tr>
<tr>
<td>Victoria Cox</td>
<td>Natural Environment Economics</td>
</tr>
<tr>
<td>Mark Baylis</td>
<td>Environmental Land Management</td>
</tr>
<tr>
<td>Alistair Johnson</td>
<td>Agriculture and the Environment Economics</td>
</tr>
<tr>
<td>Tom Stafford</td>
<td>Rural Policy</td>
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<tr>
<td><strong>Copy recipients</strong></td>
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<tr>
<td>Richard Britton</td>
<td>Forestry Commission</td>
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<tr>
<td>Fiona Bryant</td>
<td>Regional Development Agencies</td>
</tr>
<tr>
<td>Stephen Chaplin</td>
<td>Natural England</td>
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<td>Mark Felton</td>
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<td>Nick Grant</td>
<td>Rural Payments Agency</td>
</tr>
<tr>
<td>Andrew Smith</td>
<td>Forestry Commission</td>
</tr>
<tr>
<td>Jenny McClelland</td>
<td>CAP Reform and EU Strategy Programme, Defra</td>
</tr>
</tbody>
</table>

### 3.7 Evaluation team

The members of the Evaluation Team are listed in the table below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Dr Bruce Lascelles</td>
<td>Project Director</td>
</tr>
<tr>
<td>Sarah Milne</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Mark Temple</td>
<td>Technical Manager</td>
</tr>
<tr>
<td>John Elliot</td>
<td>Technical Director</td>
</tr>
<tr>
<td>Dr Janet Dwyer</td>
<td>Peer Reviewer</td>
</tr>
<tr>
<td>Gemma Blackler</td>
<td>Consultation Coordinator</td>
</tr>
<tr>
<td>Name</td>
<td>Responsibility</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Chris Proctor</td>
<td>Data Manager</td>
</tr>
<tr>
<td>Lucy Wilson</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>Yiyeng Cao</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>Alison Mole</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>Tatiana Prieto-Lopez</td>
<td>GIS Consultant</td>
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<tr>
<td>Phil Edgington</td>
<td>GIS Consultant</td>
</tr>
<tr>
<td>Diane Simpson</td>
<td>Survey Manager</td>
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<tr>
<td>Jean Churchward</td>
<td>Agri Environment Schemes Specialist</td>
</tr>
<tr>
<td>Steve Ford</td>
<td>Project Based Schemes Specialist</td>
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<tr>
<td>Alex Blair</td>
<td>Forestry Schemes Specialist</td>
</tr>
<tr>
<td>David Frost</td>
<td>Organic Farming Scheme Specialist</td>
</tr>
<tr>
<td>Jon Bevan</td>
<td>Data and Consultation support</td>
</tr>
<tr>
<td>Valerie Koo</td>
<td>Project Planner</td>
</tr>
</tbody>
</table>
4 Presentation and Analysis of the information collected

4.1 Financial budgets and spend

Table 4 on the following page show the budgeted spend and actual spend by year and by Chapter of the RDR. In all years from 2000 to 2005 the actual spend was below budget. Only in 2006 did actual spend exceed budget. The biggest proportionate underspends were in 2001 and 2002, the years most affected by the 2001 foot and mouth disease epidemic. As discussed in the Introduction, this had a major impact on the rollout of schemes, particularly the project based schemes.

Table 5 shows cumulative budget and actual spend by year and by Chapter of the RDR. The cumulative deficit grew in every year until 2006 when (at the year end) it amounted to £99.4 million at the close of the programme.

Table 6 shows the funding sources for actual spending on the different chapters of the RDR split between EAGGF (the main European Guidance and Guarantee Fund of the CAP – also known by its French acronym of FEOGA), voluntary modulation of Pillar 1 farm subsidies and UK Treasury match funding. The whole programme was funded 29.3% by EAGGF (including compulsory modulation), 11.9% by voluntary modulation (which indirectly also came from EAGGF) and 58.8% by the UK Treasury. The modulation funds were concentrated on Chapter 6 Agri-environment spending which received £186.6 million or 99.7% of the total modulated funding. It was only permitted to spend the modulated funds on the “Accompanying Measures” which were agri-environment and forestry schemes. The great bulk of the modulated money was used to fund the agri-environment schemes and the greatly expanded agri-environment activity with the introduction of ES.
Table 4 Budgeted spend and actual spend by calendar year and chapter, £ sterling (million)

<table>
<thead>
<tr>
<th>Chapter Description</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Budget</td>
<td>Spend</td>
<td>Budget</td>
<td>Spend</td>
<td>Budget</td>
<td>Spend</td>
<td>Budget</td>
<td>Spend</td>
</tr>
<tr>
<td>I Investment in Agricultural Holdings</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>1.5</td>
<td>0.4</td>
<td>2.3</td>
<td>1.2</td>
</tr>
<tr>
<td>III Training</td>
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<td>V LFA</td>
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<td>VI Agri-environment</td>
<td>83.6</td>
<td>62</td>
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<td>111.2</td>
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<td>VII PMG</td>
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<td>2.2</td>
<td>0</td>
<td>6.3</td>
<td>2.3</td>
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<td>VIII Forestry</td>
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<td>33.6</td>
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<td>IX RES - Article 33</td>
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<td>4.3</td>
<td>0.1</td>
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<td>161.7</td>
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Notes:
1) Budgets are those shown in Table 10 of the ERDP approved by the Commission on 11 October 2000 (Commission Decision. C(2000)3003)
2) Budget and spend for earlier and new commitments on agri-environment schemes and for forestry schemes combined as actual spend data not collected separately.
3) Spend data sourced from RPA's payments system and from FC (for WGS) through monthly updates of the online budget management spreadsheets.
4) Budget and spend data includes EAGGF, Modulation, Exchequer match funding and Exchequer State aid (both top-up and stand alone)
5) Energy Crops Scheme. Actual spend on Miscanthus attributed to Chapter I. Actual spend on SRC and Producer Groups attributed to Chapter VIII.
6) 15.4% of actual spend on RES Measure Diversification attributed to Chapter I and 84.6% attributed to Chapter IX.
Table 5: Cumulative budget and actual spend by calendar year and chapter, £ sterling (million)

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Total                                      | 149.3       | 145.6      | 342.7       | 307.3      | 559.1       | 491.9      | 801.3       | 717.8      | 1070.3      | 963.4      | 1354.4      | 1231.7     | 1674.3      | 1574.9     |

Notes:

1) Budgets are those shown in Table 10 of the ERDP approved by the Commission on 11 October 2000 (Commission Decision C(2000)3003)

2) Budget and spend for earlier and new commitments on agri-environment schemes and for forestry schemes combined as actual spend data not collected separately.

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5) Energy Crops Scheme. Actual spend on Miscanthus attributed to Chapter I. Actual spend on SRC and Producer Groups attributed to Chapter VIII.

6) 15.4% of actual spend on RES Measure Diversification attributed to Chapter I and 84.6% attributed to Chapter IX.
### Table 6 Actual spend by funding source by calendar year, £ sterling (million)

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<td>268.3</td>
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Notes:
1) Budgets are those shown in Table 10 of the ERDP approved by the Commission on 11 October 2000 (Commission Decision. C(2000)3003)
2) Budget and spend for earlier and new commitments on agri-environment schemes and for forestry schemes combined as actual spend data not collected separately.

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5) Energy Crops Scheme. Actual spend on Miscanthus attributed to Chapter I. Actual spend on SRC and Producer Groups attributed to Chapter VIII.

6) 15.4% of actual spend on RES Measure Diversification attributed to Chapter I and 84.6% attributed to Chapter IX.
4.2 Financial effectiveness

Figure 2 shows total spend over the whole programme period by Chapter. The only Chapter with greater than budgeted spend was Chapter V (HFA). Underspends occurred most prominently for Chapter IX (RES) and Chapter VIII (the forestry schemes).

![Figure 2 Comparison of total budgeted and actual spend by ERDP chapter](image)

In Figure 3 the cumulative budgeted and actual spends in total by year are presented. In a seven year programme, to underspend in every year but the last does not represent very high financial effectiveness. However the unused voluntary modulation was rolled over for spending in the first years of RDPE.

![Figure 3 Comparison of total budgeted and actual spend by ERDP chapter](image)
4.3 Objectives and progress towards ERDP targets

The full information on the actual achievements in meeting targets for individual schemes is at Annex 2.

The progress reported in the published 2006 ERDP Annual Report has been used in this section for most indicators. The 2006 ERDP Annual report covers the period 1 January to 31 December 2006 and includes accumulative progress up to the end of 2006.

Additional information on progress for some of the indicators of individual schemes is provided when it is part of the common EU indicators for answering the evaluation questions. This information is drawn from the monitoring databases (AESIS and PROBIS) provided by Natural England, in which the actual progress is recorded up to the end of year 2006 when the data from Defra’s central scheme monitoring databases were handed over to RDAs.

Some schemes have very few indicators and others have many. In the latter cases, only the indicators judged most important in the recorded data are presented in this section, but all indicators are reported in full in Annex 2.

The monitoring results in this section are reported by Chapter and scheme:

- Chapter I, Investment in agricultural holdings, part of ECS (Miscanthus) and RES (Diversification within agriculture)
- Chapter III, Training (VTS)
- Chapter V, Least Favoured Areas (HFA)
- Chapter VI, Agri-environment Schemes (CSS, ESA, ELS, HLS, OELS, OFS)
- Chapter VII, Processing and marketing of agricultural produce (PMG)
- Chapter VIII, Forestry (FWPS, WGS, EWGS and ECS-short Rotation Coppice)
- Chapter IX, RES (Article 33 Measures)

4.3.1 Chapter 1 Investment in Agricultural Holdings

Chapter 1 funds are spent through two ERDP schemes, which include ECS funding for Miscanthus planting and the RES investments in diversification of farm activities within agriculture.

Progress on planting of Miscanthus is reported in Table 7, which suggests that the progress is generally behind target. However, this represents the progress up to the end of 2006 and may underestimate the impact. In fact, there are 8,600 hectares approved during 2006 for planting in 2007 and 2008. We would expect greater impact will be achieved than what has been recorded in the 2006 ERDP Annual Report. The issues around ECS are discussed further in Annex 2, scheme profile, which offers a greater insight to uptake and achievement of targets.

Table 7 The targets of Chapter I ECS

<table>
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<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Crops (Miscanthus)</td>
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</tr>
<tr>
<td>Area (hectares) under Miscanthus</td>
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<td>3,356</td>
</tr>
<tr>
<td>Tonnage of biomass produced</td>
<td>64,000</td>
<td>43,000</td>
</tr>
<tr>
<td>Carbon emissions saved (tC)</td>
<td>9,980 - 43,920</td>
<td>6,700 - 29,480</td>
</tr>
<tr>
<td>Energy derived from miscanthus (mGJ)</td>
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</table>
Progress on achieving the targets set for the RES measure on the diversification of farm activities within agriculture (new crops & livestock) is shown in Table 8. Progress on the Chapter I RES measure in terms of project supported is behind target while the actual progress of the job creation achieved exceeded the target. However these are gross figures for jobs created before allowing for likely deadweight; displacement seems less likely for a new enterprise like energy crops.

Table 8 The targets of Chapter RES

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
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</thead>
<tbody>
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<td>Investment in Agricultural Holdings</td>
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<td>Number of projects assisted</td>
<td>500</td>
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</tr>
<tr>
<td>Number of FTE jobs created</td>
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</table>


4.3.2 Chapter III Training

Training funded under Chapter III is through the Vocational Training Scheme (VTS). According to the progress reported in the ERDP Annual Report 2006 (details shown in Table 9), the targets for all the indicators have been well achieved up to the end of 2006, which shows the high uptake for the scheme.

Table 9 The Targets of Chapter III VTS

<table>
<thead>
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<th>Description</th>
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<td>Number of training courses / workshops</td>
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<td>Number of qualifications obtained</td>
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4.3.3 Chapter V Least Favoured Areas

The Hill Farm Allowance (HFA) Scheme was introduced in 2001 following the earlier Hill Livestock Compensatory Allowance. The progress on the three targets for this scheme is not available for 2006 due to data constraints at the RPA. For this evaluation, targets are based on the HFA scheme monitoring data provided by RPA for 2005. There were 1.4 million hectares claimed in 2005, which shows the target for the uptake by area was been achieved in that year.

Table 10 The Targets of Chapter V HFA

<table>
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<th>Description</th>
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<tr>
<td>Relative position of Net Farm Incomes in the LFA and non LFA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensatory allowance not to exceed relative difference in incomes</td>
<td></td>
<td>Not Available¹</td>
</tr>
<tr>
<td>Area (hectares) attracting basic HFA payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No decrease in 1.4m hectares, normally declared, relative to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There were 1.4m hectares claimed in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

decrease in non-LFA 2005.

<table>
<thead>
<tr>
<th>Area (hectares) attracting enhanced payments for sustainable management</th>
<th>Year-on-year increase in area attracting enhanced payments</th>
<th>Not achieved after 2003 – see below.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 1, ERDP Annual Report 2006 (Defra, 2007) and previous years; 2, HFA scheme monitoring data.

The table below shows the total and enhanced areas claimed under HFA by year, which suggests the area attracting enhanced payments were decreasing (by 3.68% in 004 and by 3.25% in 2005) after 2003.

**Table 11 Enhanced and total area claimed under HFA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (million ha)</th>
<th>% Change</th>
<th>Enhanced</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table heading</td>
<td>Paid</td>
<td>Total</td>
<td>Ha</td>
<td>Enhanced</td>
</tr>
<tr>
<td>2001</td>
<td>1.4</td>
<td></td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>1.37</td>
<td>-2.14</td>
<td>1.2</td>
<td>0.00</td>
</tr>
<tr>
<td>2003</td>
<td>1.435</td>
<td>4.74</td>
<td>1.277</td>
<td>6.42</td>
</tr>
<tr>
<td>2004</td>
<td>1.43</td>
<td>-0.35</td>
<td>1.23</td>
<td>-3.68</td>
</tr>
<tr>
<td>2005</td>
<td>1.44</td>
<td>0.70</td>
<td>1.19</td>
<td>-3.25</td>
</tr>
</tbody>
</table>


### 4.3.4 Chapter VI Agri-Environment Schemes

There were relatively few indicators and targets set for the CSS. Those targets set were for the area under agreement in relation to costs, targets for areas brought under specific types of management such as arable field margins and the length of linear features (such as hedges and stone walls). The table below shows the progress on these targets. The target for retaining land in CSS or transferring it to ES was not met because of the low transfer rate to ES.

**Table 12 The Targets of Chapter VI CSS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) and characteristics of land and features under agreement, in relation to nationally and regionally targeted landscapes and features, including: Meadows, pastures and rough grazings Moorland Lowland heath Coastal land and habitats</td>
<td>Retain existing land under agreement within CSS or transfer it to new Environmental Stewardship Scheme. For each additional £1m allocated: Retain (or transfer to new scheme) agreements responsible for the annual management of: 4,300 ha of land</td>
<td>CSS closed to applications Mar 2004. Transfer rate to ES was 30.16%. 1 322,260 ha of existing land under agreement retained within CSS until close of the programme.</td>
</tr>
</tbody>
</table>
Field boundaries and margins  
Arable land  
Historic landscapes and features  

700 ha of arable field margin  
and  
350km of hedges, stonewalls


The target for retaining land in CSS or transferring it to ES was not met because of the low transfer rate to ES.

Table 13 The Targets of Chapter VI ESA

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) and characteristics of land and features under agreement</td>
<td>Retain existing land under agreement within ESA or transfer it to the new Environmental Stewardship scheme. To meet the environmental objectives and targets set for each ESA. (Each ESA has a set of environmental objectives which reflect the aim of each management tier. Each objective has a set of published uptake indicators and targets.)</td>
<td>ESA schemes closed to applications Mar 2004. Transfer rate to ES was 24.39%. ¹ 377,072 ha of existing land under agreement retained within ESA until the close of the programme.</td>
</tr>
</tbody>
</table>

Table 14 shows the progress of OFS, which suggests that the target set for number of beneficiaries supported each year has been exceeded while the uptake of organic production measured by the area of land undergoing organic conversion was behind the target.

Table 14 The Targets of Chapter VI OFS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion of farmland to organic production</td>
<td>430,000 ha total to be converted in the period 2000 to 2006</td>
<td>137,158 ha approved for conversion under the OFS</td>
</tr>
<tr>
<td>Number of beneficiaries per year</td>
<td>650</td>
<td>1,762 total (2005)*</td>
</tr>
</tbody>
</table>

OFS closed to new applications from March 2005. Aid for converted and converting land to organic production includes that provided under the OELS. Source: ERDP Annual Report 2006 (Defra, 2007)

The targets and achievements for ELS, HLS and OELS are shown in Table 15 to Table 17 which indicate that the uptake of these schemes is behind target, especially for HLS.
Table 15 The Targets of Chapter VI ELS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS</td>
<td>60% land by end 2007</td>
<td>3.8m ha – 69% of 2007 target</td>
</tr>
</tbody>
</table>

Source: CSL

Table 16 The Targets of Chapter VI HLS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS</td>
<td>200,000ha by end of 81,000 ha, 40.5% of end 2007</td>
<td>81,000 ha, 40.5% of end 2007 target</td>
</tr>
</tbody>
</table>

Source: CSL

Table 17 The Targets of Chapter VI OELS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>OELS</td>
<td>340,000ha by end 2007</td>
<td>168,000 ha – 49.5% of 2007 target</td>
</tr>
</tbody>
</table>

Source: CSL

4.3.5 Chapter VII Processing and Marketing of Agricultural Products

Processing and Marketing Grant scheme (PMG) is the single scheme that implements Chapter VII in ERDP. The number of projects supported was behind target at the end of 2006. The number of collaborative marketing ventures supported and the number of projects involving increase in the amount of locally produced/sourced raw material were also behind their targets. For all the other indicators including the job creation indicator, the targets were exceeded.

One issue in the scheme monitoring is that the main objectives of supported projects are not clearly recorded. This made it difficult to monitor the progress against targets, especially for those projects with multiple objectives (which was very common) because it was required by the scheme for the supported projects to contribute to one or more of the scheme objectives. This makes double counting of achievements a real danger especially due to absence of main objectives being recorded and identified in the data.

In general PMG grants were larger than planned and the number of businesses receiving aid was lower as a result.
Table 18 The Targets of Chapter VII PMG

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of jobs created and safeguarded</td>
<td>2,200</td>
<td>8,393</td>
</tr>
<tr>
<td>Number of projects assisted</td>
<td>370</td>
<td>158</td>
</tr>
<tr>
<td>Number of collaborative marketing ventures supported</td>
<td>100</td>
<td>64</td>
</tr>
<tr>
<td>Number of novel outlets created</td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>Number of projects involving increase in amount of locally produced/sourced</td>
<td>288</td>
<td>132</td>
</tr>
<tr>
<td>Number of projects resulting in reduced pollution emissions, energy and</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>water use, and waste production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of new products brought to market</td>
<td>70</td>
<td>134</td>
</tr>
<tr>
<td>Number of collaborative marketing groups helped to merge or form federal</td>
<td>7-14</td>
<td>48</td>
</tr>
<tr>
<td>structures, resulting in improved marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of assurance schemes assisted</td>
<td>7-14</td>
<td>33</td>
</tr>
</tbody>
</table>


4.3.6 Chapter VIII Forestry

Chapter VIII includes four schemes, the WGS, FWPS, EWGS and part of ECS (Short Rotation Coppice-SRC). The progress of each scheme in this Chapter is reported in Table 19 to Table 21. The targets set for the WGS, FWPS and EWGS have been achieved but the progress of ECS (planting SRC) is far behind the target. This is because of the lack of a market, processing facilities and supply chain infrastructures for energy crops. The area of agricultural land planted with woods under FWPS exceeded the target. This achievement was probably assisted by the poor levels of farm enterprise profitability from the late 1990s onwards into the programme period of 2000 - 2006.

Table 19 The Targets of Chapter VIII WGS and EWGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of new woodland planted with grant aid (EWGS + WGS)</td>
<td>30,000 ha</td>
<td>30,921 ha</td>
</tr>
<tr>
<td>Area of new woodland under approved management schemes (EWGS + WGS)</td>
<td>300,000 ha</td>
<td>293,802 ha</td>
</tr>
</tbody>
</table>


Table 20 The Targets of Chapter VIII FWPS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of new woodland planted</td>
<td>21,000 ha</td>
<td>20,403 (approved for planting)¹</td>
</tr>
<tr>
<td>Arable land area (%)</td>
<td>40%</td>
<td>51%¹</td>
</tr>
<tr>
<td>Description</td>
<td>Target</td>
<td>Achieved</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------</td>
<td>----------------</td>
</tr>
<tr>
<td>Improved grassland (%)</td>
<td>50%</td>
<td>41%(^1)</td>
</tr>
<tr>
<td>Broadleaf planted area (ha) / conifer planted area (ha)</td>
<td>4:1</td>
<td>10:1(^2)</td>
</tr>
</tbody>
</table>

Source: 1, ERDP Annual Report 2006 (Defra, 2007); 2, based on Annex 3 indicator reference VIII.1.A-2.1;

### Table 21 The Targets of Chapter VIII ECS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) under short rotation coppice</td>
<td>16,700</td>
<td>4,425(^1)</td>
</tr>
<tr>
<td>Tonnage of biomass produced</td>
<td>215,000</td>
<td>44,250(^2)</td>
</tr>
<tr>
<td>Carbon emissions saved (tC)</td>
<td>33,420 – 147,040</td>
<td>2,360 – 10,390(^3)</td>
</tr>
<tr>
<td>Energy derived from short rotation coppice (mGJ)</td>
<td>3.3</td>
<td>0.23(^3)</td>
</tr>
</tbody>
</table>


### 4.3.7 Chapter IX Promoting the Adaptation and Development of Rural Areas

Chapter IX sets out a range of measures under the title of “Promoting the Adaptation and Development of Rural Areas”. Targets for each measure and achievement are reported in full in Table 22. In general, the target for the number of businesses/projects supported by each measure has been achieved as well as the number of jobs (FTE) created or sustained. Progress on several indicators for some of the measures is significantly behind their target, which includes:

1. Number of ICT projects supported (actual of 18 projects against the target of 92) under the Measure “Basic services for the rural economy and population”;

2. Number of projects supported under the Measure “Protection of the environment in conjunction with agriculture, forestry and landscape conservation as well as with the improvement of animal welfare” (total of 179 against the target of 373) and the number of projects benefiting from animal welfare (actual of 16 against the target of 91);

3. Number of projects to facilitate public access under the Measure “Encouragement for tourist and craft activities” (total of 94 projects against the target of 338);

This shows the gaps in provision of ICT projects and projects delivering environmental benefits.

### Table 22 The Targets of Chapter IX RES

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting up of farm relief and farm management services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses benefitting</td>
<td>701</td>
<td>3,282</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>277</td>
<td>869</td>
</tr>
<tr>
<td>Rural area served by farm relief and other services (sq km)</td>
<td>202,714</td>
<td>33,278</td>
</tr>
<tr>
<td>Marketing of quality agricultural products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Target</td>
<td>Achieved</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Number of businesses participating</td>
<td>2,037</td>
<td>8,634</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,154</td>
<td>3,158</td>
</tr>
<tr>
<td>Increase in annual value of marketed products</td>
<td>5-10%</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of quality products marketed</td>
<td>1,485</td>
<td>3,805</td>
</tr>
<tr>
<td>Number of collaborative projects</td>
<td>303</td>
<td>291</td>
</tr>
<tr>
<td>Basic services for the rural economy and population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number and type of beneficiaries</td>
<td>126,857</td>
<td>164,657</td>
</tr>
<tr>
<td>Number of services supported</td>
<td>127</td>
<td>281</td>
</tr>
<tr>
<td>Type of services supported</td>
<td>13</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of ICT projects supported</td>
<td>92</td>
<td>18</td>
</tr>
<tr>
<td>Renovation and development of villages and protection and conservation of the rural heritage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of beneficiaries</td>
<td>146,178</td>
<td>286,841</td>
</tr>
<tr>
<td>Number of village initiatives</td>
<td>200</td>
<td>548</td>
</tr>
<tr>
<td>Diversification of agricultural activities and activities close to agriculture to provide multiple or alternative incomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of new enterprises supported</td>
<td>1,247</td>
<td>1,235</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,033</td>
<td>6,653</td>
</tr>
<tr>
<td>Agricultural water resources management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses supported</td>
<td>176</td>
<td>205</td>
</tr>
<tr>
<td>Area (ha) of land made irrigable</td>
<td>8,562</td>
<td>9,444</td>
</tr>
<tr>
<td>Environmental impact: contribution to increased summer water levels in rivers or aquifers (i.e. volume of abstracted water replaced)</td>
<td>13</td>
<td>N/A</td>
</tr>
<tr>
<td>Development and improvement of infrastructure connected with the development of agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses benefitting</td>
<td>405</td>
<td>491</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>303</td>
<td>224</td>
</tr>
<tr>
<td>Encouragement for tourist and craft activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism/craft enterprises supported</td>
<td>1,550</td>
<td>3,595</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,044</td>
<td>2,981</td>
</tr>
<tr>
<td>Number of (quality assured) farm/rural bed places created/improved</td>
<td>2,720</td>
<td>6,071</td>
</tr>
<tr>
<td>Number of tourist days-visits per annum</td>
<td>680,014</td>
<td>3,535,646</td>
</tr>
<tr>
<td>Number of new rural craft practitioners created</td>
<td>367</td>
<td>240</td>
</tr>
<tr>
<td>Number of projects to facilitate public access</td>
<td>338</td>
<td>94</td>
</tr>
<tr>
<td>Number of visitor management plans</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Protection of the environment in conjunction with agriculture, forestry and landscape conservation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Target</td>
<td>Achieved</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>as well as with the improvement of animal welfare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of projects supported</td>
<td>373</td>
<td>179</td>
</tr>
<tr>
<td>Areas (ha) of land protected</td>
<td>13,053</td>
<td>188,460</td>
</tr>
<tr>
<td>Number of projects benefitting animal welfare</td>
<td>91</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: ERDP Annual Report 2006 (Defra, 2007)
4.4 Chapter Specific Evaluation Questions and Cross Cutting Questions

Summaries of chapter-specific common evaluation questions are presented below, with commentary. The reader is referred to the various chapters of Annex 5 for details of calculations, sources of data, and limitations.

4.4.1 Chapter Specific Evaluative Questions

Indicator Results

Chapter I of RDR was used to fund parts of two ERDP Schemes, the part of the ECS that supports the planting of Miscanthus as a renewable feedstock for power generation, and the part of the RES that funds diversification within agriculture away from production of surplus commodities.

Summary of high level questions

The high level questions ask to what extent the supported investments have:

- Improved the income of beneficiary holdings?
- Resulted in better use of production factors?
- Contributed to the reorientation of farming activities?
- Improved the quality of farm products?
- Through diversification, helped maintain employment?
- Facilitated environmentally friendly farming?
- Supported better working conditions and improved animal welfare?

Discussion and Conclusions

The EPE survey will add valuable information on the extent to which the two schemes improved the income of beneficiary farmers, and, in the case of ECS will give some information on labour costs. The RES was one of the few public assistance measures in England which was specifically targeted at farmers to help improve their income during the very sharp farming slump which started in the late 1990s. Chapter I funding that could assist farmers to take up new forms of agricultural production which diverted agricultural resources of land, labour and capital away from the main CAP supported commodities where prices were very weak. For example, during ERDP there were 173 examples of RES and OFS schemes on the same farms, transforming production towards a niche market and generating environmental benefits simultaneously.

As a result of Miscanthus planting and agricultural diversification of ECS and RES 819 holdings took up alternative activities. It appears that about 6% of working time on holdings with Miscanthus planting and up to 37% of time for farms with RES was diverted to the new diversified activities.

The question about improved quality was ruled not applicable in the ERDP baseline study. The number of jobs created or maintained is about 1,500 (FTE) according to scheme monitoring data, but probably rather less if displacement and deadweight are taken into account. All ECS investments can be regarded as having environmental improvements as their main purpose. According to the monitoring data 16% of RES investments had environmental improvements as a collateral effect.
Improvements in animal welfare were not an objective of any ERDP schemes, but at the MTE (ADAS et al., 2003) 44% of RES beneficiaries reported improved working conditions.

ECS experienced problems because it intervened upstream in the market chain from production of biomass to consumption of energy by final consumers. The investments were vulnerable to problems further downstream with buyers of energy crops. These problems could result from many factors such as difficulty for power generators in getting planning permission, poor profitability in power generation from biomass and indecisive policy making to create incentives to increase power generation from biomass. However this scheme has primed the pump and greatly increased experience in the production and utilisation of Miscanthus. How significant a renewable energy source this will turn out to be is, as yet, uncertain.

During the farming slump from the late 1990s, production of novel crops and livestock, often linked to direct marketing, was one of the few opportunities for farmers to break out into more profitable activities. Examples of direct marketing were direct delivery to consumers and attendance at farmers markets where novel foods such as ostrich meat had useful opportunities. Agricultural diversification with the help of RES was a helpful source of funding and assisted market adjustment.

The RES Chapter 1 investment in diversification of agriculture was often associated with various forms of direct marketing. In this manner it helped farmers reconnect with ultimate consumers as recommended by the Curry Commission (2002) and the Strategy for Sustainable Farming and Food (Defra, 2002), these two policy documents postdate the creation of ERDP. The Energy Crops Scheme Miscanthus planting grants were a very small part of the Programme as was Chapter 1 RES. However these two schemes, although small in relation the food and farming industry can be seen as useful initiatives which provided examples of sustainable farming which could be followed by other farmers.

Table 23 Chapter I indicator results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.1. To what extent has supported investments improved the income of beneficiary farmers?</td>
<td>I.1-1. The income of beneficiary farmers has improved</td>
<td>I.1-1.1. ‘Gross farm income’ of assisted holdings (€)</td>
<td>I.1-1.1 = [To be completed].</td>
</tr>
<tr>
<td>I.2. To what extent have supported investments contributed to a better use of production factors on holdings?</td>
<td>I.2-1. Increase in factor productivity</td>
<td>I.2-1.1. Output per hectare on assisted holdings (€/ha)</td>
<td>I.2-1.1 = Only ECS applicable (Defra ERDP baseline study). [To be completed].</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I.2-1.2. Output per hour of labour on assisted holdings (€/h)</td>
<td>I.2-1.2 = Only ECS applicable (Defra ERDP baseline study). [To be completed].</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I.2-1.3. Cost (i.e., ‘direct inputs’) per unit of basic products sold (e.g., €/ton, €/m³, etc...) on assisted holdings</td>
<td>I.2-1.3 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answer</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>I.3. To what extent have supported investments contributed to the reorientation of farming activities?</td>
<td>I.3-1. Holdings redeploy production by moving out of surplus product lines or moving into products which have good market outlets</td>
<td>I.3-1.1. “Net change” in “surplus product” activity after the investment = holdings with sum of scores for all surplus lines&gt; 0 the holding’s score (per surplus product line) = +1 if ≥10% decrease in annual average livestock numbers or crop area 0 if no change (between –10% and +10%) -1 if ≥10% increase Surplus products = cereals of any type, beef, milk wine and olives/olive oil: except particular products with favourable market prospect</td>
<td>I.3-1-1.1 = Not quantified. ECS Miscanthus planting clearly substituted for cereals, beef and sheep production but the effect cannot be quantified. Collection of information would result in disproportionate costs. The RES was less likely to displace cereals, beef or sheep but may have had a small effect through some diversification of farm production.</td>
</tr>
<tr>
<td>I.3-2. Holdings take up more alternative activities</td>
<td>I.3-2.1. Number of assisted holdings introducing alternative activities</td>
<td></td>
<td>I.3-2.1 = 819</td>
</tr>
<tr>
<td></td>
<td>I.3-2.2. Share of assisted holdings with a significant part of their turnover ≥10% from alternative activities (%)</td>
<td></td>
<td>I.3-2.2 = 32% for RES; =40% for ECS</td>
</tr>
<tr>
<td></td>
<td>I.3-2.3. Share of working time spent on alternative activities on the holding (%)</td>
<td></td>
<td>I.3-2.3 = 6% (ECS); =37% (RES, but likely to be overstated)</td>
</tr>
<tr>
<td>I.4. To what extent have supported investments improved the quality of farm products?</td>
<td>I.4-1. The quality of farm products has improved</td>
<td>I.4-1.1. Ratio of [price of assisted quality-improved basic products] to (average price for the commodity concerned)</td>
<td>I.4-1-1.1 = N/A (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td>I.4-1.2. Gross sales of assisted quality-improved basic products (€)</td>
<td></td>
<td>I.4-1-1.2 = N/A (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td>I.4-2. Farm products comply with quality standards, particularly at Community level</td>
<td></td>
<td>I.4-2-1. Share of assisted products sold with quality label (%) (a) of which EU-level labelling schemes (%) (b) of which</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answer</td>
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</tr>
<tr>
<td>I.5. To what extent has the diversification of on-farm activities originating from supported alternative activities helped maintain employment?</td>
<td>I.5-1. Employment is maintained or increased through alternative activities on the holding</td>
<td>I.5-1.1. Number of full-time equivalent jobs maintained or created thanks to the assistance for alternative activities</td>
<td>I.5-1.1 = 1,501 This is from monitoring data and represents ex ante estimates at the time of application, not ex post measurement.</td>
</tr>
<tr>
<td>I.6. To what extent have supported investments facilitated environmentally friendly farming?</td>
<td>I.6-1. Integration of environmental concerns into farm investments</td>
<td>I.6-1.1. Share of beneficiary holdings introducing environmental improvements thanks to the co-financing (%)</td>
<td>I.6-1.1 = 68% (16% of 366 RES agricultural diversification projects plus 100% of 595 ECS Miscanthus projects which gives a total of 654 projects, representing 68% of the total Chapter 1 projects (961 = 368 RES + 595 ECS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which with the environmental improvement as the direct aim of the investment (%)</td>
<td>I.6-1.1(a) = 62% (100% of 595 ECS Miscanthus projects which represent 62% of Chapter 1 projects (961 = 366 RES + 595 ECS); N/A for RES (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which as a collateral effect (e.g., due to new equipment acquired mainly for economic purposes) (%)</td>
<td>I.6-1.1(b) = 6% (16% of 366 RES projects = 59 which represents 6% of total 961 Chapter 1 projects. N/A for ECS (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) of which relating to waste and excess manure (%)</td>
<td>I.6-1.1(c) = N/A (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) of which relating to on-farm water</td>
<td>I.6-1.1(d) = N/A (Defra ERDP base line study)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) of which not available for RES; N/A for ECS (Defra ERDP base line study)</td>
<td>I.6-1.1(e) = information not available for RES; N/A for ECS (Defra ERDP base line study)</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answer</td>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>I.6.2. Improved storage and land spreading of farm manure</td>
<td>I.6-2.1. Share of assisted holdings improving storage/land spreading of farm manure (%)</td>
<td>I.6-2.1 = N/A (Defra ERDP base line study)</td>
<td></td>
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<tr>
<td></td>
<td>(a) of which co-financed from the assistance (%)</td>
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<td></td>
<td>(b) of which storage (%)</td>
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<td></td>
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<td></td>
<td>(c) of which land spreading (%)</td>
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<tr>
<td></td>
<td>I.6-2.2. Ratio of {storage capacity of farm manure on assisted holdings} to {total farm manure output on assisted holdings}</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I.6-2.3. Share of assisted holdings meeting standards concerning farm manure (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.7. To what extent have supported investments improved production conditions in terms of better working conditions and animal welfare?</td>
<td>I.7-1. Working conditions have improved</td>
<td>I.7-1.1 = Evidence of some improvements in working conditions from MTE that 44% of RES survey respondents reported improved working conditions, obtaining more detailed data would result in disproportionate costs. It is unlikely that there will be any impacts from ECS.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I.7-1.1. Evidence of significant reduction thanks to the assistance exposure to any of the following: noxious substances, odours, dust, extreme climatic conditions outdoor/indoor, lifting of heavy loads, aberrant working hours (description)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.7-2. Animal welfare has improved</td>
<td>I.7-2.1. Share animals on assisted holdings enjoying improved welfare thanks to assisted investments (%)</td>
<td>I.7-2.1 = Evidence of some improvements in animal welfare from RES survey in the MTE that 16% of respondents indicated there was an improvement in animal welfare. Obtaining more detailed data would result in disproportionate costs. N/A for ECS (Defra ERDP base line study)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) of which with animal welfare as a direct aim (%)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(b) of which with animal welfare as a collateral effect (e.g., due to new housing or</td>
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</table>
4.4.2 Chapter III – Training

Chapter III of the RDR was the measure under which the Vocational Training Scheme of the ERDP was funded. This was a new scheme created for the launch of the ERDP in 2000.

Summary of high level questions

There are two high level evaluative questions relating to Chapter III:

- To what extent are the assisted training courses in accordance with needs and coherent with other measures of the Programme?
- To what extent have the acquired skills/competences helped improve the situation of the trainees and of the agricultural/forestry sector?

Discussion and Conclusions

The analysis of the Rural Economy (Section 5.1 of the ERDP) when the Programme was drawn up pointed out that 40% of the farm workforce had no formal qualification, 60% of the farm workforce had qualifications at Level 2 or above, 26% had qualifications at Level 3 or higher, 14% had higher education or equivalent qualifications. Skill needs across the agricultural sector were rising. Many occupations, which historically required entry-level qualifications at Level 2, were then demanding Level 3 qualifications. This arose from changes in technology, smaller workforces, greater diversity, demand for higher quality services and products, increasing concerns with environmental and animal welfare issues, and health and safety.

The ERDP spelt out the priority areas for training in the skills of Information and Communication Technology (ICT), business, marketing, conservation and environment skills, diversification, managing resources, managing yourself and staff, new ways of working, technical skills (agriculture, forestry and horticulture) and on-farm production and processing. According to the monitoring data 100% of training fitted these needs. However, only 3% of training under VTS related to the type of work that was assisted under other schemes of the Programme (for example RES or PMG) although much of the training may have had indirect linkages. In the main the training was consistent with the identified needs and coherent with the other ERDP financed activities. New areas of policy importance as ERDP progressed were adjustment to the 2003 CAP reform and the reconnection with consumers encouraged by the Curry Commission (Curry Commission, 2002). Investment in subjects such as business computer use were relevant here. However the training had less subject material clearly related to overall ERDP objectives than might be expected – for example the environment.
Data constraints (see below and detailed answers in Annex 5) mean that the best available data regarding VTS recipients is sourced from the MTE (ADAS et al., 2003). Early beneficiary evaluation was strongly positive so the limited evidence available suggests that the scheme gave value for money.

The recipients of training were 25% female and 14% under 30 years old. The gender balance in training, given the predominance of men in the industry (83% of full time workers and 54% of part time workers (Defra, 2007)) seems reasonable. The ADAS Farmers’ Voice survey suggests only 1% of farmers are under 30 years of age although a larger proportion of their workforce would be (ADAS, 2007). The share of the courses relating to adaptation of agriculture or forestry was 29%.

The proportion of trainees who have experienced an improvement in their jobs was 85%. Of these, 85% were farm/forestry holders, 85% were employees and 21% received improved remuneration. The proportion of trainees reporting job improvement is considerable at 85%, but few of these – only 21% are receiving higher pay.

About 19% of trainees were starting a change or improvement to their business, which was related to the assisted training. Of these, 8% had a new activity, 20% were improving quality, hygiene or value adding of existing activities, 58% were doing management related training, and 6% were trained in more environmentally friendly methods or practices.

Better evaluation of VTS training (or the spending on training under the RDPE training measures) is desirable. For this purpose it is essential to make sure that contact details of trainees are collected and held centrally in a database. The lack of this has made it difficult to answer some of the specific evaluation questions at the Ex Post Evaluation and more in depth evaluation of the actual and potential role of training in rural development is desirable.

Table 24 Chapter III Indicator Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>III.1. To what extent are the assisted training courses in accordance with needs and coherent with other measures of the programme?</td>
<td>III.1-1. The training responds to the needs and potential for adaptation (conversion, reorientation, improvement) at the level of individuals, sectors or regions (including gaps/weaknesses or potentials/opportunities identified during programming/ex-ante evaluation)</td>
<td>III.1-1.1. Share of assisted training accommodating issues identified as gaps/weaknesses or potential/opportunities during programming/ex-ante evaluation (%)</td>
<td>III.1-1.1 = 100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which thanks to the type/mix of participants (e.g., young people, women...) (%)</td>
<td>III.1-1.1 (a) = female 25%, under 30 years old 14%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which thanks to the topic/contents of the courses (%)</td>
<td>III.1-1.1 (b) = 100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) of which related to co-financed actions of other chapters of the programme (%)</td>
<td>III.1-1.1 (c) = 3%</td>
</tr>
</tbody>
</table>
Questions | Criteria | Indicators | Answer
---|---|---|---
III.2. To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/ forestry sector? | III.2-1. The skills/competence acquired by the trainees help improve their employment conditions | III.2-1.1. Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%)
(a) of which farm/forest holders (%)
(b) of which employees (%)
(c) of which thanks to better remuneration (%)
(d) of which thanks to non-pecuniary job quality (e.g., seasonal/contractual work security, exposure to risk and adverse conditions, job-variation/enrichment …) (%) | III.2-1.1 = 85%
III.2-1.1 (a) = 85%
III.2-1.1 (b) = 85%
III.2-1.1 (c) = 21%
III.2-1.1 (d) = 98%

III.2-2. The skills/competence acquired by the trainees facilitate the adaptation of agriculture and forestry (conversion/reorientation/improvement) | III.2-1. Share of holdings initiating conversion/reorientation/improvement related to the assisted training (%)
(a) of which new/additional activities (%)
(b) of which improved quality/hygiene/added value concerning existing activities (%)
(c) of which management related (%)
(d) of which environmental benign methods/practices (%)
(e) of which farming (%)
(f) of which forestry (%) | III.2-2.1 = 29%
III.2-2.1 (a) = 30%
III.2-2.1 (b) = 71%
III.2-2.1 (c) = 15%
III.2-2.1 (d) = 5%
III.2-2.1 (e) = % Not available.
III.2-2.1 (f) = % Not available
4.4.3 Chapter V – Less-Favoured Areas

Indicator Results

Chapter V of the RDR is the measure under which the Hill Farm Allowance (HFA) is funded. This was a new scheme created after the launch of the ERDP in 2000. In 2000 the previous Hill Livestock Compensatory Allowance was continued although the change to HFA was set out in the ERDP. For the EPE, the evaluative questions have only been addressed in relation to HFA, since the earlier HLCA has less current relevance. The scheme case study for the HFA carried out as part of the ERDP MTE can be found on the Defra web site. The RPA only has appropriate data on HFA up to 2005 and for this reason the chapter specific evaluation questions have been answered using the 2005 data. The RPA changed the IT basis of their reporting system in 2006, and the data were not suitable for monitoring and evaluation purposes in the common evaluation questions.

Summary of high level questions

There are four high level evaluative questions relating to Chapter V:

- To what extent has the scheme contributed to offsetting the natural handicaps in LFAs in terms of high production costs and low production potential?
- To what extent have compensatory allowances helped in ensuring continued agricultural land use?
- To what extent have compensatory allowances contributed to the maintenance of a viable rural community?
- To what extent has the scheme contributed to the protection of the environment by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Discussion and Conclusions

Nearly all sizeable farm businesses in the LFA claim HFA. This means there is no control group which would make it possible to make the comparison to judge the extent to which HFA compensates for the higher production costs per unit of output. Lowland grazing livestock farms are different because of the biophysical environment, the breeds of animal they keep and the opportunities for farm production and diversification. Lowland grazing livestock farmers are often a self-selected group who could produce other commodities if they so chose – quite unlike LFA farmers who have virtually no alternatives. For this reason, the lack of a control, it is not possible to say to what extent the scheme offsets the natural handicaps of the LFA because the latter cannot be quantified.

However, the counterfactual can be estimated by looking at the recipients of HFA and deducting the payments. Because hill farms have few alternatives and are constrained by the quality of the land they farm, this static analysis is largely valid.

If this comparison were made with lowland beef and sheep farms, the incomes of the LFA farms would be higher even if they received no HFA payments. However, if the comparison is with all lowland farm types, the income of LFA farms is lower, but much of the difference is due to farm size. In relation to the outputs of LFA farms, their costs are higher than those of all lowland farms, but not quite to the extent of the HFA payments.

Land abandonment is barely known in the English LFAs. More extensive farming is the more likely scenario if the HFA was not paid, with fewer larger farms and lower stocking rates. By supporting the financial viability of the existing farms, HFA reduces the rate of restructuring towards fewer, larger, less intensively farmed units which would otherwise occur more rapidly.
Economic theory suggests that without HFA, lower rewards to labour, capital and land would alter the balance between these three resources because the first two resources are mobile but the latter is not. Thus the area farmed in the LFA would not change but labour input would be lower and capital (largely livestock and tenant’s dead stock) would be spread more thinly. Fewer families would be completely or partly supported by farming income.

The HFA payments have direct effects, through the recipient farming businesses, on the members of the farm family and the members of the families of those employed on farms – as well as indirect effects on suppliers and customers. Because of the large population of the LFA that is not engaged in farming, the contribution of HFA to the maintenance of the rural community is limited. However, the recipients do have a high propensity to remain in the rural area bringing some stability to the social demography of these areas and thus helping sustain the traditions and cultural heritage of the whole community.

The farming workforce of the English LFA declined 2.6% between 1992 and 2002 whereas the total workforce of UK agriculture declined 14.9% between 1993 and 2002 (Swales et al, 2004 and Defra, 2004, Agriculture in the UK 20030). On this basis HFA (and before that HLCA) seems to have been effective in helping to maintaining the farm labour force in the English LFAs.

The HFA is paid to hill beef and sheep farms because this form of land use can sustain the biodiversity, landscape and agricultural employment of these areas. Few farms are registered as organic, or undertake certified integrated agricultural management. However stocking rates are low and with few exceptions the farming helps sustain the environment with traditional landscapes that are highly valued by the general public. The LFAs in England are all areas where the landscape is very important in attracting tourists and the tourists are important in sustaining jobs and the rural economy. The landscapes are almost entirely made up of semi-natural habitats which are the result of extensive grazing by farm livestock.

Table 25 Chapter V Indicator Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.1. To what extent has the scheme contributed to:</td>
<td>V.1-1. The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments</td>
<td>V.1-1-1. Ratio of (premium) to (higher production costs + reduction in value of farm output)</td>
<td>V.1-1-1 = Cannot be calculated</td>
</tr>
<tr>
<td>(i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential, and: (ii) compensating for costs incurred and income foregone in areas with environmental restrictions?</td>
<td>V.1-1-2. Share of compensated holdings where premium is lower than 50% of (higher production costs + reduced value of farm output) (%)</td>
<td>V.1-1-2 (a) = Cannot be calculated (b) = Cannot be calculated</td>
<td></td>
</tr>
<tr>
<td>(concerns both LFA (^{\text{12}}) and AER (^{\text{13}})</td>
<td></td>
<td></td>
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</table>

\(^{\text{12}}\) Less-Favoured Areas

\(^{\text{13}}\) Areas with Environmental Restrictions
<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.2. To what extent have compensatory allowances helped in ensuring</td>
<td>V.2-1. Agricultural land use continued</td>
<td>V.2-1.1. Change in Utilised Agricultural Area (UAA) in LFA (hectares &amp; %)</td>
<td>V.2-1.1 = There is no evidence of land abandonment in the LFA.</td>
</tr>
<tr>
<td>continued agricultural land use?</td>
<td>(concerns LFA)</td>
<td>V.2-1.1. Evidence of continued agricultural land use as critical factor for the maintenance of a viable rural community (description)</td>
<td></td>
</tr>
<tr>
<td>V.3. To what extent have compensatory allowances contributed to the</td>
<td>V.3-1. Continued agricultural land use is critical for the maintenance</td>
<td>V.3-1.1. Evidence of continued agricultural land use as critical factor for the maintenance of a viable rural community (description)</td>
<td>V.3-1.1 = There is evidence that LFA does help support rural communities through the population supported by farms. However the contribution is modest because of the limited proportion of the population in the LFA’s associated with farming.</td>
</tr>
<tr>
<td>maintenance of a viable rural community?</td>
<td>of a viable rural community</td>
<td>V.3-2. Fair standard of living for farmers</td>
<td>V.3-2.1 = Information not available, obtaining data would result in disproportionate costs.</td>
</tr>
<tr>
<td></td>
<td>V.4.A. To what extent has the scheme contributed to the protection of the</td>
<td>V.4.A-1.1. Share of UAA under environmentally benign farming systems (hectares &amp; %)</td>
<td>V.4.A-1.1 = 1.2 million hectares, 67%</td>
</tr>
<tr>
<td>environment by maintaining or promoting sustainable farming that</td>
<td>(a) of which used for organic farming (hectares &amp; %)</td>
<td>V.4.A-1.1 (a) = Very small, less than 0.4%</td>
<td></td>
</tr>
<tr>
<td>takes account of environmental protection requirements in LFA?</td>
<td>(b) of which used for integrated farming or integrated pest management</td>
<td>V.4.A-1.1 (b) = N/A (Defra ERDP baseline study)</td>
<td></td>
</tr>
<tr>
<td>(concerns LFA)</td>
<td>(hectares &amp; %)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V.4.A-1.1. Share of UAA under environmentally benign farming systems</td>
<td>(c) of which used as pasture with less than 2 LU/ha (or a specified</td>
<td>V.4.A-1.1 (c) = 99.85%</td>
<td></td>
</tr>
<tr>
<td>(a) of which used for organic farming (hectares &amp; %)</td>
<td>regional variant) (hectares &amp; %)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V.4.A-1.2. Share of UAA under environmentally benign farming systems</td>
<td>V.4.A-1.2 = 1.2 million hectares, 67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answer</td>
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<tr>
<td>V.4.A-1.3. Share of UAA used for arable farming where the quantity of nitrogen applied (farm manure + synthetic) is less than 170 kg/ha per year (hectares &amp; %)</td>
<td></td>
<td>used for arable farming where the quantity of nitrogen applied (farm manure + synthetic) is less than 170 kg/ha per year (hectares &amp; %)</td>
<td>V.4.A-1.3 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>V.4.B-1. Increased implementation and respect of targeted environmental protection restrictions limiting agricultural use</td>
<td></td>
<td>V.4.B-1.1. Share of Utilised Agricultural Area (UAA) (within the region covered by the programme) covered by Environmental Restrictions that allow farmers to draw payments (hectares &amp; %)</td>
<td>V.4.B-1.1 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>V.4.B-1.2. Share of eligible holdings taking up payments for environmental restrictions (number &amp; %)</td>
<td></td>
<td>V.4.B-1.2 = N/A (Defra ERDP baseline study)</td>
<td></td>
</tr>
<tr>
<td>V.4.B-1.3. Ratio of (% of beneficiary holdings having faced action for non-compliance with restrictions) to (% of holdings not claiming payments having faced actions for non-compliance)</td>
<td></td>
<td>V.4.B-1.3 = N/A (Defra ERDP baseline study)</td>
<td></td>
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</table>

4.4.4 Chapter VI – Agri-Environment

Chapter VI objectives were addressed by Countryside Stewardship Scheme, Environmentally Sensitive Areas, the Organic Farming Scheme and Environmental Stewardship (comprised of Higher Level Stewardship, Entry Level Stewardship and Organic Entry Level Stewardship). The first three schemes had all existed before ERDP and they were replaced (for new applications) by ES in 2005. A review of ES was completed by Defra in 2008 and this is a very important reference for those who wish to understand the direction in which AES was progressing as the ERDP came to a close in 2006 (Natural England and Defra, 2008).
Summary of high level questions

The high level questions ask:

- To what extent have natural resources been protected in terms of soil and water?
- To what extent has biodiversity been maintained or enhanced on farmland, through protection of high value habitats, safeguarding of endangered breeds or plant varieties?
- To what extent have landscapes been maintained or enhanced?

Discussion and Conclusions

The number of questions and the level of detail requested in relation to the agri-environment schemes are high. It is impossible to do justice to the work underlying the answers to these questions in a relatively brief commentary. The reader with an interest in this subject will need to study the relevant parts of Annex 5, to understand the derivation of the answers and their significance and limitations.

In broad terms the methodology used to answer the Common Evaluation Questions was to map the data required and its various possible sources. Very extensive extracts of the agri-environment scheme databases (AESIS for CSS, ESA and OFS and GENESIS for ELS, HLS and OELS) were received from Natural England which include data at the field, parcel and holding levels. Where it was necessary, the AES data was georeferenced and cross analysed with other geographical data sets about the environment. Many questions required detailed list of AES prescriptions to be prepared that fitted the precise indicator of the Common Evaluation Questions. In some cases published work was referred to as the best available evidence.

In England AES have been subjected to intensive monitoring and evaluation since the earliest days of Environmentally Sensitive Areas in 1986. See for instance the Review of Agri-environment Schemes – Monitoring Information and R & D Results (Ecoscope at al, 2003) or the Review of Progress on Environmental Stewardship (Natural England and Defra, 2008). The monitoring, evaluation and research on agri-environment schemes in England is probably as detailed and extensive as that carried out in any of the EU member states.

Some of the common evaluation questions relate to environmental effects which were not the stated objectives of the English agri-environment schemes. For example question VI.1 and its sub-questions relate to the conservation of soil, water quality and water resources, none of which were directly targeted by AES in England prior to introduction of ELS in 2005. However, there were significant contributions towards protection of these resources by the earlier agri-environment schemes. This is an aspect of agri-environment policy which has become much more important as sustainability became a more important concern of society and Government.

The protection of wildlife (flora and fauna) is more central to the aims of the old schemes, CSS and ESAs, but the area of land where some beneficial effect on biodiversity is promoted has risen dramatically to 1.8 million hectares, due to ELS. Here the AES have made a significant contribution to reducing the application of plant protection products and fertiliser. The data on the relationship between these changes on targeted land and species diversity is weak, except for OFS. In general, it is hard to link the effects of AES to changes in the populations of species, but there is some evidence.

One of the aspects of the countryside where AES have had an important impact is landscape. Here it is estimated that 2.8 million ha of farmland under agreement in 40,224 agreements have contributed to improved visual coherence and differentiation of the landscape. ELS has dramatically changed the scale of the agri-environment programme. At the time of the EPE of ERDP there is a major study of the value of ES being carried out using non-market valuation.
techniques and this may revolutionise ideas about the future design of the agri-environment programme for the future (Defra, 2008).

In the table below there are cases where obtaining the information information requested in the Common Evaluation Questions would result in disproportionate costs. This has been denoted with an “#” symbol.

Table 26 Chapter VI Indicator Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>VI.1.A. To what extent have natural resources been protected …in terms of soil quality, as influenced by agri-environmental measures?</td>
<td>VI.1.A-1. Soil erosion has been reduced</td>
<td>VI.1.A-1.1. Farmland under agreements preventing/reducing soil loss (number and hectares)</td>
<td>VI.1.A-1.1 = 4,988 agreements, 225,901 hectares</td>
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<tr>
<td></td>
<td></td>
<td>(a) of which reducing erosion from (mainly) water/wind/tillage respectively (%)</td>
<td>VI.1.A-1.1(a) = Wind, 11% of agreements and 9% of area (21,300 ha) Water, 77% of agreements and 91% of area (204,600 ha)</td>
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<td></td>
<td></td>
<td>(b) of which due to: land-use (pasture, other permanent crops…) (%)</td>
<td>VI.1.A-1.1(b) = Tillage 16% of agreements and 5% of area (can only calculate for OFS) Land use – 45% of agreements and 86% of land Barriers use – 69% of agreements and 81% of land Agricultural Practices – 39% of agreements and 94% of land Stocking Density – 13% of agreements and 80% of land (OFS Only)</td>
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<td>barriers or diversions (terraces, linear elements) (%)</td>
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<td>agricultural practices (reduced tillage, specific types of irrigation, contour cultivation, soil cover…) (%)</td>
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<td>stocking density of grazing animals (%)</td>
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<td>(c) of which the object of assisted actions mainly/exclusively targeting erosion control (%)</td>
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<tr>
<td>VI.1.A-2. Chemical contamination of soils has been prevented or reduced</td>
<td>VI.1.A-2.1. Farmland under agreements reducing soil contamination (number and hectares)</td>
<td>VI.1.A-2.1 = 42,047 agreements, 2,119,753 ha</td>
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<td></td>
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<td>(a) of which reduced use of plant protection substances (%)</td>
<td>VI.1.A-2.1(a) = 61% of agreements and 72% of the area</td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
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<tr>
<td>VI.1.A-3. The protected soil gives raise to further benefits at farm or</td>
<td>VI.1.A-3. Farm and/or off-farm indirect impacts resulting from farmland</td>
<td>VI.1.A-3.1 = Positive evidence for OFS and ESA. There is no firm evidence of on- or off-farm indirect impacts resulting specifically from</td>
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<td>societal level</td>
<td>under agreements (description)</td>
<td>farmland under agreement in CSS, ELS, HLS or OELS as no research has been targeted at this. The dispersed nature of the CSS and HLS</td>
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<td>agreements mean that effects are likely to have only local significance at or just beyond farm level.</td>
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<td>VI.1.B. To what extent have natural resources been protected</td>
<td>VI.1.B-1. Reduction of agricultural inputs potentially contaminating</td>
<td>VI.1.B-1. Area subject to VI.1.B-1.1 = 2,717,902 ha input-reducing actions thanks to agreement (hectares)</td>
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<tr>
<td>...in terms of the quality of water ground and surface water, as</td>
<td>water (hectares)</td>
<td>(a) of which with reduced application per hectare of chemical fertiliser (%)</td>
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<td>influenced by agri-environmental measures?</td>
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<td>(b) of which with reduced application per hectare of manure or reduced livestock density (%)</td>
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<td>(c) of which with crops and/or rotations associated with low inputs or low nitrogen-surplus (in case of fertiliser) (%)</td>
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<td>(d) of which with reduced application per hectare of plant protection products (%)</td>
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<td>VI.1.B-1.1(a) = 77%</td>
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<td>VI.1.B-1.1(b) = 94%</td>
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<td>VI.1.B-1.1(c) = Cannot be answered – dependent on farm type (OFS, OELS)</td>
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<td>VI.1.B-1.1(d) = 38%</td>
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<td>VI.1.B-1.2 = 74% (OFS/OELS data only, no information on ESA, ELS, HLS and CSS)</td>
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<td>VI.1.B-1.3 = # (OFS/ESA/CSS/ELS/OELS)</td>
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<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
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<td>VI.1.B-2.</td>
<td>The transport mechanisms (from field surface or rootzone to aquifers) for chemicals have been impeded (leaching, run-off, erosion)</td>
<td>VI.1.B-2.1. Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching (leaching, run-off, erosion) (hectares)</td>
<td>VI.1.B-2.1. Area subject to = 393,164 hectares</td>
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<td>(a) of which with particular cover/crop (%)</td>
<td>VI.1.B-2.1 (a) = #</td>
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<td></td>
<td></td>
<td>(b) of which with non-crop barriers to run-off (field margins, hedgerows, contour cultivation, field size) (%)</td>
<td>VI.1.B-2.1 (b) = #</td>
</tr>
<tr>
<td>VI.1.B-3.</td>
<td>Improved quality of surface water and/or groundwater</td>
<td>VI.1.B-3.1. Concentration of (the relevant) pollutant in water flowing from areas under agreement = the proportion of surface/groundwater above the threshold concentration of the relevant substance (mg, µg, etc. per litre) It will only be worthwhile to calculate this indicator for programmes with a certain focus on water protection (e.g., where relevant actions are applied in catchment areas predominantly influenced by farming and forestry)</td>
<td>VI.1.B-3.1 = No evidence available, #</td>
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<td>VI.1.B-4. Water protection gives rise to further benefits at farm or societal level</td>
<td>VI.1.B-4.1 = Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport. Generally reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological</td>
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<td>Questions</td>
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<td>Indicators</td>
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<td>VI.1.C. To what extent have natural resources been protected (or enhanced) ... in terms of the quantity of water resources, as influenced by agri-environmental measures?</td>
<td>VI.1.C-1. The utilisation (abstraction) of water for irrigation has been reduced or increased avoided</td>
<td>VI.1.C-1.1. Area not irrigated thanks to agreement (hectare)</td>
<td>VI.1.C-1.1 = N/A (Defra ERDP baseline study)</td>
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<td></td>
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<td>(a) of which due to direct limitation of irrigated area (%)</td>
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<td>(b) of which due to changed crop pattern/vegetation or farm practice (%)</td>
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<td></td>
<td>VI.1.C-1.2. Area with reduced rate of irrigation (consumption/hectare) thanks to agreement (hectare)</td>
<td></td>
<td>VI.1.C-1.2 = N/A (Defra ERDP baseline study)</td>
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<td></td>
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<td>(a) of which due to direct limitation of irrigation rate (%)</td>
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<td></td>
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<td>(b) of which due to changed crop pattern/vegetation or farm practice (other than irrigation) (%)</td>
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<td>(c) of which due to improved irrigation methods (%)</td>
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<td></td>
<td>VI.1.C-1.3. Reduction in quantity of water used for irrigation thanks to agreement (m³, hectares concerned)</td>
<td></td>
<td>VI.1.C-1.3 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td></td>
<td>VI.1.C-1.4. Efficiency of irrigation for key crops influenced by agreements, i.e., quantity of crop produced per unit of water (tons/m³)</td>
<td></td>
<td>VI.1.C-1.4 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>VI.1.C-2. Water resources protected in terms of quantity</td>
<td>VI.1.C-2.1. Trend concerning the water levels in surface and ground water (description and/or indicator to be defined at programme level)</td>
<td>VI.1.C-2.1 = N/A (Defra ERDP baseline study)</td>
<td></td>
</tr>
<tr>
<td>VI.1.C-3. Protected water resources give rise to further benefits (farm or other)</td>
<td>VI.1.C-3.1 Global impacts arising thanks to the protection of the water</td>
<td>VI.1.C-3.1 = N/A (Defra ERDP baseline study)</td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
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<tr>
<td>VI.2.A. To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environmental measures …through the protection of flora and fauna on farmland?</td>
<td>VI.2.A-1. Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</td>
<td>VI.2.A-1.1. Area with assisted input-reducing actions (hectares)</td>
<td>VI.2.A-1.1 = 1,884,895 hectares</td>
</tr>
</tbody>
</table>

(a) of which with reduced application per hectare of plant protection products (%)

(b) of which with reduced application per hectare of fertiliser (%)

(c) of which with avoidance of specific inputs at critical periods of the year (%)

VI.2.A-1.2. Reduction of agricultural input per hectare thanks to agreement (%)

VI.2.A-1.3. Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity (description, where practical involving estimates of species abundance)


<table>
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</tbody>
</table>

(a) of which with reduced application per hectare of plant protection products (%)

(b) of which with reduced application per hectare of fertiliser (%)

(c) of which with avoidance of specific inputs at critical periods of the year (%)

VI.2.A-1.2. Reduction of agricultural input per hectare thanks to agreement (%)

VI.2.A-1.3. Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity (description, where practical involving estimates of species abundance)

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<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>maintained or reintroduced</td>
<td>thanks to assisted actions (hectares)</td>
<td>VI.2.A-2.2. Area with beneficial vegetation/crop residues at critical periods thanks to assisted actions (hectares)</td>
<td>VI.2.A-2.2 = 800,491 hectares</td>
</tr>
<tr>
<td></td>
<td>Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, and where practical, estimates of numbers of nest (of birds, mammals, etc.) or species on mixed and arable farms. There is evidence of a positive effect in CSS (and particularly Arable Stewardship) but it is difficult to quantify the benefit on ESA agreements. For ELS, OELS and HLS, many of the measures are similar to those within CSS, and the evidence from CSS can be assumed to apply to them.</td>
<td>VI.2.A-2.3 = Evidence of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity relates to organic farming on mixed and arable farms.</td>
<td></td>
</tr>
<tr>
<td>VI.2.A-3. Species in need of protection have been successfully targeted by the supported actions</td>
<td>VI.2.A-3.1. Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)</td>
<td>VI.2.A-3.1 = # It is not possible to quantify the area of ordinary farmland under agreement that is targeting particular wildlife species or groups of species within the scope of the evaluation. However, there is some evidence available of a positive effect. For ELS, HLS and OELS, there are options targeting particular species, primarily through the creation of skylark plots.</td>
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<td>Questions</td>
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<td>(a) of which widespread species (%)</td>
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<td>The total area over these schemes is 17,589 ha, of which 12,326 is for skylarks.</td>
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<tr>
<td>(b) of which specialist species (%)</td>
<td></td>
<td></td>
<td>VI.2.A-3.1 (a) = It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species. However, there is some evidence available of a positive effect.</td>
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<tr>
<td>(c) of which declining species (%)</td>
<td></td>
<td></td>
<td>VI.2.A-3.1 (b) It is not possible to quantify the area of ordinary farmland under agreement that is targeting specialist species. However, there is some evidence available of a positive effect.</td>
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<tr>
<td>(d) of which stable or increasing species (%)</td>
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<td></td>
<td>VI.2.A-3.1 (c) = It is not possible to quantify the area of ordinary farmland under agreement that is targeting declining species. However, there is some evidence available of a positive effect.</td>
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<td></td>
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<td></td>
<td>VI.2.A-3.1 (d) = It is not possible to quantify the area of ordinary farmland under agreement that is targeting stable or increasing species. However, there is some evidence available of a positive effect.</td>
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<td>VI.2.A-3.1 (e) = N/A (Defra baseline study)</td>
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<td>VI.2.A-3.1 (f) = (N/A Defra baseline study)</td>
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<td>VI.2.A-3.2 = Some evidence for a positive relationship between the</td>
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</tbody>
</table>
VI.2.B. To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures …through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

VI.2.B-1. “High nature-value habitats” on farmed land have been conserved

VI.2.B-1.1. High nature-value farmland habitats that have been protected by supported actions (number of sites/agreements; total hectares, average size)

(a) of which resulting from specific land-uses or traditional farming systems (%)
(b) of which resulting from prevention of encroachment (colonisation by scrub, etc.) or abandonment (%)
(c) of which located in Natura 2000 areas (%)
(d) of which habitats that in particular benefit specific species or

VI.2.B-1.1 = 726,913 hectares in 7935 agreements with an average size of 91.6 ha per agreement.

VI.2.B-1.1 (a) = 100%
VI.2.B-1.1 (b) = No data, #.
VI.2.B-1.1 (c) = 12% of agreements, 15% of area, average size 112 ha
VI.2.B-1.1 (d) = 100%
<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
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<tbody>
<tr>
<td>VI.2.B-2. Ecological infrastructure, including field boundaries</td>
<td>VI.2.B-2.1. Assisted ecological infrastructure with habitat function or</td>
<td>(a) of which linear features (hedges, walls, etc.) (%, kilometres)</td>
<td>VI.2.B-2.1(a) = 100%, 267,403 km</td>
</tr>
<tr>
<td>(hedges…) or non-cultivated patches of farmland with habitat function</td>
<td>non-farmed patches of land linked to agriculture (hectares and/or</td>
<td>(b) of which patches or areas of non-farmed land (i.e., ecological set-</td>
<td>VI.2.B-2.1(b) = 56%</td>
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<td>have been protected or enhanced</td>
<td>kilometres and/or number of sites/agreements)</td>
<td>aside, other non-cropped areas, etc.) or partly non-cultivated land</td>
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<td></td>
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<td>(unweeded and/or unfertilised edges of fields) (%)</td>
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<td>(c) of which isolated features (patches of trees, etc.) (number)</td>
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<td></td>
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<td>(d) of which enhancing existing high nature-value habitats by alleviating their fragmentation (%)</td>
<td>VI.2.B-2.1(d) = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>VI.2.B-3. Valuable wetland (often uncultivated) or aquatic habits</td>
<td>VI.2.B-3.1. Area under assisted farming systems or practices that</td>
<td>(a) of which input reduction techniques</td>
<td></td>
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<td>have been protected from leaching, run-off or sediments originating</td>
<td>reduce/prevent leaching, run-off or sedimentation farm inputs-soil in</td>
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<td>from adjacent farmland</td>
<td>adjacent valuable wetland or aquatic habitats (hectares)</td>
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<td>(b) of which run-off and/or erosion prevention (%)</td>
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<td></td>
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<td>(c) of which reduction of leaching (%)</td>
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<td>VI.2.B-3.2. Adjacent valuable wetland or aquatic habitats that have been protected thanks to the assisted actions (ha)</td>
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<td></td>
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<td>(a) of which protected from eutrophication and/or sediment flows (%)</td>
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<td>(b) of which protected from toxic substances (%)</td>
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<td>(c) of which in Natura 2000 areas</td>
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<td>(d) of which habitats that particularly benefit specific species or groups of species (%)</td>
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<td>(e) of which considered rare habitats at the relevant geographical level (%)</td>
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<tr>
<td>VI.2.C. To what extent has VI.2.C-1. Endangered biodiversity (genetic breeds/varieties are conserved or enhanced thanks to agri-environmental measures) ...through the safeguarding of endangered animal breeds or plant varieties?</td>
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<td>VI.3. To what extent have VI.3-1. The landscapes been perceptive/cognitive perception</td>
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<td></td>
<td>VI.3-1.1. Farmland under agreement contributing to OFS, ESA, CSS</td>
<td></td>
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<tr>
<td>VI.2.C-1.1. Animals/plants reared/cultivated under agreement (number of individuals or hectares broken down to breed/variety)</td>
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<td></td>
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<td>(a) of which figuring on EU or international lists: World Watch List of FAO; International Undertaking on Plant Genetic Resources for Food and Agriculture (pending)</td>
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<td>(b) of which conserved within the farming system they traditionally are part of (%)</td>
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<tr>
<td>VI.2.C-1.1. = N/A (Defra ERDP baseline study)</td>
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<tr>
<td>VI.2.B-3.2 = N/A (Defra ERDP baseline study)</td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
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<tr>
<td>maintained or enhanced by agri-environmental measures?</td>
<td>(visual, etc.) coherence between the farmland and the natural/</td>
<td>coherence with the natural/biophysical characteristics of the zone</td>
<td>and HLS agreement plus land managed under selected ELS and OELS options (2,883,159 ha &amp; 40,224 agreements) contribute to the coherence with the natural/biophysical characteristics of the zone, plus 47,470 ha in ECP.</td>
</tr>
<tr>
<td></td>
<td>biophysical characteristics of the zone has been maintained or enhanced</td>
<td>(number of sites and hectares) of which due to land-use patterns as influenced by the supported actions (where relevant specified to type, such as grassland, etc…) (%)</td>
<td>VI.3.1.1(a) = 99% of agreements and 99% of area</td>
</tr>
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<td>(b) of which due to environmental features such as flora, fauna or habitats directly/indirectly resulting from the supported actions (%)</td>
<td>VI.3.1.1(b) = 60% of agreements and 85% of area</td>
</tr>
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<td>(c) of which due to the preservation of landforms such as relief or contours (%)</td>
<td>VI.3.1.1(c) = 1.1% of the area and 9.9% of the agreements</td>
</tr>
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<td>(d) of which due to the preservation, resulting from supported actions, of water levels and the contours of water bodies (stemming, irrigation restrictions, etc.) (%)</td>
<td>VI.3.1.1(d) = 100%</td>
</tr>
<tr>
<td>VI.3.2. The perceptive/cognitive (visual, etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced</td>
<td>VI.3.2.1. Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) of which due to the visual complexity resulting from land-use/crop patterns influenced by the supported actions (extent, spatial arrangement including height, colours) (%)</td>
<td>VI.3.2.1 All farmland under ESA, CSS and HLS agreement, plus land under selected ELS and OELS options (1,672,582 ha &amp; 41,003 agreements) contribute to the perceptive/cognitive differentiation in the landscape</td>
<td>VI.3.2.1(a) = 100% of the area (1,672,582 ha) and 76% of the agreements (31,053)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which due to environmental features such as flora,</td>
<td>VI.3.2.1 (b) = 98% of area under agreement (data for ESA, CSS and HLS only)</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
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<tr>
<td>Vi.3.3. The cultural identity of farmland has been maintained or enhanced</td>
<td>Vi.3.3.1. Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) of which due to the presence of traditional crops or traditional domestic animals as influenced by the supported actions (%)</td>
<td>fauna or habitats directly/indirectly resulting from the supported actions (%)</td>
<td>and 70% of agreements (data for ESA, CSS, ELS, HLS and OELS).</td>
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<td>(c) of which due to man-made objects (hedgerows, ditches, tracks) introduced/preserved by the supported actions or the possibility, thanks to support for vegetation management, of viewing the landscape differentiation (homogeneity/diversity) (%)</td>
<td>Vi.3.3.2.1 (c) = 93% of the area under agreement (information on area is only available for CSS and ESA) and 97% of agreements (for CSS, ESA, ELS, HLS and OELS).</td>
</tr>
</tbody>
</table>

Vi.3.3.1 = All farmland under CSS, ESA and HLS agreements plus land under selected ELS and OELS options (1,909,931 ha & 43,666 agreements) contribute to the maintenance/enhancement of the cultural/historical characteristics of the zone. OFS in itself does not promote the maintenance/enhancement of cultural/historical characteristics. However, this does not mean that they are not protected, but any protection is driven by other factors such as personal interest or other initiatives.

Vi.3.3.1(a) = 23% of land in Vi.3.3.1 (minus ESA) (b) = 90% of agreements

Vi.3.3.1(b) = 90% of agreements

Vi.3.3.1(c) = 68% of agreements
### Questions

VI.3-4. The protection/improvement of landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
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<tr>
<td></td>
<td>VI.3-4.</td>
<td>VI.3-4.1. Evidence of societal benefits/values resulting from the protected/improved landscape structures and functions (description)</td>
<td>VI.3-4.1 = There are 100 agreements covering 154 ha that are covered by ESA access agreements (Public Access). Other benefits have not been quantified, but some evidence available of likely benefits and value. No benefit studies have been done for CSS. A benefit study commissioned by MAFF on the South Downs and Somerset Levels and Moors ESA using the contingent valuation method (CVM) indicated that the net annual public benefits greatly exceeded financial costs either to the EC or UK. ESA policy in these two areas was seen to give very high VFM. An evaluation of educational access under CSS and HLS found that whilst it was difficult to quantify the return on investment in educational access, benefits were being delivered to teachers, students and farmers. Socio-economic studies of grant-funded (including CSS and ESA) traditional farm building restoration and wall repair in the Yorkshire Dales and the Lake District have shown considerable benefits including the creation of employment, inputs into</td>
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<td></td>
<td>VI.3-3.1 (d) = 3% of agreements</td>
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<td>VI.3-3-2</td>
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- **transhumance,** haymaking, etc.) reintroduced/preserved by the supported actions (%)
Questions | Criteria | Indicators | Answers
---|---|---|---
| | | | the local economy, support for craft skills, advantages to farm businesses and landscape enhancement for residents and visitors.

Note: In the table above the symbol “#” indicates that information is not available and collecting it would result in disproportionate cost.

4.4.5 Chapter VII – Improving Processing Procedures and Marketing of Agricultural Products

The high level questions ask to what extent the supported investments have:

- Helped to improve the processing of agricultural products through better processing and marketing?
- Helped to increase the added value and competitiveness of agricultural products by improving their quality?
- Improved the situation of the basic agricultural production sector?
- Improved health and welfare?
- Protected the environment?

Discussion and Conclusions

The sole scheme funded under this chapter was the Processing and Marketing Grant which was a revised (after a gap) version of a similar scheme which MAFF had earlier run. The main references for answering the Common Evaluation Questions for this Chapter are based on answers provided at the MTE or in the evaluation carried out for Defra in 2003 (Elliott et al., 2003).

The answers to the evaluative questions suggest that the changes induced by the PMG, when taken in the context of the total value adding activities of the food chain in England, are very modest because of the small amount of funds available to use for the measure (which is partly related to the UK’s small allocation of EU funds). Only £34.9 million out of a programme total of £1.6 billion was spent on PMG in the food industry which in England which has a gross output of about £60 billion per year. Only about 0.23% of farm produce in England is processed by firms which received assistance under the PMG. There is some evidence of increased purchasing of raw agricultural produce by assisted businesses, but little to indicate that primary producers receive higher prices as a result of the PMG assistance. Up to 30% of agricultural products contained in processed products had improved quality from assisted processing and marketing lines and about 38% of the basic agricultural products purchased by beneficiary businesses are traded on the basis of contracts that cover more than a year. About 15% of the projects assisted involve the purchase of organic farm produce which is sold on with an organic label. Only about 9% of assisted investments related to health and welfare.

The reader is directed to the case studies of individual beneficiary firms which are an important part of the ERDP Scheme Case Study (Elliott, 2003) and the separate economic evaluation of the PMG commissioned by Defra (Elliott et. al., 2003).
### Table 27 Chapter VII Indicator Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
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</thead>
<tbody>
<tr>
<td>VII.1. To what extent have the supported investments helped to increase the competitiveness of agricultural products through improved and rationalised processing and marketing of agricultural products?</td>
<td>VII.1-1. Rational procedures in assisted processing &amp; marketing lines</td>
<td>VII.1-1.1. Evidence of more rational processing and marketing procedures (description, e.g., including the trend in beneficiaries having ISO 9000)</td>
<td>VII.1-1.1 = Uptake of more rational processing and marketing procedures is evident from PMG scheme monitoring data. The effect at country level is negligible in view of the limited scale of the programme.</td>
</tr>
<tr>
<td></td>
<td>VII.1-2. Better use of production factors in assisted processing &amp; marketing lines</td>
<td>VII.1-2.1. Capacity-use in assisted processing &amp; marketing lines (%)</td>
<td>VII.1-2.1 = [To be completed]</td>
</tr>
<tr>
<td>VII.1-3. Lower costs in assisted processing &amp; marketing lines</td>
<td>VII.1-3.1. Change in processing/marketing costs per unit of basic product thanks to assistance (%)</td>
<td>VII.1-3.1 = &lt;5% (estimate)</td>
<td></td>
</tr>
<tr>
<td>VII.2. To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?</td>
<td>VII.2-1. The intrinsic quality of processed/market agricultural products is improved</td>
<td>VII.2-1.1. Share of agricultural basic products contained in processed/market products with improved intrinsic quality from assisted processing/marketing lines (%)</td>
<td>VII.2-1.1 = &lt;30 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which subject to systematic quality monitoring thanks to assistance (%)</td>
<td>VII.2-1.1(a) = &lt;20%</td>
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<td></td>
<td></td>
<td>(b) of which with improved homogeneity within and/or between batches (%)</td>
<td>VII.2-1.1(b) = not possible to differentiate from available information</td>
</tr>
<tr>
<td>VII.2-2. Uptake of quality labels has increased</td>
<td>VII.2-2.1. Share of marketed products from assisted processing/marketing lines sold with quality label (number of products and %)</td>
<td>VII.2-2.1 = 15%</td>
<td>VII.2-2.1(a) = 7%</td>
</tr>
<tr>
<td></td>
<td>(a) of which EU-level labelling schemes (%)</td>
<td></td>
<td>VII.2-2.1(b) = no evidence of uptake from documentation or</td>
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<td></td>
<td>(b) of which</td>
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<td>Questions</td>
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<td>Indicators</td>
<td>Answer</td>
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<tr>
<td>VII.2.3. Higher added value in financial terms thanks to improved quality</td>
<td>VII.2-3.1. Added value in assisted processing &amp; marketing lines (%)</td>
<td>VII.2-3.1 = 29.8%</td>
<td></td>
</tr>
<tr>
<td>VII.3. To what extent have the supported investments improved the</td>
<td>VII.3.1. Demand for and price of basic agricultural products assured or</td>
<td>VII.3.1. Trend (in terms of quantity and price) in purchases of raw</td>
<td></td>
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<tr>
<td>the situation of the basic agricultural production sector?</td>
<td>improved</td>
<td>materials by assisted production/marketing lines</td>
<td></td>
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<td></td>
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<td>VII.3.1.2. Share (within area of programme) of gross sales of basic</td>
<td></td>
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<tr>
<td></td>
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<td>agricultural products that are sold to outlets safeguarded or created</td>
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<tr>
<td></td>
<td></td>
<td>thanks to the assistance (%)</td>
<td></td>
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<tr>
<td>VII.3-2. Co-operation developed between the producers of basic agricultural products and the processing/marking stages</td>
<td>VII.3-2.1. Share of supply of basic products to beneficiary producers (processing) or marketers that depends on multi-annual contracts or equivalent instruments (%)</td>
<td>VII.3-2.1 = 38%</td>
<td></td>
</tr>
<tr>
<td>VII.4. To what extent have the supported investments improved health and welfare?</td>
<td>VII.4.1. Health and welfare concerns are appropriately integrated into the programme</td>
<td>VII.4.1. Share of assisted investments in processing and marketing related to health and welfare (%)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>VII.4.1.1(a) = 0.7% but see notes in Annex 5.</td>
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<td>Questions</td>
<td>Criteria</td>
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<td>Answer</td>
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<tr>
<td>VII.4-2. Animals transported or handled for slaughter do not infect live animals</td>
<td>VII.4-2.1. Trend in spread of contagious diseases during handling and transport of animals for slaughter related to assistance (description, e.g., frequency of incidents)</td>
<td>VII.4-2.1 = N/A (Defra ERDP baseline study)</td>
<td></td>
</tr>
<tr>
<td>VII.4-3. Workplace conditions improved for persons involved in processing and marketing</td>
<td>VII.4-3.1. Trend in workplace conditions related to assistance (description, e.g., frequency of reported incidents)</td>
<td>VII.4-3.1 = N/A (Defra ERDP baseline study)</td>
<td></td>
</tr>
<tr>
<td>VII.5. To what extent have the supported investments for basic agricultural products that are linked to environmentally benign farming been provided</td>
<td>VII.5-1.1. Capacity created or upgraded thanks to assistance for processing/marketing of basic agricultural products resulting from environmentally benign farming (tons) (a) of which processing/marketing of products produced by farmers respecting environmental obligations that are verified by public authorities or regulated by contractual obligations or an equivalent instrument (e.g., organic products, integrated production, etc.) (tons) (b) of which processing/marketing of crops for renewable energy or traditional non-food land uses (e.g., cork) (ton)</td>
<td>VII.5-1.1 = Quantity not available and obtaining data would result in disproportionate costs. However, 7% of projects meet this criteria VII.5-1.1 (a) = Quantity not available and obtaining data would result in disproportionate costs. However, 7% of projects meet this criteria VII.5-1.1 (b) = 0%</td>
<td></td>
</tr>
<tr>
<td>VII.5-2. The assisted operations relating to processing or marketing exceed minimum environmental standards</td>
<td>VII.5-2.1. Share of processing and marketing lines introducing environmental improvements thanks to co-financing (%) (a) of which with environmental improvements</td>
<td>VII.5-2.1 = 53% VII.5-2.1 (a) = 0%</td>
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### Questions

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
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<tr>
<td>improvement as the direct aim (%)</td>
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<td>(b) of which with environmental improvement as a collateral effect (e.g., due to new technology mainly for other purposes (%))</td>
<td></td>
<td></td>
<td>VII.5-2.1 (b) = 53%</td>
</tr>
<tr>
<td>(c) of which assisted investments going beyond standards concerning emissions (waste, sewage, smoke) directly from the processing and marketing sites (‘end of pipe’) (%)</td>
<td></td>
<td></td>
<td>VII.5-2.1 (c) = Information not available and obtaining data would result in disproportionate costs</td>
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<tr>
<td>(d) of which assisted investments concerning resource use (water, energy...) and environmental effects of the products after leaving the processing/marketing site (transport, packaging...) (%)</td>
<td></td>
<td></td>
<td>VII.5-2.1 (d) = Information not available and obtaining data would result in disproportionate costs</td>
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</tbody>
</table>

### 4.4.6 Chapter VIII – Forestry

The four schemes that were aided under Chapter VIII were the Farm Woodland Premium Scheme, Woodland Grant Scheme, English Woodland Grant Scheme and the part of the Energy Crops Scheme which supported the planting of short rotation coppice. To receive FWPS aid for planting on agricultural land it was necessary to also qualify for WGS grant. Other WGS grants were to improve the management of existing woodlands. The FWPS and WGS were superseded by the English Woodland Grant Scheme. The Energy Crops Scheme only resulted in the planting of a small area of short rotation coppice and this scheme therefore has only a small contribution to the answers to these chapter specific questions.

### Summary of high level questions

The high level questions ask to what extent the supported investments have:

- Maintained and enhanced forest resources – through new plantings, increased volumes of growing stock, and the quality and structure of growing stock?
- Maintained and enhanced total carbon storage in forest stands?
- Enabled forestry to contribute to the economic and social aspects of rural development – through productive functions on forest holdings, employment and protective functions of forest management?
- Contributed to the ecological functions of forests – by maintaining biodiversity and by the maintenance of forest health?
Discussion and Conclusions

These schemes lead to the planting of 45,223 ha of new woodland during the ERDP which it is anticipated is leading to an average increment of growing stock of 4.55 m$^3$/ha/year. There is a lack of good information on the effect of the schemes on the quality of the growing stock but it is certainly improving.

Net carbon storage is estimated to be 0.18MtC/year from 2000-2012 and 0.5 MtC/year until 2020.

There is a general lack of quantified information about the costs of woodland production, harvesting and collection and the processing and marketing of small/low quality timber. There were 9,519 ha. of public access woodland funded by the Programme. The requirements of the assistance are designed to maximise the visual amenity and landscape coherence of all new plantings.

The income foregone calculations and assistance rates under FWPS and EWGS are designed to compensate for lost agricultural income where planting takes place on agricultural land but not to increase the incomes of farmers. There is little evidence about the actual income effect of woodland planting and on the labour profile of businesses which combine agriculture with forestry.

The three main English forestry schemes achieved their targets for woodland creation and management of existing woodland. However the cost of incentivising woodland planting are well known to the Forestry Commission and this makes the target setting based on available budgets straightforward. It is less clear whether the targets optimise planting against need, costs and benefits.

In the context of England, the benefits of woodland are mainly for leisure and recreation, visual amenity and biodiversity. The employment and other direct rural economic benefits from timber production are of little importance. The third and fourth high level questions are therefore the more relevant ones in England. The woodland schemes contributed to the social and economic aspects of rural areas but on a modest scale. The biodiversity benefits of woodland planting in England are high and the schemes were well designed to achieve these benefits.

Table 28 Chapter VIII Indicator Results

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<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
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<tbody>
<tr>
<td>VIII.1.A-1. Increase of wooded area on previous agricultural and non-agricultural land</td>
<td>VIII.1.A-1. Area of assisted plantings (hectares)</td>
<td>VIII.1.A-1.1. = 45,223 ha</td>
<td></td>
</tr>
<tr>
<td>VIII.1.A-2. Anticipated increase of volume of growing stock thanks to planting of new woodland and improvement of existing woodlands</td>
<td>VIII.1.A-2.1. Anticipated additional average annual increment thanks to assistance (m$^3$/hectare/year)</td>
<td>VIII.1.A-2.1 = 4.55 m$^3$/ha/year (a) of which in new plantings (% and hectares concerned)</td>
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<td></td>
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<td>VIIIA.2.1(a) = 100%, 25,724ha</td>
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<td>Questions</td>
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<td>Answer</td>
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<tr>
<td>VIII.1.A-2.1. There is an increase in the number of hectares of new and</td>
<td>VIII.1.A-2.1. Trend in average annual net carbon storage beyond 2012</td>
<td>VIII.1.A-2.1 = estimate an increase of 0.05MtC/year until 2020</td>
<td></td>
</tr>
<tr>
<td>VIII.1.B. To what extent are forest resources being maintained and</td>
<td>VIII.1.B-1. Trend in average annual net carbon storage beyond 2012</td>
<td>VIII.1.B-1 = estimate an increase of 0.05MtC/year until 2020</td>
<td></td>
</tr>
<tr>
<td>VIII.2.B. To what extent have the assisted actions enabled forestry to</td>
<td>VIII.2.B-1. Activity on holdings from (own execution of assisted planting/improvement works) plus (anticipated work at the holding deriving from the assisted action in the short/mid-term)</td>
<td>VIII.2.B-1.1 = Between 5.6 hours/ha/year (WGS/FWPS) and 6.5 hours/ha/year (ECS)</td>
<td></td>
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<tr>
<td>contribute to the productive functions on forest holdings?</td>
<td>VIII.2.B-1. More activities/employment on holdings</td>
<td></td>
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<tr>
<td>VIII.2.A-1. More rational production of forest products (or services)</td>
<td>VIII.2.A-1.1. Average annual net carbon storage 0.18MtC/year from 2000-2012 thanks to assistance (millions of tons/year)</td>
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<tr>
<td>and structure of growing stock thanks to forest improvement</td>
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<tr>
<td>VIII.1.B-1. There is additional build-up of carbon in the growing stock of new and existing woodlands</td>
<td>VIII.1.B-1.1 = No baseline data – current info</td>
<td></td>
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<tr>
<td>VIII.1.B-1.1. Share of holdings being connected to associations of forest holders or similar organisation thanks to assistance (%)</td>
<td>VIII.2.A-1.2 = N/A (Defra ERDP baseline study Note: no information on ECS or WGS/EWG/FWPS beneficiaries</td>
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<tr>
<td>VIII.1.B-1. There is an increase in the number of hectares of new and</td>
<td>VIII.1.B-1.1. Average annual net carbon storage 0.18MtC/year from 2000-2012 thanks to assistance (millions of tons/year)</td>
<td></td>
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<tr>
<td>VIII.1.B. To what extent are forest resources being maintained and</td>
<td>VIII.1.B-1. Trend in average annual net carbon storage beyond 2012</td>
<td>VIII.1.B-1 = estimate an increase of 0.05MtC/year until 2020</td>
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</tr>
<tr>
<td>VIII.2.A-1. More rational production of forest products (or services)</td>
<td>VIII.2.A-1.1. Average annual net carbon storage 0.18MtC/year from 2000-2012 thanks to assistance (millions of tons/year)</td>
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<td>and structure of growing stock thanks to forest improvement</td>
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<td>Questions</td>
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<td>Indicators</td>
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</tr>
<tr>
<td>development of employment and other socio-economic functions and conditions?</td>
<td>term (hours/hectare/year)</td>
<td>VIII.2.B-1.1(a) = 0 hours/holding/year; 0 holdings (WGS/ECS) More information will be available for EWGS from ERDP Ex-post evaluation survey.</td>
<td>VIII.2.B-1.1(b) = 150 FTE/year (WGS/FWPS) (ECS contribution insignificant)</td>
</tr>
<tr>
<td>VIII.2.B-2. More activities in rural community, due to primary or secondary production on holdings or due to initial processing and marketing stages</td>
<td>(a) of which falling in periods where agricultural activity level is below the capacity on combined farm/forest holdings (hours/holding/year + number of holdings concerned)</td>
<td>VIII.2.B-2.1. Volume of short/medium term supply of basic forest products for small scale, local processing (m$^3$/year)</td>
<td>VIII.2.B-2.1 = 44,250t/year ECS only WGS/FWPS/EWGS N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>VIII.2.B-2.2. Employment in the short/medium term outside holdings (logging, initial processing and marketing, and further local, small scale processing and marketing) directly or indirectly depending on assisted actions (full time equivalents/year)</td>
<td>(b) of which leading to additional or maintained employment on holdings (full time equivalents/year)</td>
<td>VIII.2.B-2.2 = 455 FTE/year</td>
<td></td>
</tr>
<tr>
<td>VIII.2.B-3. Greater attractiveness of area for local population or rural tourists</td>
<td>VIII.2.B-3.1. Additional attractive/valuable area or sites due to assistance [description, taking into account the concepts of perceptive/cognitive coherence, differentiation (homogeneity/diversity) and cultural identity as well as the number of hectares involved (c.f., Question VI.3.1)]</td>
<td>VIII.2.B-3.1 = 9,519 ha</td>
<td></td>
</tr>
<tr>
<td>VIII.2.B-4. Maintaining or increasing income in rural areas</td>
<td>VIII.2.B-4.1. Income in the short/medium term due to information available for assisted activities (€/year, number of beneficiaries)</td>
<td>VIII.2.B-4.1 = No information available for WGS/FWPS/EWGS. [to be completed]</td>
<td>V VIII.2.B-4.1 (a) = ECS</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
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<tr>
<td>(a) of which additional sustainable income on holdings (% and hectare)</td>
<td></td>
<td></td>
<td>[to be completed]</td>
</tr>
<tr>
<td>(b) of which due to knock-on activities or assisted off-farm activities</td>
<td></td>
<td></td>
<td>No data for WGS/FWPS/EWGS disproportionate cost. However, evidence that there will be a positive effect on off-farm activities.</td>
</tr>
<tr>
<td>VIII.2.C. To what extent have the assisted actions enabled forestry to</td>
<td>VIII.2.C-1. Appropriate protection actions undertaken</td>
<td>VIII.2.C-1.1. Area planted/managed with a view to protective functions (hectares)</td>
<td>VIII.2.C-1.1 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>contribute to the economic and social aspects of rural development</td>
<td>VIII.2.C-2. Non-woodland and socio-economic interests are protected</td>
<td>VIII.2.C-2.1. Resources/assets enjoying improved protection due to assisted forest actions (hectare):</td>
<td>VIII.2.C-2.1 = 87,007 ha</td>
</tr>
<tr>
<td>...by maintenance and appropriate enhancement of protective functions of</td>
<td></td>
<td>(a) of which agricultural land (%)</td>
<td>VIII.2.C-2.1(a) = 42% for WGS/FWPS;</td>
</tr>
<tr>
<td>forest management?</td>
<td></td>
<td>(b) of which water bodies (%)</td>
<td>= 85% for EWGS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) of which villages, tourist facilities (%)</td>
<td>VIII.2.C-2.1(b) = 49%</td>
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<tr>
<td></td>
<td></td>
<td>(% plus type &amp; magnitude of interest – e.g., expressed approximately as number of inhabitants, night beds, etc.)</td>
<td>VIII.2.C-2.1(c) = Information not available obtaining data would result in disproportionate costs</td>
</tr>
<tr>
<td>VIII.3.A. To what extent have the assisted actions contributed to the</td>
<td>VIII.3.A-1. Genetic and/or species diversity</td>
<td>VIII.3.A-1.1. Area planted/regenerated/improved with indigenous tree</td>
<td>VIII.3.A-1.1 = 12,196 ha</td>
</tr>
</tbody>
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Ex Post Evaluation of England Rural Development Programme

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<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
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<th>Answer</th>
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</thead>
<tbody>
<tr>
<td>ecological functions of forests ...by maintenance, conservation and appropriate enhancement of biological diversity?</td>
<td>protected/ improved by using indigenous tree species or mixtures in assisted actions</td>
<td>species (hectares)</td>
<td>VIII.3.A-1.1(a) = 9,969 ha of new native woodland; VIII.3.A-1.1(b) = 9,969 ha of new native woodland</td>
</tr>
<tr>
<td>VIII.3.A-2. Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems/habitats that depend on specific assisted forest structures or silvicultural practices</td>
<td>VIII.3.A-2.1. Critical sites of maintained/improved due to assistance (hectares)</td>
<td>VIII.3.A-2.1.a = 817 ha for WGS; = No Jigsaw Challenge scheme under EWGS. VIII.3.A-2.1.a = 40,643 ha VIII.3.A-2.1.b = Information not available obtaining data would result in disproportionate costs</td>
<td></td>
</tr>
<tr>
<td>VIII.3.A-2.2. Trend in protection of vulnerable non-commercial (i.e., non-traded forest products) species/varieties of flora &amp; fauna on land subject to assisted actions (description, e.g., number of different species/varieties affected and where possible change in the abundance of key species)</td>
<td>VIII.3.A-2.2 = Upward trend in grants targeting protection of vulnerable species/varieties. Information not available obtaining data would result in disproportionate costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII.3.A-3. Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside</td>
<td>VIII.3.A-3.1. Area planted in zones with low or missing forest cover (hectares)</td>
<td>VIII.3.A-3.1.a = 9519ha (WGS/FWPS) No information on EWGS. VIII.3.A-3.1.a = 1284ha (FWPS/WGS); no data for EWGS VIII.3.A-3.1.b = 4514ha; no data for EWGS</td>
<td></td>
</tr>
<tr>
<td>VIII.3.A-3.2. ‘Ecotones’ established (forest edge...) of significant value for wild flora and fauna (kilometres)</td>
<td>VIII.3.A-3.2 = N/A (Defra ERDP baseline study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII.3.B. To what extent have the assisted actions had less damage to soil and growing stock</td>
<td>VIII.3.B-1. Volume of growing stock subject to ECS (Defra ERDP)</td>
<td>VIII.3.B-1.1 = N/A for ECS (Defra ERDP)</td>
<td></td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
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<tr>
<td>contributed to the ecological functions of forests ...by maintenance of their health and vitality?</td>
<td>from silvicultural or harvesting operations</td>
<td>reduced damage thanks to assisted equipment or infrastructure (m²/year)</td>
<td>baseline study); Information not available for WGS/EWGS obtaining data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

| VIII.3.B-2. Prevention of calamities (particularly pests and diseases) through appropriate forest structure and silvicultural practice | VIII.3.B-2.1. Area where improved forest structure or silvicultural practice relevant to the prevention of calamities has been introduced (hectares) | VIII.3.B-2.1 = N/A (Defra ERDP baseline study) |

| VIII.3.B-3. Production potential protected or restored from damage arising from natural hazards | VIII.3.B-3.1. Area protected or restored from damage arising from natural hazards (including fire) (hectares) | VIII.3.B-3.1 = N/A (Defra ERDP baseline study) |

## 4.4.7 Chapter IX – Promoting the Adaptation and Development of Rural Areas

The scheme funded under Chapter 9 was all parts of RES except the measure dealing with diversification within agriculture to new crops and livestock (which was funded under Chapter 1).

### Summary of high level questions

The high level questions ask to what extent the supported investments have:

- Improved or maintained the income of the rural population?
- Maintained the living conditions of the rural population through social and cultural activities, amenities or reduced remoteness?
- Maintained employment in rural areas?
- Improved the structural characteristics of the rural economy?
- Improved or protected the rural environment?

### Discussion and Conclusions

There is good evidence that the income of the farm and non-farm beneficiaries has improved. At the MTE the proportion of RES beneficiaries who responded that RES made a significant contribution to income (33%) was higher than any other ERDP scheme (next highest VTS and OFS both at 11%). At the EPE there were 3,697 beneficiaries. On farms it is estimated from the monitoring data that 15,084 FTE jobs were created or maintained on 2,375 holdings of which 37% were for women. The gross public cost of creating jobs was €12,160 per FTE and the total cost (including private investment) was €29,185 before allowing for deadweight and displacement.
10,844 ha benefited from improved irrigation and there were 392 projects and 319 direct beneficiary businesses which received assistance for new or improved production activities related to agriculture including the marketing of quality agricultural products.

There are a considerable number of evaluative questions for Chapter IX which it has not been possible to answer. Some of these are questions which were judged by the ERDP Baseline Study (Hill, B, et al, 2002) to be not applicable to the Chapter 9 funded RES assistance because they were not meaningful in the English or scheme context. In some other cases the necessary data is not available – especially where the data is required from the whole of the rural population which would be very expensive to collect. In general these gaps are the result of sensible decisions about what is proportionate, rather than the result of simple lack of Defra resolve to monitor RES properly. Positive choices have been made because the scale of the scheme was not big enough to be likely to have any noticeable impact on indicators which relate to the whole rural population.

This information on RES needs to be understood in the context that the micro level effects have only had a minor macro-level impact amongst the whole of the farming industry of England and the whole rural community. For example there were about 100,000 holdings in England of more than 0.25 Standard Labour Units and a total labour force of about 360,000.

A small but important share of RES funding was used to aid beneficiaries for whom ‘income improvement’ would be irrelevant - for example community groups and NGOs which sought only to cover costs of their projects.

Table 29 Chapter IX Indicator Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
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</thead>
<tbody>
<tr>
<td>IX.1. To what extent has the income of the rural population been maintained or improved?</td>
<td>IX.1-1. Farm income maintained/improved</td>
<td>IX.1-1. Share of farming population's income generated by assisted actions (€/beneficiary, no. concerned) of which gross farm income (from improved agriculture or from transactions generated by off-farm assistance) (%) (b) of which from pluriactivity generated by off-farm assistance (%)</td>
<td>IX.1-1.1 = Positive effect, 3,697 beneficiaries IX.1-1.1(a) = Relatively small impact considering the tiny proportion of RES aided farms relative to the large farming population IX.1-1.1(b) = Information not available</td>
</tr>
<tr>
<td>IX.1-2. Ratio of {costs} to {turnover} for assisted farm-related activities (where costs = ‘all inputs’)</td>
<td>IX.1-2.1. Share of gross income of off-farm beneficiaries generated</td>
<td>IX.1-2.1 = Information not available</td>
<td></td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answer</td>
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<tr>
<td>by the assistance (€/beneficiary, no. concerned)</td>
<td>IX.1-2.1(a) = Information not available</td>
<td>IX.1-2.1(b) = 5%</td>
<td></td>
</tr>
<tr>
<td>(a) of which relating to tourism (%)</td>
<td>IX.1-2.2 = No answer. Obtaining data would result in disproportionate costs.</td>
<td></td>
<td></td>
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<tr>
<td>(b) of which relating to crafts and local products (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX.1-2.2. Share of rural non-farming population having an income from transactions/employment generated by off-farm assistance (%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>IX.2. To what extent have the living conditions and welfare of the rural population been maintained as a result of social and cultural activities, better amenities or by the alleviation of remoteness?</td>
<td>IX.2-1. Remoteness has been alleviated</td>
<td>IX.2-1.1 = N/A for RES</td>
<td></td>
</tr>
<tr>
<td>IX.2-1.1. Share of holdings/households/businesses having access to assisted telecommunication facilities/services (%), no.</td>
<td>IX.2-1.2 = N/A for RES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX.2-1.2. Transport/journeys facilitated or avoided due to assisted actions (description and kilometres and/or hours avoided per year)</td>
<td>IX.2-1.2(a) = (a) = N/A for RES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) of which concerning agricultural holdings (kilometres and/or hours avoided per year)</td>
<td>IX.2-1.2(b) = N/A for RES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) of which concerning the rural community (kilometres and/or hours avoided per year)</td>
<td>IX.2-1.2 = N/A for RES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX.2-1.3. Evidence of economic activity resulting from assisted, enhanced telecommunications or transport facilities (description)</td>
<td></td>
<td></td>
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<tr>
<td>IX.2-2. Social and cultural facilities have been maintained/enhanced, particularly for young people and young families</td>
<td>IX.2-2.1. Share of rural population with access to social/cultural activities that depend on assisted facilities (%)</td>
<td>IX.2-2.1 = Collecting data would result in disproportionate costs</td>
<td></td>
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<tr>
<td>(a) of which</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>farmers taking leave-days thanks to assisted relief services (%), and number of days</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(b) of which young people and young families (%)</td>
<td></td>
</tr>
<tr>
<td>IX.2-3. Neighbourhood amenities and housing conditions maintained/improved</td>
<td>IX.2-3.1. Share of rural population enjoying access to amenity land/nature or conserved rural heritage/sites thanks to assisted actions (%)</td>
<td>IX.2-3.1 = N/A for RES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IX.2-3.2. Share of rural accommodation that has improved due to assistance (no. and %)</td>
<td>IX.2-3.2 = N/A for RES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) of which for rural tourism (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) of which providing an incentive for remaining/settling in area (%)</td>
<td></td>
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</tr>
<tr>
<td>IX.3. To what extent has employment in rural areas farming population been maintained?</td>
<td>IX.3-1. Employment of the farming population maintained/increased</td>
<td>IX.3-1.1 = 15,084 FTE on 2,735 holdings</td>
<td></td>
</tr>
<tr>
<td>IX.3-1.1. Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned)</td>
<td>IX.3-1.1(a) = 59%-63%</td>
<td></td>
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<tr>
<td></td>
<td>of which from improved agriculture or transactions, generated by assisted activities off-farm (%)</td>
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<td></td>
<td>(b) of which from pluriactivity generated by assisted activities off-farm (%)</td>
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<tr>
<td></td>
<td>(c) of which concerning farming population younger than 30 years of age (%)</td>
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<td></td>
<td>(d) of which concerning women (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX.3-1.2. Cost per job maintained/created for the farming population (€/FTE)</td>
<td>IX.3-1.2 = €12,160 (public costs); €29,185 (total costs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX.3-2. Seasonal variation</td>
<td>IX.3-2.1. Workforce</td>
<td>IX.3-2.1 = Information not</td>
<td></td>
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</table>
### Questions

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
<th>Answer</th>
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<tbody>
<tr>
<td>of activities is more effectively balanced</td>
<td>obtaining employment during periods of low agricultural activity thanks to assistance (FTE, no. of persons concerned)</td>
<td>available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td>IX.3-2.2. Prolongation of the tourist season (days/year)</td>
<td></td>
<td>IX.3-2.2 = Information not available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td>IX.3-3. Diversification of activities contributes to employment of the non-farming population</td>
<td>IX.3-3.1. Employment for off-farm beneficiaries maintained/created by the assistance (FTE, no of persons concerned)</td>
<td>IX.3-3 = 11,914</td>
</tr>
<tr>
<td></td>
<td>(a) relating to tourism (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) relating to crafts and local products (%)</td>
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</tr>
<tr>
<td></td>
<td>(c) relating to agri-business (%)</td>
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<td></td>
<td>(d) concerning persons younger than 30 years of age (%)</td>
<td></td>
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<tr>
<td></td>
<td>(e) concerning women (%)</td>
<td></td>
</tr>
<tr>
<td>IX.3-3.2. Cost per job maintained/created for the non-farming population (€/FTE)</td>
<td></td>
<td>IX.3-3.2 = Information not available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td>IX.4. To what extent have the structural characteristics of the rural economy been maintained or improved?</td>
<td>IX.4-1.1. Share of farms enjoying agricultural improvements thanks to assisted actions (no. and % of holdings and hectares)</td>
<td>IX.4-1.1 = Information not available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td></td>
<td>(a) land improvement (no. and % of hectares)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) improved irrigation (no. and % of hectares)</td>
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<td></td>
<td>(c) relating to farm/field</td>
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<td></td>
<td>IX.4-1.1 (a) = Information not available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IX.4-1.1 (b) = 10,844ha</td>
</tr>
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<td></td>
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<td>IX.4-1.1 (c) = N/A (Defra ERDP baseline study)</td>
</tr>
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<td>Questions</td>
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<tr>
<td>IX.4-1.1 (d) = Information not available and would result in disproportionate costs to collect</td>
<td></td>
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</tr>
<tr>
<td>IX.4-1.2 = 392 projects and 319 direct beneficiary businesses</td>
<td></td>
<td></td>
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<tr>
<td>IX.4-1.3 = Information not available and collection would result in disproportionate costs</td>
<td></td>
<td></td>
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<tr>
<td>IX.4-2.1 = N/A (Defra ERDP baseline study)</td>
<td>IX.4-2.1. Share of threatened land protected thanks to assisted actions (hectares and %)</td>
<td></td>
</tr>
<tr>
<td>IX.4-2.2 = N/A (Defra ERDP baseline study)</td>
<td>IX.4-2.2. Share of damaged land restored thanks to assistance (hectares and %)</td>
<td></td>
</tr>
<tr>
<td>IX.4-3.1 = Yes there is evidence, refer to Annex 5.</td>
<td>IX.4-3.1. Evidence of improved dynamism/potential thanks to assisted actions (description, e.g., relevant networks, financial engineering…)</td>
<td></td>
</tr>
<tr>
<td>IX.5-1.1 = N/A (Defra ERDP baseline study)</td>
<td>IX.5-1.1. Share of land where soil protection has improved, particularly by reducing erosion thanks to assisted action (hectares and %)</td>
<td></td>
</tr>
<tr>
<td>IX.5-1.2 = N/A (Defra ERDP baseline study)</td>
<td>IX.5-1.2. Reduced water loss from irrigation infrastructure thanks to assistance (hectares benefiting and m³/tons of crop)</td>
<td></td>
</tr>
<tr>
<td>IX.5-1.3 = N/A (Defra ERDP baseline study)</td>
<td>IX.5-1.3. Evidence of positive environmentally related trends in farming systems, practices, ecological infrastructure or</td>
<td></td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
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<tr>
<td>IX.5-2. Pollution/ emissions prevented and better use of natural/ non-renewable resources</td>
<td>IX.5-2.1. Waste/sewage collected/treated thanks to assisted actions (% of waste/sewage and % of farms/households served)</td>
<td>IX.5-2.1 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td></td>
<td>IX.5-2.2. Share of farms/households having access to renewable energy thanks to assisted actions (%)</td>
<td>IX.5-2.2 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>IX.5-3. Non-agricultural land has been maintained/ improved in terms of biodiversity, landscapes or natural resources</td>
<td>IX.5-3.1. Evidence of improvements on non-agricultural land in terms of biodiversity/ landscape/natural resources thanks to assistance (description)</td>
<td>IX.5-3.1 = N/A (Defra ERDP baseline study)</td>
</tr>
<tr>
<td>IX.5-4. Increased knowledge/ awareness about rural environmental problems and solutions</td>
<td>IX.5-4.1. Rural actors having improved exchange of or access to information concerning environmentally benign activities thanks to assisted actions (number, %) (a) of which concerning agricultural techniques/practices and systems (no. and %) (b) of which concerning non-farming activities (no. and %)</td>
<td>IX.5-4.1 = Information not available and collecting would result in disproportionate costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IX.5-4.1 (a) = Information not available and would result in disproportionate costs to collect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IX.5-4.1(b) = Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

### 4.4.8 Cross-cutting Questions

The high level questions ask to what extent the Programme has:

- Helped stabilise the rural population?
- Been conducive to securing employment both on and off holdings?
- Been conducive to maintaining or improving the income level of the rural population?
- Improved the market situation for basic agricultural products?
- Been conducive to the protection and improvement of the environment?
- Had implementing arrangements that contributed to maximising the intended effects of the Programme?
Discussion and Conclusions

Rural population
[to be completed]

Employment
[to be completed]

Income level of the rural population
[to be completed]

Agricultural markets
The main schemes that addressed agricultural markets were PMG and RES. The answers to the questions about the impact of the programme on markets suggest that costs have been reduced in assisted businesses but that there has been little change in value added per unit of primary agricultural product. The share of agricultural primary production entering the marketing chain which was processed by a beneficiary business of PMG is estimated to have been only 0.23% by the programme’s close.

The change in the annual gross sales of key benefiting production chains was thought to be negligible and the price of products was at best maintained to facilitate expansion into new markets.

Protection and improvement of the environment
It is estimated that 84% of the costs and 94% of the projects were entirely or mainly intended for environmental protection. The balance of the programme was focussed on the production and development aspects of the rural economy, but a further 6% of the costs and 4% of projects are thought to have generated positive environmental spin-offs. There is very little information about negative environmental effects of the programme but in the evaluators’ opinion there were only sporadic and isolated examples.

The proportion of England where there was beneficial land-use changes related to the programme was up to 67%. This was a dramatic increase from the 25% reported at the MTE and was due to the impact of ELS in bringing large areas of farmland into environmentally beneficial management. Of course, this indicator tends to be influenced strongly by a “broad and shallow” scheme. The 67% of land with beneficial changes was made up primarily of 23% which was grassland (and a few permanent crops), 13% which was arable land and 39% which was semi-natural land cover.

Implementing arrangements that contributed to maximising the intended effects of the Programme
The implementing arrangements had a positive impact on the policy learning process and the development of effective stakeholder partnerships in the regions, increasing understanding about the programme and thus helping to enhance delivery through effective inter-agency networking and the building of consensus around local priorities for funding. There was good evidence to this effect from the EPE consultations.

At the level of the individual beneficiary the frequency with which farms and other beneficiary businesses were in more than one scheme is a measure of the extent to which the actions of the programme were concerted and complementary. Analysis of all scheme beneficiaries using
CPH numbers was carried out. Data for WGS and EWGS could not be used for this analysis because CPH numbers were not available and no information was available about individual VTS training recipients. With this small proviso, the analysis showed that 19.7% of beneficiaries participated in 2 schemes, 4.4% participated in 3 schemes and 0.9% participated in four or more schemes. This is an increase from the MTE when from the monitoring data (and treating WGS and FWPS as a single scheme) only 12% of beneficiary businesses were in more than one scheme. This shows the big impact of ELS in which so many farm businesses participated. In the table below the most common combinations of schemes on beneficiary holdings are shown. For this analysis the beneficiaries had a scheme grant or agreement at some point in the 2000 – 2006 period, but did not necessarily have the scheme combinations at the same point in time.

Table 30 The Most Common Combinations of Schemes on Beneficiary Holdings

<table>
<thead>
<tr>
<th>Scheme Combination</th>
<th>No. of Bens</th>
<th>Scheme Combination</th>
<th>No. of Bens</th>
<th>Scheme Combination</th>
<th>No. of Bens</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS</td>
<td>17,704</td>
<td>ECS/ELS</td>
<td>187</td>
<td>ELS/FWPS/HFA</td>
<td>42</td>
</tr>
<tr>
<td>HFA</td>
<td>6,991</td>
<td>ECS</td>
<td>179</td>
<td>CSS/FWPS/RES</td>
<td>41</td>
</tr>
<tr>
<td>CSS</td>
<td>5,719</td>
<td>CSS/ESA</td>
<td>138</td>
<td>CSS/ECS</td>
<td>40</td>
</tr>
<tr>
<td>ESA</td>
<td>4,761</td>
<td>ELS/HFA/HLS</td>
<td>137</td>
<td>CSS/HFA/OFS</td>
<td>40</td>
</tr>
<tr>
<td>RES</td>
<td>2,376</td>
<td>CSS/OELS/OFS</td>
<td>131</td>
<td>OFS/RES</td>
<td>40</td>
</tr>
<tr>
<td>FWPS</td>
<td>2,340</td>
<td>ELS/ESA/HFA</td>
<td>123</td>
<td>CSS/ELS/FWPS/RES</td>
<td>36</td>
</tr>
<tr>
<td>CSS/ELS</td>
<td>2,312</td>
<td>FWPS/HFA</td>
<td>121</td>
<td>ELS/FWPS/RES</td>
<td>36</td>
</tr>
<tr>
<td>ELS/HFA</td>
<td>1,700</td>
<td>HFA/RES</td>
<td>111</td>
<td>ESA/FWPS/HFA</td>
<td>36</td>
</tr>
<tr>
<td>ELS/HFA</td>
<td>1,554</td>
<td>ESA/FWPS</td>
<td>101</td>
<td>ESA/OFS</td>
<td>35</td>
</tr>
<tr>
<td>CSS/HFA</td>
<td>767</td>
<td>CSS/ELS/ESA</td>
<td>94</td>
<td>CSS/OFS/RES</td>
<td>33</td>
</tr>
<tr>
<td>OFS</td>
<td>664</td>
<td>FWPS/RES</td>
<td>87</td>
<td>FWPS/OFS</td>
<td>33</td>
</tr>
<tr>
<td>ELS/FWPS</td>
<td>627</td>
<td>CSS/ESA/HFA</td>
<td>78</td>
<td>ELS/ESA/HLS</td>
<td>32</td>
</tr>
<tr>
<td>CSS/FWPS</td>
<td>503</td>
<td>CSS/OELS</td>
<td>71</td>
<td>ELS/HFA/OFS</td>
<td>31</td>
</tr>
<tr>
<td>ELS/HLS</td>
<td>493</td>
<td>ESA/RES</td>
<td>71</td>
<td>ELS/FWPS/HLS</td>
<td>28</td>
</tr>
<tr>
<td>ELS/RES</td>
<td>440</td>
<td>CSS/ECS/EELS</td>
<td>70</td>
<td>CSS/ELS/OFS</td>
<td>27</td>
</tr>
<tr>
<td>OELS</td>
<td>411</td>
<td>HFA/OFS</td>
<td>61</td>
<td>CSS/ESA/FWPS</td>
<td>25</td>
</tr>
<tr>
<td>ELS/ESA</td>
<td>374</td>
<td>PMG/RES</td>
<td>61</td>
<td>CSS/FWPS/OFS</td>
<td>25</td>
</tr>
<tr>
<td>CSS/ELS/FWPS</td>
<td>308</td>
<td>CSS/FWPS/HFA</td>
<td>57</td>
<td>ELS/ESA/FWPS</td>
<td>23</td>
</tr>
<tr>
<td>CSS/ELS/HFA</td>
<td>307</td>
<td>ESA/HFA/RES</td>
<td>53</td>
<td>ELS/FWPS/HFA</td>
<td>22</td>
</tr>
<tr>
<td>OELS/OFS</td>
<td>267</td>
<td>ELS/HFA/RES</td>
<td>50</td>
<td>ELS/HLS/RES</td>
<td>22</td>
</tr>
<tr>
<td>CSS/RES</td>
<td>216</td>
<td>ELS/OELS</td>
<td>48</td>
<td>CSS/ECS/ELS/FWPS</td>
<td>21</td>
</tr>
<tr>
<td>CSS/OFS</td>
<td>204</td>
<td>ELS/OFS</td>
<td>48</td>
<td>CSS/ELS/FWPS/HFA</td>
<td>21</td>
</tr>
<tr>
<td>PMG</td>
<td>204</td>
<td>CSS/HFA/RES</td>
<td>46</td>
<td>CSS/ELS/HFA/RES</td>
<td>21</td>
</tr>
<tr>
<td>CSS/ELS/RES</td>
<td>196</td>
<td>CSS/ELS/HLS</td>
<td>44</td>
<td>ECS/FWPS</td>
<td>21</td>
</tr>
</tbody>
</table>
There is some evidence of bottlenecks. For example, beneficiaries planting woodland on agricultural land found the need to make two different applications to two different institutions (RDS and FC), to receive all the payments to which they were entitled, confusing and time consuming. This bottleneck was removed by bringing all payments within the new EWGS and making the FC solely responsible.

Another bottleneck seems to have been the transfer from CSS and ESA to ES. This has been referred to elsewhere. There were observations, particularly at the MTE when a considerable number of beneficiaries were interviewed, that the application process was burdensome and payment schedules were too long.

The main types of beneficiary at the MTE were farmers (70%) and landowners applying for woodland grants (22%). Farm beneficiaries were likely to be larger than average, in an LFA and also were more likely to be cereals or general cropping farms and least likely to be horticultural, pig or poultry farms.

It is not possible to give a figure for the overall leverage rate of the programme because there is no information gathered on the private costs of agri-environment schemes which form the larger part of the programme. In general, the intervention rates seem to have been set at appropriate levels to achieve the planned participation in schemes, whether agri-environment and woodland schemes or the project based schemes. The evidence for this is that the money has been spent. Whether the quality of the assisted projects has been satisfactory is uncertain but would require more resources for evaluation.

### Table 31 Chapter X Indicator Questions

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transv.1. To what extent has the programme helped stabilising the rural population?</td>
<td>Transv.1-1. Age profile of population benefiting from assistance contributes towards maintaining/ promoting a balanced population structure</td>
<td>Transv.1-1.1. Share of persons working on beneficiary farm/forest holdings, and aged: (i) &lt; 30 years (%); (ii) 30-39 years (%); (iii) &gt; 40 years (%) also use other evidence including information from existing common indicators relating to age profile in chapters II, III, IV and IX</td>
<td>X.1-1.1 = [To be completed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transv.1-2. Gender profile of population benefiting from assistance contributes towards maintaining/ promoting a balanced population structure</td>
<td>Transv.1-2.1. Ratio of {female} to {male} for persons benefiting from assistance also use other evidence including information from existing common indicators relating to gender in chapters II, III and IX</td>
<td>X.1-2.1 = [To be completed]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transv.1-3. Rural</td>
<td>Transv.1-3.1. Evidence of</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ex Post Evaluation of England Rural Development Programme

Hyder Consulting (UK) Limited-2212959
<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>depopulation has been reduced</td>
<td>positive influences of the programme on reduction of rural depopulation</td>
<td>(description, including change in farming population and other rural population) also use other evidence including information from existing common indicators relating to migration in chapter IX</td>
<td>completed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transv.2. To what extent has the programme been conducive to securing employment both on and off holdings?</td>
<td></td>
</tr>
<tr>
<td>Transv.2-1. Employment is created or maintained, directly and indirectly by the programme, on farm/forestry holdings.</td>
<td></td>
<td>Transv.2-1.1. Employment is created or maintained on directly/indirectly benefiting farm/forestry holdings (FTE)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which holders (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which non-family labour (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) of which women (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) of which concerning full-time employment (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(e) of which concerning gainful activities other than the production of basic agricultural/forestry products (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f) of which indirectly as a result of supplier effects (%) also use other evidence including information from existing common indicators relating to employment in chapters I, II, (VII), VIII and IX</td>
<td></td>
</tr>
<tr>
<td>Transv.2-2. Employment is created or maintained, directly and indirectly by the programme, in enterprises (other than holdings) in rural areas or in branches connected with agriculture.</td>
<td></td>
<td>Transv.2-2.1. Employment is created or maintained, directly and indirectly benefiting enterprises (other than holdings) (FTE)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which women</td>
<td></td>
</tr>
</tbody>
</table>

Ex Post Evaluation of England Rural Development Programme

Hyder Consulting (UK) Limited-2212959
<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transv.3. To what extent has the programme been conducive to maintaining or improving the income level of the rural community?</td>
<td>Transv.3-1. Income of the farming population maintained or improved, directly or indirectly by the programme</td>
<td>Transv.3-1. Income of directly/indirectly assisted farming population (€/person, number concerned)</td>
<td>X.3-1.1 = [To be completed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which ‘family farm income’ (%)</td>
<td>X.3-1.1 (a) = [To be completed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which income of non-family workforce on holdings (%)</td>
<td>X.3-1.1 (b) = [To be completed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(c) of which relating to pluriactivity of part-time farmers or to gainful activities on holdings other than the production of basic agricultural/forestry products (%)</td>
<td>X.3-1.1 (c) = [To be completed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(d) of which indirectly as a result of supplier effects (%)</td>
<td>X.3-1.1 (d) = [To be completed]</td>
</tr>
<tr>
<td></td>
<td>also use other evidence including information from existing common indicators relating to income in chapters I, II, III, IV, V, VII, VIII and IX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transv.3-2. Income of non-farming population maintained or improved, directly or indirectly, by the programme</td>
<td>Transv.3-2.1. Income of directly/indirectly assisted non-farming population (€/person, number concerned)</td>
<td>X.3-2.1 = [To be completed]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>of which relating to rural</td>
<td>X.3-2.1(a) = [To be completed]</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Transv.4.</strong> To what extent has the programme improved the market situation for basic agricultural/forestry products?</td>
<td>Transv.4-1. Productivity has been improved and/or costs reduced in key production chains thanks to the programme</td>
<td>X.4-1.1 = For RES and PMG there is no data available. Costs have been reduced significantly by the actions of the ECS, establishment costs have probably been reduced by 50% across all holdings.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.4-2. Market positioning (quality, etc.) has improved for key production chains (filières) thanks to the programme</td>
<td>X.4-2.1 = Unable to answer this question but the indication is that there is little change in added value per unit of output.</td>
<td>X.4-2.2 = 0.23%</td>
</tr>
<tr>
<td></td>
<td>Transv.4-2.2. Share of basic agricultural product being subject to quality improvement at any level along benefiting production chains (filières) thanks to programme (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.4-2.3. Evidence of better market positioning (description) also use other evidence</td>
<td>X.4-2.3 = Insofar as the OFS/OELS offers conversion grants to farmers and growers to</td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>including information from existing common indicators relating to market positioning in chapters I, III, IV, VI, VII, VIII and IX</td>
<td>produce organic food, they may be able to take advantage of additional premiums after the land and stock are fully converted. However, the evidence for better marketing position is mixed – unit value of production is improved in most cases but reduced output volume can offset this with high distribution costs for this still minor sector. The overall market for organic food has gained critical mass and subsequent access to multiple retail outlets. However there have also been periods of oversupply e.g. milk and lamb, which has temporarily undermined the organic market to some extent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With PMG and RES there is no doubt that assisted businesses are in a better marketing position due to assistance but when this is taken to production chain level, the</td>
<td></td>
<td></td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
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<tr>
<td>-----------</td>
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</tr>
<tr>
<td>Transv.4-3. There is a positive development in the turnover and price for key production chains (filières) thanks to the programme</td>
<td>Transv.4-3.1. Change in annual gross sales for key benefiting production chains (filières) (%)</td>
<td>X.4-3.1= Negligible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.4-3.2. Evolution in price per unit of standardised product for key benefiting production chains (filières) (%)</td>
<td>X.4-3.2 = The indication is that price per unit of standardised product in established businesses is reduced or at best maintained in order to facilitate expansion into new markets. New products and markets can contribute to unit price increase but the PMG scheme has a low level of innovation.</td>
<td></td>
</tr>
<tr>
<td>Transv.5. To what extent has the programme been conducive to the protection and improvement of the environment?</td>
<td>Transv.5-1. The combination of supported actions (from within and between different chapters) focusing on production/development and/or on the environment generates positive</td>
<td>X.5-1.1 = 84% of costs, 94% of projects.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.5-1.1. Share of supported actions entirely/mainly intended for environmental protection or enhancement (% of programme costs; % of projects)</td>
<td>X.5-1.2 = 6% of programme costs, 4% of projects.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.5-1.2. Share of</td>
<td>X.5-1.2(a) = 38% of costs, 18% of</td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>environmental effects</td>
<td>supported actions focusing on production and development aspects generating positive environmental spin-offs (% of programme costs; % of projects)</td>
<td>(a) of which thanks to cleaner technology (%)</td>
<td>X.5-1.2(b) = 10% of costs, 16% of projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which thanks to improved agricultural practices or change/maintenance of land-use patterns (incl. location/concentration of livestock) (%)</td>
<td>X.5-1.3 = There is no quantitative data on negative environmental effects in relation to any of the schemes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transv.5-1.3. Share of supported actions having generated negative environmental effects (% of programme costs; % of projects)</td>
<td>X.5-1.3(a) = There is no data available to quantify the share of actions which have generated negative environmental effects.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(a) of which during the establishment/investment/construction phase (%)</td>
<td>X.5-1.3(b) = There is no data available to quantify this.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which during the operational phase (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>also use other evidence including information from existing common indicators relating to the environment in chapters I, III, V, VI, VII, VIII and IX</td>
<td></td>
</tr>
</tbody>
</table>

**Transv.5-2. Land-use patterns (incl. the location/concentration of livestock) have been maintained or have developed in a way which is environmentally beneficial**

<table>
<thead>
<tr>
<th>Questions</th>
<th>Criteria</th>
<th>Indicators</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transv.5-2.1. Share of area within zone covered by the programme with beneficial (or prevented negative) land-use changes related to the programme (%)</td>
<td>(a) of which concerning permanent crops (grassland, orchards, woodland…) (%)</td>
<td>X.5-2.1 = Up to 67%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X.5-2.1(a) = Approximately 23%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) of which</td>
<td>X.5-2.1(b) =13%</td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
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</tr>
<tr>
<td>concerning arable land (organic farming, rotation) (%)</td>
<td>Transv.5-3.1. Share of water resources subject to reduced depletion (or better replenishment) thanks to programme (%)</td>
<td>X.5-3.1 = Share is negligible but data not available, collection of data would involve disproportionate costs</td>
<td></td>
</tr>
<tr>
<td>(c) of which concerning non-cultivated or semi-natural land (%)</td>
<td>(a) of which related to basic agricultural (or forestry) production (%)</td>
<td>X.5-3.1(a) = Data not available, collection of data would involve disproportionate costs</td>
<td></td>
</tr>
<tr>
<td>also use other evidence including information from existing common indicators relating to land-use in chapters I, V, VI, VII, VIII and IX</td>
<td>Transv.5-3.2. Share of water resources subject to reduced/stabilised pollution Levels thanks to programme (%)</td>
<td>X.5-3.2 = 29% of land</td>
<td></td>
</tr>
<tr>
<td>(a) of which related to basic agricultural (or forestry) production (%)</td>
<td>X.5-3.2(a) = 100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transv.5-3.3. Trend in annual greenhouse gas emission (tons of carbon equivalents) due to programme (approximate estimates)</td>
<td>X5-3.3(a) =100%</td>
<td></td>
</tr>
<tr>
<td>(a) of which from carbon dioxide (%)</td>
<td>X5-3.3(b) = Information not available, obtaining data will result in disproportionate costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) of which from nitrous oxide (%)</td>
<td>X5-3.3(c) = Information not available, obtaining data will result in disproportionate costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) of which from methane (%)</td>
<td>also use other evidence including information from existing common indicators relating to natural resources in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>also use other evidence including information from existing common indicators relating to natural resources in</td>
<td></td>
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<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>Transv.5.4. Rural landscapes have been maintained or enhanced</td>
<td>Transv.5.4.1. Share of area within zone covered by the programme with beneficial (or prevented negative) landscape effects (%)</td>
<td>(a) of which classified as contributing to respectively: - landscape coherence (%) - landscape differentiation (homogeneity/diversity) (%) - cultural identity (%)</td>
<td>Transv.5.4.1 (a) = 19.7% of beneficiaries have two schemes, 4.4% have three schemes, 0.9% have four or more schemes and 75.0% have only a single scheme.</td>
</tr>
<tr>
<td>Transv.6. To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?</td>
<td>Transv.6.1. The assisted actions are concerted and complementary so as to produce synergy through their interaction on different aspects of rural development problems/opportunities</td>
<td>X.6-1.1 (a) = Some evidence found. X.6-1.1 (b) = There is some evidence of bottlenecks for potential beneficiaries.</td>
<td></td>
</tr>
<tr>
<td>Transv.6.1.1. Frequency of groups/combinations of actions/projects, from within and/or between chapters, targeting rural development problems/opportunities</td>
<td>(a) at different levels along agricultural/forestry production chains (filières) different aspects of particular bottlenecks and/or jointly creating critical mass (%)</td>
<td>X.6-1.1 = 19.7% of beneficiaries have two schemes, 4.4% have three schemes, 0.9% have four or more schemes and 75.0% have only a single scheme.</td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
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<td>-----------</td>
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</tr>
<tr>
<td>Transv.6-2. The uptake within the programme (by holdings, enterprises, associations...) involves those having the biggest need and/or potential for rural development in the area concerned by the programme (needy, capable, initiating good projects ...), thanks to a combination of implementing arrangements such as (i) publicity about the support opportunities, (ii) eligibility criteria, (iii) premium differentiation and/or (iv) procedures/criteria for selection of projects as well as (v) the absence of unnecessary delays and bureaucratic costs for these beneficiaries</td>
<td>Transv.6-2.1. Main types of direct beneficiaries and operators (e.g., holdings, enterprises, associations, networks; owners/holders, processors/marketers; arable/pastoral; small/large) involved in the programme (typology)</td>
<td>X.6-2.1 = At the MTE the majority of beneficiaries were farmers, which were estimated to be 70% of beneficiaries, of the others, 22% were landowners applying for WGS grants. Farm beneficiaries are likely to be larger than average and in an LFA. They are also likely to be a cereals or general cropping farm. They are least likely to be a horticulture, pigs or poultry farm. X.6-2.2 = Evidence that application process was burdensome and payment schedules too long.</td>
<td></td>
</tr>
<tr>
<td>Transv.6-3. Leverage effects have been maximised through a combination of eligibility criteria, premium differentiation or procedures/criteria for selection of projects</td>
<td>Transv.6-3.1. Leverage rate = ( \frac{\text{total spending by direct beneficiaries on assisted actions}}{\text{public co-financing}} )</td>
<td>X.6-3.1 = The information is not available and collection would result in disproportionate cost.</td>
<td></td>
</tr>
<tr>
<td>Transv.6-4. Dead-weight effects have been avoided through a combination of eligibility criteria, premium differentiation or procedures/criteria for selection of projects</td>
<td>Transv.6-4.1. Evidence of dead-weight (description and approximate quantification)</td>
<td>X.6-4.1 = [To be completed]</td>
<td></td>
</tr>
<tr>
<td>Questions</td>
<td>Criteria</td>
<td>Indicators</td>
<td>Answers</td>
</tr>
<tr>
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</tr>
<tr>
<td>differentiation and/or procedures/ criteria for selection of projects</td>
<td>Transv.6-5. Beneficial indirect effects (especially supplier effects) have been maximised</td>
<td>Transv.6-5.1. Evidence of actions/projects resulting in beneficial indirect effects (description)</td>
<td>Transv.6-5.1 = [To be completed]</td>
</tr>
</tbody>
</table>
4.5 Changes made to the ERDP

4.5.1 Modifications

The original Programme Document was approved by Commission Decision C (2000) 3003 on 11 October 2000, then as modified in

- April 2004 by Commission Decision C (2005) 1342 of 25 April 2005; and

The reader is referred to http://www.defra.gov.uk/erdp/docs/national/default.htm for an overview of the original document, and subsequent updates.

4.5.2 Main Changes

The ERDP experienced numerous changes in its operation and implementation. These changes and the reasons for them are now briefly reviewed and described. In some cases the changes were consistent with those recommended by the MTE of the ERDP which was carried out in 2003. However, a much broader national programme of evaluation, stakeholder engagement and policy development is associated with these changes and it would be wrong to attribute them solely, or mainly to the MTE.

The changes outlined below focus upon operational changes to particular schemes. The evaluators also highlight the significance of modulation. Modulation refers to the transfer of funds from Pillar 1 support (the former commodity based support schemes and, since 2005, the Single Payment) to fund the Rural Development Programme. These changes were fundamental to the development of the growing agri-environmental and forestry strand of ERDP. This growth is most clearly illustrated by the new Environmental Stewardship scheme with its aims for participation of the majority of English farmland.

Modulated funds were injected to the following schemes:

- ESA: from 2000 EAGGF year
- CSS: from 2001-2 EAGGF year
- OFS: from 2001-2 EAGGF year
- ECS establishment grants: from 2002-3 EAGGF year
- ES: from 2005-6 EAGGF year

(note: these dates only consider the ERDP Programming period and do not consider modulated funds that may have pre-dated ERDP)

There has long been a 5-year UK domestic policy review cycle which pre-dates EU co-funded programming and which therefore dictated the times when schemes such as CSS and WGS were reviewed, irrespective of how this fitted with the timing of the EU programming and evaluation cycles. So, for example, as a mainstreamed scheme, CSS was created when the pilot transferred from Countryside Commission to MAFF in Autumn 1996, thus by end 2001 it required review. ESAs were created in 4 phases: 1986 and 7, and 1992 and 3, thus their five
yearly cycles led to a need to review them around 2002-3. A year-long AE scheme review process was therefore triggered by the near-coincidence of these dates.

Replacement of Hill Livestock Compensatory Allowance by Hill Farm Allowance

The Hill Livestock Compensatory Allowance was a scheme offering headage payments paid on breeding ewes and beef suckler cows in the Less Favoured Areas (LFA) at rates that varied in the Severely Disadvantaged Areas and the Disadvantaged Areas, and by breed. This was replaced in 2001 by the Hill Farm Allowance which makes payments per hectare on 3 different grades of land in the LFA (SDA, moorland and common land, and DA).

There was concern that HLCA encouraged, in some areas of the hills, the stocking of cattle and sheep at stocking rates which had an adverse effect on the mix of plants growing there, with ongoing consequences for ecology. A change was made necessary by the EU regulation on rural development 1257/99, under which ERDP operated. The creation of this regulation to govern the programming period 2000-06 involved the transformation of LFA support from a compensation paid per head of livestock or per acre of crops, to one which had to be paid per hectare of eligible land. The rationale for this change was similar to the concern in the UK about overgrazing but the case was more general. Under Reg 1257/99 there were provisions to allow member states a one-year transition period in moving from the pre-2000 headage payments to the new area-based system, and the UK took advantage of these provisions, meaning that it was able to continue with the old HLCA in 2000.

In 2001 the Hill Livestock Compensatory Allowance (HLCA) was replaced by the Hill Farm Allowance (HFA). By changing from headage based payment to area based payment the link with production was reduced and the incentive to keep livestock in the hills was reduced. The impact of this was relatively small while headage based Pillar 1 payments on cattle and sheep continued, but the total change in incentives became much greater with the implementation of full decoupling as agreed by the 2003 CAP reform package and implemented in England in 2005.

Maintenance Payments for Organic Farming

On the 5th June 2003 annual maintenance payments were introduced under the Organic Farming Scheme. The logic for these payments is to reward organic farmers for ongoing environmental benefits of organic farming. The UK had for a considerable time been unusual in Europe for paying only for conversion to organic farming with no payments once conversion was complete. The logic of conversion payments is that they compensate for reduced production and the absence of a price premium during the period of conversion to organic farming. During this period, no organic premiums are received because the land under conversion has not yet received organic certification.

Maintenance payments for organic farming can be offered in recognition that organic farming tends to generate benefits for biodiversity which are not found in conventional agriculture, to the same degree. An evidence assessment of introducing maintenance payments to the Organic Farming Scheme was completed after these payments were introduced (Elliott et al, 2003). The impetus for this change came from the Organic Action Plan which had been drawn up by Defra and stakeholders. Maintenance payments also have the advantage that in rebalancing aid away from conversion towards continued organic farming, the incentive to convert is made smaller in proportion to the incentive for continued organic production. This helps stabilise organic production through periods when organic premiums are under pressure in the markets for food.
Replacement of Agri-Environment Schemes by Environmental Stewardship

Evaluations of agri-environment schemes from the late 1990s had begun to call for a new scheme which would address environmental management across the bulk of English farmland which was unlikely to get funding under the existing schemes of ESA and CSS. The ESA scheme was limited to specific geographic areas with special biodiversity or landscape characteristics. The CSS was a competitive and budget-limited scheme which meant that only applications which met priority targets for the environment (eg priority HNV habitats and most sensitive water catchments) stood a good chance of success.

The need for a broad and shallow approach was felt by the environmental lobby because of the parsimonious approach to AE funding taken by Treasury in the late 1990s (when MAFF was under strong pressure to cut all elements of non-compulsory CAP spend because of UK opposition to supporting the sector, more generally), which had coincided with significant growth in farmer interest in these schemes and thus forced CSS down a clearly narrow and deep route (in its original conception, CSS was never intended to be ‘only for special areas’), not least as a means to manage demand. It was only with the advent of the possibility of voluntary modulation, which could potentially provide the necessary funds for AE scheme expansion, that MAFF and Treasury realised that such a scheme could also fit their wider aims. Modulation could be made a logical part of shifting money away from traditional CAP sectoral support, to which the UK has long been opposed, and into more targeted and more economically-justified Pillar 2 purposes, broadly speaking. And because pillar 1 in England was SO much more money than pillar 2, just a small slice of the former generated a really significant increase for the latter, making the broad and shallow approach finally feasible. It was also the link upon which agreement with the NFU was reached, about the value of modulation for England. So long as a broad and shallow scheme was available for all farmers to sign up to, then the Union could accept the idea of funding being taken from pillar 1 in order to fund agri-environmental management.

The creation of a broad and shallow scheme was given impetus by the Curry Commission report (Policy Commission on the Future of Farming and Food, 2002) as well as other studies (refer to Introduction for further detail). This new strand of agri-environment policy was implemented as the Entry Level Stewardship (ELS) of the new over-arching Environmental Stewardship scheme. It had the ambitious target to get 70% of English Farmland into the scheme within a few years of its launch in 2005. ELS is a scheme designed to be accessible without specialist advice and it is non-competitive.

To address land with more important conservation value or potential, the Higher Level Stewardship scheme has run since 2005. However farms (with very few exceptions) must be entered in ELS in order to be considered for HLS. HLS is a competitive scheme.

The Organic Farming Scheme was replaced by Organic Entry Level Stewardship which has many features in common with ELS but also pays for conversion and maintenance of land farmed and certified as organic.

The creation of Environmental Stewardship implemented recommendations from a year-long Review of Environmental Schemes, led by Defra in 2003 and involving both formal independent evaluations and wide consultation with stakeholders. These were to widen the agri-environment programme, to integrate aid to organic farming with the remainder of the agri-environment programme and to integrate all the schemes into one coherent package.

Replacement of the Woodland Schemes

Prior to June 2004, when agricultural land was planted with woodland the land could receive payments from two schemes. The Farm Woodland Premium Schemes (FWPS) made
payments which were a replacement for agricultural income foregone, continuing the provisions of EU Regulation 2080/92 under which it was first established. The Woodland Grant Scheme (WGS) paid a range of planting grants and management grants for woodland, only some of which were EU-cofinanced. FWPS was run by Defra, reflecting its close linkage to other CAP payments, and the WGS was run by the Forestry Commission. Although FWPS payments were only made to those who had successfully applied to WGS, this meant that a farmer planting woodland on agricultural land had to deal with two institutions, complete two application forms and receive payments from two sources (which also differed in their tax treatment).

The development of the English Woodland Grant Scheme (EWGS) took place in the context of the devolution of FC policy from the Edinburgh HQ to the 4 UK regions, which facilitated the development of a new suite of more locally integrated schemes. Development of English Woodland Grant Scheme (EWGS) provided for a similar set of planting and management incentives but brought the advice, application process and administration under one organisation, the Forestry Commission. Although there were other reasons for the change to EWGS, the change was in line with numerous recommendations from independent evaluation of the former schemes (in 2003) to reduce the number of schemes, reduce administrative burdens on business and create a more integrated programme.

4.6 Progress with recommendations from Mid Term Evaluation

In this section the evaluators briefly review the implementation of recommendations from the MTE. It should be recognised that where changes have been implemented they reflect may other influences such as the Haskins Review of 2003 and the Modernising Rural Delivery White Paper of 2004, to mention just two of many.

Most of the recommendations at the MTE related to monitoring of ERDP, management of ERDP and points to be considered when drawing up the successor programme – which had implications for the drafting of the new EU regulation covering rural development in the new period 2007 – 2013 and the development of RDPE.

Monitoring and management of ERDP

It was recommended that displacement and deadweight should be explored by Defra, particularly in relation to RES, PMG and VTS (MTE Recommendations 2 & 3). No further evaluations of these schemes have taken place since the MTE although it is possible that Regional Appraisal Panels were encouraged to consider these issues more carefully.

The MTE recommended more coherence within ERDP and cited the possibility of relating VTS training more to other aspects of the programme.

It was recommended that in the second half of ERDP it would be appropriate to continue to drive down running costs as a proportion of total spend but at this evaluation the dearth of information on running costs of ERDP is particularly noticeable. A streamlined application process for RES and VTS was introduced, enabling projects below a threshold to be considered without the use of Regional Appraisal Panels. More funding of facilitation from outside ERDP and better information on the breakdown on running costs (which include facilitation) were recommended but do not seem to be available. Better recording of information on actual progress, particularly of project based schemes was also recommended, but it is not clear that Defra had a clear policy on this. At present, the only measures of scheme outcomes, for the
project-based schemes of RES, PMG and VTS are the details contained within the funding agreements themselves. These are usually predictions by scheme beneficiaries, of the impacts that their intended projects will have on the wider rural environment, economy and/or society (e.g. the number of jobs that they plan to create if they receive the grant for which they have applied). If these are the data that are used to indicate the ultimate impact of the schemes, they are very likely to overestimate the programme’s impact.

There was some progress to fewer schemes with EWGS replacing FWPS and WGS. In this manner the customer facing aspects of the ERDP were made slightly friendlier. However it is too easy to say that OFS, ESAs and CSS were replaced with ES – when in truth the latter is three schemes marketed as under a common brand.

Recommendations relating to the successor programme

Recommendations were made that more attention was needed to the economic rationales of the socio-economic interventions and schemes. The MTE recommendation that the successor to the RDR should encourage cross-chapter working was fulfilled in the four Axes of EAFRD and the new arrangements for RDPE.

Integrated targeting statements were suggested as a way of improving coherence. Much of this may have been implemented in the elements of RDPE administered by the RDAs and Natural England, although it is hard to keep abreast of developments in all regions. Better integration with non-Defra funding streams at the sub-regional level was recommended and again the new RDPE arrangements are allowing this to happen. Integration between the three main aspects of sustainability, economic, social and environmental and greater environmental resource protection were recommended. In some ways this has happened, with more developments of ELS now proposed for resource protection, but the split between delivery agents for the main environmental schemes (NE and FC) and the economic and social aspects (RDAs) may limit integration.

In conclusion, the MTE was widely referred to in work to develop rural development in England but the influences for change came from many sources. Good dissemination of this evaluation and digesting of the evidence should be a priority for Defra and the agencies.
5 Conclusions

5.1 Discussion

Ex Post Evaluation (EPE) requires evaluators to bring together the qualitative and quantitative data reported and to reach conclusions. Equally important are remaining gaps in the evidence base, which may limit the scope of conclusions. Evaluators must also draw upon the wider evidence base within previous monitoring and evaluation reports. Evaluators also consider the factors contributing to the successes and failures of implementation, paying particular attention to the significant changes in delivery and management of the ERDP. The sustainability of socio-economic and environmental interventions is also discussed. Conclusions can then be drawn regarding the use of resources, and the effectiveness and efficiency of the assistance.

5.1.1 Overall achievements

Rural development in England, prior to 2000, involved numerous actors and MAFF schemes. The creation of a single, overarching policy instrument is a significant achievement in its own right, bringing together socio-economic and environmental measures. The extent to which this Programme-level integration was experienced at delivery level, or indeed beneficiary level, is considered further below. Evidence collected during the EPE suggests that the processes associated with establishing the ERDP have also made a valuable contribution to the programme’s overall achievements. The planning and preparation of the ERDP Programme Document required a substantial degree of collaboration and consultation with economic, environmental and social partners, at national and regional levels. This collaboration established new working relationships and partnerships, bringing together previously disparate policy and delivery actors.

The ERDP had two priorities at a Programme level:

- Creation of a productive and sustainable rural economy
- Conservation and enhancement of the rural environment

Table 32 and Table 33 provide an overview of the ERDP objectives, indicators and progress. The first result (in italics) provides information from the MTE. The second result (in bold) refers to the close of the ERDP in 2006.

**Table 32 Priority A - rural economy creation of a productive and sustainable rural economy impact indicators, targets and actual performance**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Impact Indicators*</th>
<th>Impact Targets/ Cumulative Progress at MTE and EPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>To assist projects which contribute to:</td>
<td></td>
<td>a) To increase farm revenues from diversified sources by 25% on full time farms in England by end 2006.</td>
</tr>
<tr>
<td>More diverse and competitive agricultural and forestry sectors</td>
<td>Number of projects, businesses or initiatives assisted</td>
<td><strong>Not answered in MTE</strong></td>
</tr>
<tr>
<td>The creation of new jobs in the countryside</td>
<td>Number of full time equivalent jobs created and sustained</td>
<td><strong>[To be completed] EPE</strong></td>
</tr>
<tr>
<td>The creation of new products and market outlets</td>
<td>Number of full-cost equivalent training days provided</td>
<td>b) To assist 6,000 – 7,000 projects under the Rural Enterprise Scheme by 2007</td>
</tr>
<tr>
<td>Encouraging collaborative</td>
<td>Number of hectares of agricultural land planted with</td>
<td><strong>1,079 from monitoring-MTE</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>3,028 from monitoring (ERDP Annual)</strong></td>
</tr>
</tbody>
</table>
Provision of targeted training

- c) To assist 370 businesses with Processing and Marketing Grants by 2007
  - 79 from monitoring-MTE
  - 248 from ERDP Annual Report 2006 page 38

- d) To assist 200 village initiatives through the Rural Enterprise Scheme by 2007
  - 33 from monitoring-MTE
  - 548 from monitoring (ERDP Annual Report 2006 page 38)

- e) To create 4,000 – 6,000 Full Time Equivalent jobs through the Rural Enterprise Scheme
  - 1,799 from monitoring-MTE
  - 14,553 from monitoring (Defra ERDP Annual Report 2006 page 38)

- f) To create 2,200 Full Time Equivalent jobs through Processing and Marketing Grants by 2007.
  - 2,105 from monitoring-MTE
  - 8,393 from monitoring (ERDP Annual Report 2006 page 38)

- g) To provide 48,000 full cost equivalent training days for people in farming and forestry by 2007 to support successful delivery of measures under this Programme
  - 14,256 from monitoring-MTE
  - 156,000 from monitoring (ERDP Annual Report 2006 page 38)

- h) To increase by 21,000 ha the area of agricultural land planted with trees by 2007
  - 9,623 ha from monitoring-MTE
  - 30,921 ha. from monitoring (ERDP Annual Report 2006 page 39)

*Note: Outputs were used in ERDP where it was not been possible to develop impact indicators. Evidence collated within answers to the common evaluation questions suggested that costs were reduced in key production chains e.g. ERDP assistance reduced ECS costs by approximately half (indicator X.4-1.1).
The RES and PMG did not reach the number of businesses originally intended but in focusing resources on fewer, perhaps more substantial projects, they appear to have created a greater gross number of jobs, and there is some evidence that they reduced production costs in some targeted sectors. It should, however, be noted that these figures are based on the ex-ante judgement of likely jobs created by projects at the time of awarding the grant; and not upon actual ex-post impact. VTS delivered significantly more training days (3 times the target) than planned. The woodland planting target was also exceeded by almost 50% (though the main benefit of this planting is anticipated to be environmental, rather than primarily economic). The very large number of village projects realised under RES – more than ten times the initial target figure - suggest a potentially important impact upon rural quality of life, reaching beyond the primary sector.

Table 33 Priority B - rural environment conservation and enhancement of the rural environment

<table>
<thead>
<tr>
<th>Objective</th>
<th>Impact Indicators*</th>
<th>Impact Targets/ Cumulative Progress at MTE and EPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>To increase significantly the area covered by the schemes operated under</td>
<td>Number of Biodiversity Action Plan Targets Achieved</td>
<td>To deliver by 2007 the 5-year 2010 Biodiversity Action Plan targets for creation of field margins through the</td>
</tr>
<tr>
<td>the agri-environment measure</td>
<td></td>
<td>Countryside Stewardship Scheme.</td>
</tr>
<tr>
<td>To maintain the sustainable management of an appropriate area of the Less</td>
<td></td>
<td>17,326 ha. by the end of 2002 from monitoring-MTE.</td>
</tr>
<tr>
<td>Favoured Area</td>
<td></td>
<td>Scheme closed; target met (ERDP Annual Report 2006 page 39)</td>
</tr>
<tr>
<td>Percentage of land covered by ELS</td>
<td></td>
<td>Scheme launched after MTE</td>
</tr>
<tr>
<td>60% of farmed land in England to be covered by an Entry Level Environmental</td>
<td></td>
<td>39% of farmland in England (ERDP Annual Report 2006 page 39)</td>
</tr>
<tr>
<td>Stewardship agreement by 2007.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of hectares achieved / converted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To achieve an additional 525,000 ha of land under a combination of Countryside</td>
<td>304,000 ha. by the end of 2002 from monitoring-MTE.</td>
<td></td>
</tr>
<tr>
<td>40,000 has of land converted or converting to organic farming by 2007 by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attracting, retaining and transferring 280,000 ha of fully organic land</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Number of hectares maintained
To maintain at least the current areas of land in either ESA or Environmental Stewardship agreements.

Target achieved to maintain at least the current areas of land under ESA-MTE

Transfer rate to ES was 24.39%. 377,072 ha of existing land under agreement retained within ESA until the close of the programme (ERDP Annual Report 2006 page 40).

To maintain extensive grazing on 1.4m ha in the Less Favoured Areas.

Achieved-MTE

Achieved (ERDP Annual Report 2006 page 40)

Percentage increase in proportion of land in higher ESA tiers
To increase by 10% the proportion of land in higher ESA tiers by 2004.

Achieved-MTE

Scheme closed (ERDP Annual Report 2006 page 40)

*Note: Outputs were used in ERDP where it was not been possible to develop impact indicators

The old agri-environment schemes (CSS and ESA) met their planned targets but the new Environmental Stewardship scheme did not (in early years of operation). Conversion of land to organic farming was below target under both the old (OFS) and new (OELS) schemes. It seems very likely that the performance of the new schemes was affected by wider CAP reform impacts: in particular, delays and uncertainty related to the move to fully decoupled pillar 1 payments in 2005; the same year in which ES was launched. The institutional reorganisation of rural delivery arrangements during this period may also have been a contributory factor. Nevertheless, in view of the particular priority given to these components of ERDP, the levels of scheme uptake and conversion are significantly lower than targeted.

Research has demonstrated the validity of a continuing role for public intervention to protect and enhance the natural environment, given that the environmental quality of many rural areas is their greatest asset and in view of the market failures associated with the provision of public goods. Simultaneously, the potential economic value of this environmental quality should be
harnessed: attracting new entrepreneurs, and new visitors to support the rural economy (Defra, 2005).

5.1.2 Sustainability, or lasting impact

There are many concepts of sustainability, and many definitions. In this context, we consider sustainability to represent ‘the extent to which positive changes attributable to the implementation of the programme may be expected to last beyond the period of its implementation.’ The EPE has identified several themes that underpin the sustainability of ERDP, and which lead to recommendations to further enhance it.

Positive changes have been achieved during the ERDP, although the identification of a direct ‘cause and effect’ relationship is hampered by data constraints. The summary tables demonstrate progress made against targets. These figures are largely input and output data however, which do not enable us to measure results and impacts, nor whether the benefits have lasted beyond the programming period. It is recognised that monitoring is output focused in the early years (as a measure of success and acceptability) of a programme but should become more outcome focused in the latter years. However, the evaluators have not accessed any widespread monitoring of outcomes arising from ERDP.

Physical changes

Physical changes to rural areas under ERDP arose principally from the agri-environment and forestry schemes, as well as some aspects of RES and PMG expenditure. It can be argued the positive changes arising from capital investments, such as the restoration of a historic farm building, planting a new area of woodland, rebuilding a drystone wall or renovating a village hall, should have lasting effects. Such ‘one off’ activities require some ongoing commitment from the beneficiary, but they will deliver a variety of positive, lasting results to the wider rural community through enhanced landscape and amenity, for example. In contrast, income foregone payments recognise the absence of a market to reward land managers for delivering certain land management and environmental benefits.

The extent to which positive changes would be continued after the funding has expired is heavily dependent on the attitudes of the beneficiaries: is the scheme seen as a time-limited ‘contract’ where the agreed management ceases when that contract expires, or as an opportunity to make lasting changes to enhance the environmental sustainability of land management systems? At present, there is no relevant research data which enables us to answer this question. However, another potential indicator of sustainability could be the transfer rates of beneficiaries between old and new agri-environment schemes: the proportion of beneficiaries that renew their agreements, when these come to an end. The evidence suggests that rates of transfer of expiring agri-environment scheme agreements (CSS and ESA) into ES (ELS and HLS) are low (Defra & Natural England, 2008). There must therefore be concern that the extensive benefits secured by the previous investment in now closed agri-environment schemes are not being safeguarded into the future.
Table 34 Overview of agri-environment scheme renewal rates

<table>
<thead>
<tr>
<th>Overview of Renewal Rates</th>
<th>Agreements Expired (total)</th>
<th>Renewed (&amp; renewing) into ES</th>
<th>Renewal rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS</td>
<td>1094</td>
<td>330</td>
<td>30.16%</td>
</tr>
<tr>
<td>ESA</td>
<td>2476</td>
<td>604</td>
<td>24.39%</td>
</tr>
<tr>
<td>Total</td>
<td>3570</td>
<td>934</td>
<td>26.16%</td>
</tr>
</tbody>
</table>

Investigation into the reasons behind these transfer rates, and indeed possible solutions, is being undertaken by Natural England as reported in the ES Review of Progress, to which the reader is referred. It should be noted that capital grants are not available under ELS, and that most ESA agreements offered a higher rate of basic management payments than ELS, which may reduce the relative attractions of the new scheme compared to the old, for many ESA beneficiaries. Whilst HLS potentially offers much greater financial sums for positive management, not all ESA / CSS land will be judged as of sufficient environmental quality or priority for entry into HLS, given the much smaller budget available to this higher-tier scheme by comparison with ELS. Therefore, concerns exist that beneficiaries may not be able to afford to retain the environmental features that have been created under the ‘classic’ schemes; and land may revert to its previous state. This issue was raised during the EPE consultation exercise and has also been highlighted elsewhere.\(^{15}\)

### Socio-economic changes

The ERDP set out to support a productive and sustainable rural economy. One key question for the evaluators is whether Programme investments have indeed achieved this goal, and whether the benefits have continued after the ERDP closed. VTS, RES and ECS have not been the subject of formal independent evaluation (although all have been partially evaluated in a number of related policy reviews) and there is scant evidence of their actual impacts, meaning that it is difficult for the EPE team to draw conclusions here. It would certainly be inappropriate to judge schemes only on the very positive performance against output targets that is recorded in the table above, because this data does not relate directly to impacts. Indeed, the MTE recommended that deadweight and displacement should be researched and considered in more detail for the project-based schemes. The EPE survey, however, has been sent to beneficiaries two years after the schemes closed, and should thus provide valuable insight into their longer-term effects.

The PMG was subject to formal evaluation (Elliot et al., 2003), which identified that it enabled rather than stimulated investment, and that additionality was low for larger projects. The greatest impact of the scheme was a general effect of encouraging businesses to invest in new technology, expansion and other measures that increase productivity and competitiveness. There was a suggestion that substitution effects were considerable. However, this evaluation

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\(^{14}\) Source: Analysis by Natural England Genesis Reporting team based on closed agri-environment scheme agreement details from the AESIS computer system and ES agreement details from the Genesis computer system as at September 2007.

\(^{15}\) E.g. letter sent to Dr Helen Phillips, the Chief Executive of Natural England from South West Chamber of Rural Enterprise, September 2008, sighted by EPE team.
was undertaken only two years after the scheme was launched, which is clearly too early to be able to make robust assessments of impact.

Research has demonstrated the potential socio-economic benefits arising from agri-environment schemes. Grant-funded traditional farm building and drystone wall restoration in the Yorkshire Dales National Park, including CSS and ESA, were seen to bring local economic benefits of employment and maintenance of rural skills (e.g. walling) alongside the more obvious landscape features (Gaskell et al., 2007).

During the period of ERDP, the wider rural economy in England generally experienced economic and population growth in most sectors except for agriculture which was under significant price and CAP-reform-induced financial pressures. The ERDP was not designed to deal with new phenomena such as the in-migration of considerable numbers of workers from the new EU 25 member states.

Factors underpinning sustainability

The EPE has sought to identify factors that influenced the sustainability of ERDP investments, and to reflect on how this might inform future Programmes. The regional focus groups, in particular, generated many of these suggestions.

- Screening of projects: the Regional Appraisal Panels performed a vital role in verifying that appropriate beneficiaries were selected, with a full assessment of likely risks. Approval rates (for VTS, RES and PMG) ranged from 66% to 84% (Defra, 2007). Whilst some applicants dropped out, RAPs rejected proposals not considered suitably robust to deliver lasting benefits. It should be noted, however, that the schemes were voluntary and that RAPs also had to ensure that a high rejection rate did not discourage potential applicants.

- Beneficiary business planning: participants at the regional focus groups stressed that beneficiaries needed sound business plans, with a full appreciation of the commitment made when a grant was authorised. This was particularly true for longer-term schemes, or where match-funding was required.

- Collective direction: A ‘tried and tested’ scheme is perceived as more inviting to beneficiaries. Momentum can then be gained, and collective direction established. This momentum can be dissipated by significant or frequent alterations to scheme targets, eligibility conditions, availability and budgetary planning (which affects demand management). An example is ELS, which because of its size has become very well known, and generally well understood by farmers and their advisors (e.g. consultants, farming organisations).

- Scale: even with the most rigorous screening, planning and support, the relative successes of projects will vary. The failure of one large site in an agri-environment scheme may have a significant effect upon the local environment. However, if this site lies with a network of inter-related projects across a landscape or catchment, with common objectives, one setback should not mean that the overall benefits are lost. Similarly, for project-based schemes, local networks or so-called ‘filière’ projects which are part of an integrated approach to developing a specialist sector or territorially-embedded supply chain enable the benefits to be spread more widely and the risks are reduced.

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Sustainable outcomes can depend on scale, for example a catchment scale for resource protection (water quality, flood risk, siltation, soil conservation and so on) or a landscape scale for benefits to biodiversity and viewscape. It should be noted that Natural England announced in November 2008 that a new approach is to be taken for HLS. Landowners will be able to select from the same set of HLS options as before, but more effort will be put into targeting those options that can deliver greatest gain for local landscapes and environments (Natural England, 2008)

The policy direction is moving towards resource protection issues where partnership, for example across a catchment, becomes important. The evaluators therefore draw attention to these factors, and recommend that Defra considers them in the design of future programmes. This is particularly valid when seeking to maximise the likelihood that positive changes will remain, once the implementation period is finished and thereby to ensure maximum value for money.

5.1.3 Efficiency, effectiveness and value for money

The EPE seeks to conclude whether the intervention represents the best relationship between resources employed and results achieved. We highlight several constraints upon our ability to make such conclusions, notably regarding programme running-cost data and the valuation of programme outcomes.

Firstly, we consider running costs. The MTE reported ERDP running costs as a proportion of total scheme and programme costs, based on the attribution of costs of RDS from work recording (refer to Table 33 of MTE). The substantial delivery changes during the second half of the programme period, as outlined in the Introduction, are one factor contributing to the complexity of identifying running cost calculations for the EPE. Running costs include staffing, promotions, training, corporate and back office costs. summarises the running costs of land-based ERDP schemes, provided by Defra for the purposes of the EPE. Notably, many figures still reference the MTE, demonstrating that more up to date information is not easily available. In addition it should be noted that the costs estimated for the new agri-environment schemes are for the start-up year, when it is apparent that administrative costs will have been inflated by costs associated with start-up as well as with the knock-on effects of wider CAP support changes (as detailed in the Introduction to this report).

Table 35 Running Cost of Agri-environment Scheme Delivery (supplied by Defra)

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Running Cost as % of total scheme in-year spend</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmentally Sensitive Areas</td>
<td>23%</td>
<td>National Audit Office 1997 Evaluation of ESAs.</td>
</tr>
<tr>
<td>Environmental Stewardship - ELS/OELS</td>
<td>9.6%</td>
<td>Data from RDS work recording system (Orion) for 2005/06. Total regional processing used 296.53 staff years, using average staff costs, represents £9.76 m.</td>
</tr>
</tbody>
</table>
### Scheme | Running Cost | Source
--- | --- | ---
Environmental Stewardship - HLS | 40% | Data from RDS work recording system (Orion) for 2005/06. Total regional processing used 168.42 staff years, represents £5.54 m, plus the work on guidance and advice to staff, and IT support which is ES related, equates to 37.52 staff years, with a cost of £1.46 m.
Hill Farm Allowance (HFA) | 1% | Mid-term evaluation of ERDP 2000-2006 (2003)

Note: These were the estimated costs that were incurred during the start-up year of new agri-environment schemes.

ELS is designed to have low running costs with relatively little advice required for applicants to access the scheme. The HFA has the lowest running costs, reflecting the scheme’s simplicity and relative lack of targeting. Conversely, the HLS has running costs of 40%, reflecting the complexity of the scheme and the higher anticipated environmental value of the outcomes, as well as likely high start-up costs associated with scheme launch and wider institutional change. However, ES has also been beset by administrative challenges, notably IT system transfer and development problems that would have further raised these costs. The timing of the administrative input in relation to scheme expenditure should be noted, given that the bulk of administrative time on agri-environment schemes is spent in setting up agreements which then have a life (and expenditure) of 5 years in the case of Entry Level or 10 years in the case of Higher Level ES. There is therefore a heavy investment of time ‘up front’. The total scheme spend increases year on year and the administration effort significantly decreases, as a proportion of this. It will, therefore, be a number of years before running costs for ES settle down into a steady state. ECS has generated the highest running costs however, at over 50%. The challenges of launching ECS are discussed further in Annex 2.

Notwithstanding these comments, the lack of up to date running cost information is of concern to the evaluators. It suggests that the control of running costs (a recommendation of the MTE) has received insufficient emphasis over the programme period.

The ERDP was perceived as overly bureaucratic by many of the stakeholders interviewed for the EPE. This has been echoed in other research, highlighting that despite the expertise and experience of ERDP scheme administrators, many stakeholders felt the schemes to be too bureaucratic compared with other public funding, for example, structural funds (Turner et al., 2006).

Secondly, we consider the value of the outputs. We have a limited evidence base from which to draw conclusions about value for money. Indeed, the detailed case studies of agri-environment
schemes undertaken at the MTE concluded that (with few exceptions) no full evaluations of scheme benefits have been made, making it impossible to assess value for money. Some progress is now being made towards closing this gap, for example the strategic programme of agreement-scale monitoring commissioned by Defra in November 2008, designed to provide, inter alia, (i) evidence about the effectiveness of agreement targeting and implementation, (ii) assessment of the potential of agreements to deliver against each scheme objective and deliver multiple outcomes, (iii) undertake baseline assessments against which delivery of outcomes by ES can be judged and (iv) assess additionality, value for money and identify missed opportunities.

The better measurement of results and impacts of programme expenditure, using quantitative methods where appropriate alongside qualitative evaluation, will enable the assessment of net benefits.

Expenditure is used as a core performance indicator. The proportion of budget spent in a particular reporting period gives a simple overview of progress. However, concerns have been raised about the balance between expenditure and project quality. As an example, consultees highlighted that pressure to spend an allocated budget may lead to weaker projects being approved. This is inevitable where the chance of success affects application rates and the perceived attractiveness of a scheme, and while programme authorities feel pressure to spend their allocated budgets. Furthermore, additionality is likely to become of less concern to project appraisers in these circumstances. There is also a perception (among stakeholders, in particular) that for some schemes, fewer, larger projects were approved at the expense of numerous, smaller, but still complicated projects, which would have entailed greater effort to select and manage but which might have engendered more benefits, in the longer-term.

The EPE seeks to draw conclusions regarding the extent to which the ERDP’s objectives were achieved. demonstrates the extent to which certain targets have been achieved, including the progress made since the MTE.

Great progress in securing agreements has been made since 2003, when the MTE was completed. The project based schemes, in particular, experienced relatively slow uptake early on in ERDP. This is discussed further in the Introduction, with factors such as the foot and mouth disease epidemic of 2001 significantly affecting uptake. ECS made considerable progress in the second half of ERDP but was still hampered by a lack of market and supply chain infrastructure. RES was apparently effective in achieving much more than its target for jobs, while the number of businesses receiving grants were below targets for on-farm diversification, ICT provision and projects delivering environmental benefits. Likewise, PMG apparently exceeded the quantified jobs targets, but the indicative results do not allow for any possible effects of deadweight and displacement, which other studies have suggested may be important (Elliot et al., 2003). In general, PMG grants were larger than planned and the number of businesses receiving aid was lower as a result. VTS appears to have significantly increased the number of projects supported since MTE, and thereby to have realised a much higher level of training days than was originally anticipated, for the programme.

There is evidence that these schemes are likely to have brought about some beneficial changes to the productivity and/or diversification of the farm businesses and supply chains that they supported, and to have thus contributed to ongoing diversity and buoyancy in the wider rural economy. However there is insufficient evidence to measure the scale of this effect. Similarly, output indicators suggest that RES in particular is likely to have made a positive contribution to rural quality of life, but there is no hard evidence against which to test these indicators.

The ‘classic’ agri-environment schemes, CSS and ESA, were relatively effective in meeting targets, although these were output based (i.e. simply concerned with the area of land that is
enrolled or retained in schemes). Conversion rates into the new ES schemes were low, however, meaning that these schemes did not meet their output targets for the programme period. The reasons are complex, and may relate to scheme misperceptions amongst the farming community, but also the wider issues of government image, policy direction uncertainties and bureaucracy limitations. Significant institutional changes within the delivery agencies saw parts of three agencies merge to form Natural England, with associated disruption for personnel and customers around the same time. Many lessons have been learned from this difficult period, stressing the importance of a strategic overview, rigorous planning and strong management to maintain the trust of customers. Also, avoiding too many changes over a short period needs to receive more priority in future.

The woodland scheme targets were generally achieved, particularly for the maintenance of existing woodland, which was a particular concern of the programme.

Table 36 Progress against ERDP targets

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Progress towards 2006 Targets at time of MTE - %</th>
<th>Progress towards 2006 Targets at time of EPE - %</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECS</td>
<td>1-3%</td>
<td>67% Miscanthus; 26% SRC.</td>
</tr>
<tr>
<td>RES</td>
<td>20%</td>
<td>Range from 48% (number of benefiting projects under environment protection measure) to fully met.</td>
</tr>
<tr>
<td>VTS</td>
<td>30% approx.</td>
<td>Achieved</td>
</tr>
<tr>
<td>HFA</td>
<td>Quantified objectives achieved</td>
<td>Partially achieved.</td>
</tr>
<tr>
<td>CSS</td>
<td>Quantified objectives achieved</td>
<td>30% (transfer rate)</td>
</tr>
<tr>
<td>ESA</td>
<td>Quantified objectives achieved</td>
<td>24% (transfer rate)</td>
</tr>
<tr>
<td>OFS</td>
<td>24% approx.</td>
<td>32% achieved measured by the area of land undergoing organic conversion.</td>
</tr>
<tr>
<td>ELS</td>
<td>Scheme did not exist at time of MTE</td>
<td>69%</td>
</tr>
<tr>
<td>HLS</td>
<td>Scheme did not exist at time of MTE</td>
<td>40.5%</td>
</tr>
<tr>
<td>OELS</td>
<td>Scheme did not exist at time of MTE</td>
<td>49.5%</td>
</tr>
<tr>
<td>PMG</td>
<td>Range from 14 – 96%</td>
<td>Quantified jobs targets have been achieved while the number of businesses receiving grants was below target.</td>
</tr>
<tr>
<td>WGS /EWGS maintenance</td>
<td>36.5% achieved</td>
<td>98%</td>
</tr>
<tr>
<td>FWPS/WGS/EWGS56% achieved planting</td>
<td>Achieved</td>
<td></td>
</tr>
</tbody>
</table>
The concept of targets was discussed in some detail with consultees during the EPE, from two perspectives. Firstly, we considered the process of setting targets. A fundamental question is whether the target has been set to address real needs of the environment and amongst the target population. ERDP targets were largely set in a ‘top down’ process (Defra, pers.comm.) thereby limiting the extent to which those responsible for target delivery felt engaged. The challenge, as ever, is to set targets which can be measured, yet are not perceived as arbitrary. Greater engagement with stakeholders will no doubt improve the perception of RDR targets, and improve buy-in from delivery agencies and stakeholders alike. Some of the consultees at regional focus groups felt that the targets were set remotely for ERDP, but others valued the consultation exercises done in the regions. Furthermore, the ERDP targets are output focused, which limits the extent to which outcomes can be assessed. Defra has commissioned further work on monitoring and evaluation, to be completed by the EPE team (report due Feb 2009).

Secondly, we consider the targeting of funds at particular beneficiaries, whether by geographic area or socio-economic groups. Targeting enables funds to be directed towards particular groups. The use of standard sets of points on a scale, to score applications to both project-based and some land-based schemes (with separate criteria applied to each group) was designed to improve the value for money of ERDP. Indeed, the Forestry Commission considered that this approach was particularly true for woodland schemes, which were less finely targeted before ERDP (refer to Annex 3c). Nonetheless, this kind of targeting will generally increase running costs. The question to be answered, therefore, is whether more precisely targeted schemes deliver enhanced outcomes sufficient to justify the extra cost. Finally, it is emphasised that the process of setting and reporting against targets should be inclusive and a constructive and motivating experience. Reporting can be seen as a burdensome duty by those involved. Consultees at the regional workshops, for example, felt that monitoring systems did not meet their own requirements but were ‘imposed.’ It is crucial that reporting and feedback systems are identified and implemented that people are incentivised to contribute to. Scheme designers and evaluators should have confidence in these systems as the basic ingredients for performance analysis. This requires proper time and effort and could usefully draw upon more insights and experience from the grassroots of scheme implementers, when it is being designed.

5.1.4 Integration

The ERDP Programming Document explained that priority would be given to measures which contribute to the delivery of more than one objective … or are combined… to achieve additional benefits (paragraph 6.1.51). Chapter X of the common evaluation questions seeks specific data regarding integration, presented in Annex 5. Integration can be considered at the beneficiary, local and strategic levels. One criterion in the common evaluation questions examines whether assisted actions are concerted and complementary. shows that approximately 82% of beneficiaries were in agri-environment schemes only. Fewer than 4% of beneficiaries had a project-based scheme alongside an agri-environment scheme. Of these, the most popular combination was RES and ELS, with 440 beneficiaries (Indicator reference X.6-1.1 in Annex 5). This represents around one-fifth of all PBS beneficiaries. Evidence of relatively limited ‘cross-over’ between environmental and project-based schemes was also identified during consultation. Nonetheless, it is emphasised that the balance of ERDP funding was heavily weighted towards the agri-environment schemes and this will have reduced the potential for beneficiaries to draw funds from more than one scheme during the programming period.
Table 37 Analysis of beneficiaries in different scheme types (AES, PBS, WL) 17

<table>
<thead>
<tr>
<th>Scheme Types</th>
<th>AES Only</th>
<th>PBS Only</th>
<th>WL Only</th>
<th>AES + PBS</th>
<th>AES + WL</th>
<th>PBS + WL</th>
<th>AES + PBS + WL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Beneficiaries</td>
<td>45,598</td>
<td>2,837</td>
<td>2,340</td>
<td>1,894</td>
<td>2082</td>
<td>115</td>
<td>296</td>
<td>55,162</td>
</tr>
<tr>
<td>%</td>
<td>82.66</td>
<td>5.14</td>
<td>4.24</td>
<td>3.43</td>
<td>3.77</td>
<td>0.21</td>
<td>0.54</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: AES agri-environmental schemes; PBS project based schemes (including energy crops); WL forestry schemes.

Further evidence can be drawn from the detailed area case studies completed in 2003. In Cumbria, for example, ERDP was heavily focused on agri-environment schemes. Examples of inter-scheme synergy were reported as atypical and the result of hard work by beneficiaries (and RDS officers) to achieve (ADAS & SQW, 2003).

Looking across the ERDP, 94% of projects and 90% of expenditure had positive environmental effects as a primary aim (X.5-1.1). The remaining 5,539 projects had the potential for environmental spin-offs from projects with socio-economic goals. However, only 4% of these had environmental benefits as an explicit objective of the investment (149 RES and 53 PMG projects). No data are available to quantify any negative environmental effects, since by definition no applications would be approved if negative effects were anticipated, and there is no ex-post tracking of project outcomes: refer to indicator X.5-1.3 for further discussion.

Notwithstanding this relatively limited evidence from individual projects, the benefits of integration at a more strategic level were identified and discussed with some enthusiasm in the workshops and interviews with stakeholders. Efforts to encourage a more integrated approach to the targeting and cumulative impact of programme funding developed throughout the programme period. At regional level, the regular meetings of the Rural Development Consultation Groups and Rural Affairs forums provided a mechanism for enhanced understanding of the different priorities and concerns of environmental, economic and community agencies and NGOs and thereby helped to foster a shared vision for the programme. At the same time, ongoing monitoring of programme achievements by these groups made them more aware of the potential value of more landscape-scale targeting in respect of the land-based schemes, and of the scope for stronger synergies with socio-economic goals and schemes.

As the stakeholders themselves acknowledged, evidence of the positive effects of this kind of regular collaboration and dialogue cannot be seen in ERDP programme outcomes, although there is anecdotal evidence of some positive outcomes at project level. However, it should feed through into enhanced outcomes under RDPE, all else being equal. In this sense, therefore, integration under ERDP could be evaluated as having mainly involved strategic capacity-building, and particularly at the Regional level. However, the significant institutional reorganisations that have affected rural delivery in the 2005-7 period may mean that the benefits of this capacity building will be less apparent in RDPE. In essence, the view from those involved appears to be that it is too early, as yet, to be certain that better regional implementation and enhanced programme effectiveness will come from the regional learning process begun under ERDP, but this is clearly an aspiration, for many. What is also clear is that those involved appear to have felt that the process was beneficial for their organisations to engage in.

17 This data is based on CSS, ELS, ESA, HLS, OELS, OFS, HFA, ECS, PMG, RES and FWPS. It does not include VTS data as the number of beneficiaries is unknown. It does not include EWGS or WGS data as we do not have access to CPH data for non-farms.
5.1.5 Facilitation

Consultees strongly emphasised the value of facilitation, particularly providing high quality services for existing and potential beneficiaries, throughout the project's lifecycle. This can include giving proper attention to the management of expectations prior to application, supporting advice and information at the time of application, undertaking project reviews once work has begun, and providing beneficiary access to informal networks for peer support, both during and after completion of funded projects or management commitments.

Defra has two facilitation contracts underway, funded by the Treasury (not ERDP funds):

- Farming and Wildlife Advisory Group has been grant-aided since April 2000 to deliver conservation advice to farmers, advisers and other land managers;
- Agricultural Development and Advisory Service (ADAS) have a three-year contract from November 2004 to deliver conservation advice to farmers.

Together these comprise the Conservation Advice Programme. The programme was managed by the Rural Development Service (RDS) until September 2006, and is now managed by Natural England (NE). The primary objective of the programme is to change the way in which farmers manage their land to effect environmental benefits. The programme has centred on promotion and awareness raising of Environmental Stewardship particularly ELS. More recently, some events have dealt with the delivery and sharing of good environmental practice, including advice on land management for priority BAP habitats and species.

Initial research suggests that some 1,200 farmers applied for ELS/OELS and 340 for HLS as a result of attending ADAS events in 2006 (Defra, unpublished data). An evaluation of the Conservation Advice Programme is nearing completion. Various other advisory programmes have been run, which although not funded under ERDP, bring related benefits e.g. Farm Business Advice Service, Catchment Sensitive Farming Delivery Initiative.

Turner et al. (2006) stress that ‘creation by government of the necessary institutional framework for information provision and skills training can help to lower the transaction costs of farm diversification, thus facilitating a process which creates both private and social benefits.’ (p.9)

Evidence from this study suggests that this comment is equally applicable to all elements of ERDP and the successor RDPE, given the transformative nature of their key goals.

It is apparent, however, that facilitation must be appropriate. Facilitation can be expensive, and the optimum level needs to be provided to ensure that outcomes improve as a result. It was commented during the EPE consultations that the ERDP was ‘rather one dimensional:’ Facilitation can play an important role in improving the quality of applications, delivery of projects and therefore the longer-term outcomes.

Research has confirmed the diversity of the farming population (see Table 38) and a recent discussion paper (ACEO, 2008) has supported our conclusion that a range of strategies is required, if facilitation is to be effective across the community. Factors influencing behavioural change have been categorised into external (financial cost, effort) and internal (habit, cognition) and social (norms) (Social Market Foundation, 2008). Traditional financial policy instruments can help to address some of these factors but many others require alternative or supporting approaches.
Table 38 Diversity in farmer behaviour

<table>
<thead>
<tr>
<th>Custodians</th>
<th>Lifestyle choice</th>
<th>Pragmatists</th>
<th>Modern family business</th>
<th>Challenged enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>23%</td>
<td>Not main source of income.</td>
<td>Balanced approach.</td>
<td>41%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Pride in farming heritage and</td>
<td>Emotional connection with farming but</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>environment</td>
<td>recognise need to focus on business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Public awareness campaigns, role models, one to one sessions, community engagement and public endorsement are all examples of policy approaches which may work effectively alongside financial instruments, to achieve successful change or adaptation. This is discussed further in ACEO (2008). Evidence from regional discussions and interviews suggests that, overall, ERDP gave insufficient emphasis to the design of effective policy approaches to address these factors.

The Land Management Initiatives were a series of regional initiatives set up to explore how England’s land management and farming systems can respond to the changing demands on agriculture (Countryside Agency, 2004). Research into these initiatives also highlighted the importance of facilitation, stressing that it should be: integral to the delivery of Sustainable Land Management and Integrated Rural Development, helping break down barriers between different partners, between different sectors of the rural community, and in helping reach farmers that have become socially and professionally isolated (ibid.)

In another evaluation of rural socio-economic schemes, access to facilitation services was found to be extremely beneficial in increasing the quality of applications submitted, encouraging those who lack the confidence or skills to apply and in producing more innovative and demanding projects. Close contact, trust and experience were highlighted as key success factors in increasing the capacity of facilitators to deliver effective services that result in successful applications (Rural Partnerships, 2003). A similar range of conclusions was also reached by an independent review of Defra’s approach to ‘helping farm businesses adapt’, conducted by the National Audit Office in 2003, which also examined successful approaches in other countries (NAO, 2004).

5.1.6 Implementation arrangements

Conclusions can be drawn into three main themes:

Customer relations

The schemes within ERDP were voluntary. Customers needed sufficient motivation and confidence to apply. A case study of the Norfolk Arable Land Management Initiative (NALMI), which was active during the period of ERDP, revealed that physical and social distance between agencies and the rural community can be a barrier to trust and transfer of information (Hall and

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18 Adapted from Agricultural Change and Environment Observatory (2008)
Pretty, 2008). Whilst many project officers developed strong relationships with farmers and other potential beneficiaries in their local area, particularly within the RDS, the wider perception of Defra and the government more generally has declined considerably in recent years among the farming sector. Professional disrespect, a lack of farming knowledge demonstrated by field staff, high staff turnover, lack of trust and poor administration of schemes (particularly pillar 1 aids) appear to underpin this decline. Other research conducted about the same time as the NALMI case study drew similar conclusions, summarised as the ‘low social capital between farmers and government’ (ibid., p409) and similar findings are summarised in more recent work on farmer attitudes and behaviour in respect of the environment (Dwyer et al., 2007).

The relationship with stakeholders also influences how customers perceive Government representatives. Stakeholders in this context include the NFU, CLA, RSPB and others included in the EPE consultation. Consultees have found it harder to engage with the 8 delivery agencies for the social and economic aspects of RDPE (the English Regional Development Agencies), rather than one centralised service, in the early years of the new programme. These organisations demonstrated willingness to monitor scheme progress, and promote uptake and examples of good practice to their members. The organisations, particularly in the farming sector, have significant membership. Private farm consultants are also important intermediaries. The RDP managing authorities should therefore ensure that data and information and relevant training is easily available to all these stakeholders, to promote effective communication to the wider population of scheme participants and potential applicants.

Change management

These points are part of a wider lesson which is relevant to ERDP and its successor RDPE. Considerable change has occurred during the life of the ERDP with changes in the schemes available and their implementation. The wider context is also important to note, with the issues surrounding the management of the 2001 foot and mouth disease epidemic and the problems of introducing the Single Payment Scheme in 2005.

The conclusions regarding change management have been drawn from consultation evidence. The transition between programming periods is recognised as a particularly challenging time. Consultees recommended that business should continue, even at some risk to the authorities, during changeover periods, highlighting the value of Natural England’s continued approval of ES schemes during 2007, whilst the project-based schemes experienced a hiatus. However it is also apparent from ERDP that the performance of ES itself (ELS and HLS) may have suffered from an inability to ensure the continuation of business during 2005, partly as a result of SPS difficulties. In respect of OFS, the evidence suggests that the decision to close the scheme for a short period and then re-open it when budgets were eased, also had a negative effect upon ongoing business. A need for stronger forward planning has been stressed, to ensure that schemes can be opened for business as early as possible. Secondly, a strategic assessment should be made of risks across the entire programme before changes are implemented. The potential risks arising from related activities (e.g. single farm payment, structural funds) and the wider programme context (e.g. economic, environmental and social trends) should be also be incorporated. An independent strategic planner with responsibility for continual horizon scanning and updating the assessment is recommended.

Consistency

The greatest benefits from public investments arise with consistency in objectives and management. Evidence from consultations suggested that the ERDP provided the rural community, particularly farmers, with the assurance to invest in environmental protection and diversification. Where doubts exist, for example regarding the future policy direction or scheme changes, beneficiaries are perceived as less willing to invest time and effort in discovering what
aid is available and preparing applications. Consistency in objectives and implementation, therefore, promotes uptake. It also helps prevent the loss of public goods created by previous investment. The most pertinent example here can be found in agri-environment schemes, with low transfer rates from closed schemes into the new ES.

Consistency in scheme management is also important. The EPE has found some evidence of bottlenecks, for example the closure of CSS in March 2004 with a delay before the launch of a similar scheme (ES) in March 2005. Similarly, the OFS closed due to budgetary constraints November 1999 to January 2001, and delays may have existed between the closure of ERDP project based schemes in 2006, and the launch of replacement schemes by the RDAs under the current RDPE. Legitimate reasons existed to explain the occurrence of these gaps, and the challenges of transition between programming periods are acknowledged. Nonetheless, each example receives negative publicity and creates uncertainty in the mind of the potential applicant, which may have a lasting legacy.

5.2 Summary of conclusions

The process of drawing up and implementing the ERDP was an innovation in consultation and partnership for integrated rural development which most stakeholders, whatever their reservations, saw as a constructive development when compared to previous exercises [Section 5.1.1].

Socio-economic schemes varied in performance against targets, with shortfalls in the number of businesses reached by RES and PMG but jobs created exceeded targets, as did the number of training days. It should be noted that these figures are based on the ex-ante judgement of likely jobs created by projects at the time of awarding the grant; and not upon actual ex-post impact [Section 5.1.1].

The financial effectiveness of ERDP schemes has varied with project based schemes generally becoming more effective as the programme progressed and the agri-environmental schemes apparently less effective, at least in the short-term. The socio-economic schemes were negatively influenced by the foot and mouth epidemic in 2001. Woodland schemes have been effective in meeting their targets [Section 5.1.3]. To firmly establish effectiveness it would be necessary to have more output based objectives and measure their achievement.

The evidence for the wider effectiveness of the socio-economic aspects of ERDP (mainly the project-based schemes) is weak, but this is largely due to a significant lack of evaluation evidence rather than any demonstrable weaknesses in performance. Based upon simple output indicators, scheme performance appears positive, and this is supported by a range of stakeholder opinion as expressed in interviews and discussions. However, the relatively small scale of socio-economic support in ERDP by comparison to the size of the rural economy and the apparent impact of wider policy and market developments during the period suggest that at the macro level, ERDP impacts will be modest. Results from the EPE survey should help to increase our understanding of the nature and significance of these impacts [Section 5.1.2].

Given the emphasis of expenditure within ERDP, an enhanced environment should have been the main impact of the programme. The evidence for this at present relates mainly to investment elements within the programme (both in the land management and in the wider rural economy schemes). The lasting benefit of ongoing environmental management under the agri-environment and woodland schemes is likely to be significant simply in view of the ongoing commitments under these schemes. The initial level of transfer from closed agri-environment schemes to the new Environmental Stewardship schemes has been low, but numerous,
interrelated factors affect whether land is transferred to new schemes, and further research has been published (e.g. Defra and Natural England, 2008) [Section 5.1.2].

Judged by targets and programme outputs, ERDP appears to have performed reasonably well, but this ignores the varying efficiency with which inputs were transformed into net benefits. Very limited evidence is available upon which to draw conclusions about value for money. The challenge of identifying the counter factual for a widespread scheme with high take up is also acknowledged. The better measurement of results and impacts of programme expenditure, using quantitative methods where appropriate alongside qualitative evaluation, will enable the assessment of net benefits [Section 5.1.3]. Target setting needs to be both bottom up and top down to ensure stakeholder support, and needs increasingly to look beyond simple outputs, to capture programme results and impacts. Target setting should be needs related and the process should help motivation and ownership by delivery bodies and stakeholder groups.

The ERDP Programming Document explained that priority would be given to measures which contribute to the delivery of more than one objective … or are combined… to achieve additional benefits (paragraph 6.1.51). There was limited integration between schemes at the level of individual beneficiaries but this partly because the spend was so concentrated upon agri-environment schemes. Expenditure was heavily concentrated on attempting to deliver positive environmental outcomes with 94% of projects and 90% of expenditure concentrated upon these. However, the benefits of integration at a more strategic level were apparent, and efforts to encourage a more integrated approach to the targeting and cumulative impact of programme funding developed throughout the programme period [Section 5.1.4].

Sustainability, or lasting effects, arising from ERDP is underpinned by several factors including the optimum blend of advice and promotion and a high standard of business planning from beneficiaries. Collective direction, with a sufficient volume of activity to raise the profile with well-established schemes, is important in developing cumulative benefits from rural development. Strategic planning and promotion of landscape and filière-scale outputs is important in ensuring the resilience of programme gains [Section 5.1.2].

Facilitation includes advice, skills enhancement, and business support. It is applicable throughout the project lifecycle: from promotion, to application screening, the application itself, and subsequent implementation. ERDP schemes vary in the amount of facilitation in both amount (simple resource cost) but also in type, timing and quality (which may be independent of simple resource cost). Evidence from the consultations and other research highlights the importance of facilitation, but stresses that it is expensive and must be delivered at an optimum level in order to maximise the impact [Section 5.1.5]. Rural development programmes should try to induce permanent changes in behaviour, not just changes which revert when the funding ends.

It is apparent that Defra have not yet designed and implemented a robust system for the monitoring of running costs. The evaluators are therefore unable to draw meaningful conclusions about efficiency of the ERDP delivery. The limited evidence available suggests that running costs vary considerably. Initial high running costs of new agri-environment schemes include the costs of new technology; greater efficiencies should be demonstrated further into the new programming period. It is recognised that whilst costs should be controlled, complex schemes such as HLS are more expensive to run than simple schemes such as HFA [Section 5.1.3].

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20 Key production chains
The ERDP experienced many changes to its own operations [Section 4.5], and in a broader rural development context in England [Section 2]. The impact of such changes exposed weaknesses in the management of new or complex schemes. Defra and its agencies were not alert and rapidly responsive to implementation problems and factors affecting beneficiary perceptions, accessibility and uptake. This is particularly pertinent when many different and challenging developments were due to occur over the same time period [Section 5.1.6].

Valuable lessons have also been learned from the implementation arrangements. At the beneficiary level, an apparent decline in the relationship between farmers and government agencies has been reported in consultations and elsewhere. Whilst this may not be directly related to ERDP design or implementation, it may have affected the ERDP’s effectiveness. The relationship between government agencies, stakeholders and other intermediaries is extremely important to the successful delivery of RD programmes. Indeed, ERDP represented a new beginning in some forms of consultation which were favourably discussed in consultation interviews. Problems encountered during ERDP reflect the real difficulties of change management and the importance of better planning to reduce adverse impacts on the businesses and groups who are the customers for rural development, not least because these impacts will, in turn, affect programme outcomes. Finally, consistency of objectives and scheme implementation is extremely important: consistent messages and continuity of aid enable relationships, trust and respect to develop between the ERDP management, and its beneficiaries [Section 5.1.6].
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AER</td>
<td>Areas with Environmental Restrictions – an EU designation</td>
</tr>
<tr>
<td>AES</td>
<td>Agri-environment schemes – ESA, CSS and OFS</td>
</tr>
<tr>
<td>AESIS</td>
<td>A Defra scheme monitoring database for agri-environment schemes</td>
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<tr>
<td>BAP</td>
<td>Biodiversity Action Plan</td>
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<tr>
<td>CAP</td>
<td>Common Agricultural Policy</td>
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<td>CA</td>
<td>Countryside Agency</td>
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<td>CMF</td>
<td>Capital Modernisation Fund</td>
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<tr>
<td>CLA</td>
<td>Country Land and Business Association</td>
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<td>CPH No.</td>
<td>County/Parish/Holding number.</td>
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<tr>
<td>CSS</td>
<td>Countryside Stewardship Scheme</td>
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<tr>
<td>Defra</td>
<td>Department for Environment, Food and Rural Affairs</td>
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<td>DTI</td>
<td>Department for Trade and Industry</td>
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<tr>
<td>EA</td>
<td>Environment Agency</td>
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<tr>
<td>EAGGF</td>
<td>European Agriculture Guidance and Guarantee Fund – sometimes known by its initials in French – FEOGA</td>
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<td>EC</td>
<td>European Commission</td>
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<tr>
<td>ECS</td>
<td>Energy Crops Scheme</td>
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<td>ELS</td>
<td>Entry Level Scheme (the piloted 'broad and shallow' agri-environment scheme)</td>
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<tr>
<td>EN</td>
<td>English Nature</td>
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<tr>
<td>EPE</td>
<td>Ex Post Evaluation (of ERDP)</td>
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<td>ERDP</td>
<td>England Rural Development Programme 2000-2006</td>
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<tr>
<td>ESA</td>
<td>Environmentally Sensitive Areas</td>
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<td>ESU</td>
<td>European Size Units</td>
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<td>EU</td>
<td>European Union</td>
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<td>EWGS</td>
<td>England Woodland Grant Scheme</td>
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<td>FC</td>
<td>Forestry Commission</td>
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<td>FBS</td>
<td>Farm Business Survey – Defra’s survey of sample farm accounts.</td>
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<tr>
<td>FE</td>
<td>Forest Enterprise</td>
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<tr>
<td>FMD</td>
<td>Foot and Mouth Disease</td>
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<tr>
<td>FRCA</td>
<td>Farming and Rural Conservation Agency. From 1997 to 2001, the agency of MAFF responsible for much ERDP implementation.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>FTE</td>
<td>Full time equivalents</td>
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<tr>
<td>FWPS</td>
<td>Farm Woodland Premium Scheme</td>
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<td>FWAG</td>
<td>Farming and Wildlife Advisory Group</td>
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<tr>
<td>GIS</td>
<td>Geographical Information Systems</td>
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<tr>
<td>HFA</td>
<td>Hill Farm Allowance</td>
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<tr>
<td>HLCA</td>
<td>Hill Livestock Compensatory Allowance</td>
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<tr>
<td>HLS</td>
<td>Higher Level Scheme</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<tr>
<td>LFA</td>
<td>Less Favoured Areas</td>
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<tr>
<td>MAFF</td>
<td>Ministry of Agriculture Fisheries and Food</td>
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<tr>
<td>MTE</td>
<td>Mid-Term Evaluation (of ERDP)</td>
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<tr>
<td>MTR</td>
<td>Mid Term Review of CAP, officially known by European Commission as ‘A Long Term Perspective for Sustainable Agriculture’</td>
</tr>
<tr>
<td>NAO</td>
<td>National Audit Office</td>
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<td>NE</td>
<td>Natural England</td>
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<td>NFI</td>
<td>Net Farm Income</td>
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<tr>
<td>NFU</td>
<td>National Farmers Union</td>
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<tr>
<td>NGO</td>
<td>Non-government organisation</td>
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<tr>
<td>OELS</td>
<td>Organic Entry Level Scheme</td>
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<tr>
<td>ONS</td>
<td>Office of National Statistics</td>
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<tr>
<td>OFS</td>
<td>Organic Farming Scheme</td>
</tr>
<tr>
<td>OGD</td>
<td>Other government departments</td>
</tr>
<tr>
<td>PAWS</td>
<td>Plantation on ancient woodland site</td>
</tr>
<tr>
<td>PMG</td>
<td>Processing and Marketing Grant</td>
</tr>
<tr>
<td>PROBIS</td>
<td>A Defra scheme monitoring database for project-based schemes</td>
</tr>
<tr>
<td>RCG</td>
<td>Regional Consultative Group</td>
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<tr>
<td>RDA</td>
<td>Regional Development Agency</td>
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<tr>
<td>RDP</td>
<td>Rural Development Programme – the general term for the programmes implemented around the EU under the RDR</td>
</tr>
<tr>
<td>RDPE</td>
<td>Rural Development Programme for England, 2007-2013 programming period</td>
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<tr>
<td>RDS</td>
<td>Rural Development Service of Defra</td>
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<tr>
<td>RPA</td>
<td>Rural Payments Agency</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>RPG</td>
<td>Regional Programming Group</td>
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<tr>
<td>RES</td>
<td>Rural Enterprise Scheme</td>
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<tr>
<td>SDA</td>
<td>Severely Disadvantaged Area – parts of the LFA</td>
</tr>
<tr>
<td>SFP</td>
<td>Single Farm Payment</td>
</tr>
<tr>
<td>SRC</td>
<td>Short Rotation Coppice (of willow)</td>
</tr>
<tr>
<td>SSP</td>
<td>A Defra scheme monitoring database</td>
</tr>
<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, weaknesses, opportunities and threats analysis</td>
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<tr>
<td>TIFF</td>
<td>Total Income from Farming</td>
</tr>
<tr>
<td>UAA</td>
<td>Utilised Agricultural Area</td>
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<tr>
<td>VFM</td>
<td>Value for money</td>
</tr>
<tr>
<td>VTS</td>
<td>Vocational Training Scheme</td>
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<tr>
<td>WIG</td>
<td>Woodland Improvement Grant</td>
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<tr>
<td>WGS</td>
<td>Woodland Grant Scheme</td>
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</table>
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Appendix 1

Evaluation terms of reference
Annex 1 – Terms of Reference of the Evaluation
Provision of Ex Post Evaluation of the ERDP 2000-2006

TERMS OF REFERENCE

1. Preamble
The Department for Environment, Food and Rural Affairs (DEFRA) was formed in 2001 from the amalgamation of the former Ministry of Agriculture, Fisheries and Food, the Animal Welfare section of the Home Office, and the following parts of the former Department of Environment and Transport and the Regions: Environmental Protection Group, Drinking Water Inspectorate and Wildlife and Countryside Directorate.

2. Background


The evaluator(s) should be aware of, and may wish to draw on the reports listed at Annex E.

3. Aims of the Consultancy / Objectives
The aim of the project is to produce an ex post evaluation of the ERDP which meets the requirement of the Regulations detailed in Section 2 above and is accepted by the EU Commission as meeting Defra’s ERDP ex-post evaluation requirements.

In addition the project will provide recommendations to inform the monitoring and evaluation of the successor to the ERDP (the Rural Development Programme for England 2007-2013) and future Common Agricultural Policy development.

4. Approach
The method of approach will be by desk study and regular meetings which will include:

- a review of relevant Commission requirements and guidance;
- preparation of a project plan;
- a presentation to Defra’s project manager of proposals to meet the EU Commission’s ex post evaluation requirements;
- the identification of relevant information and data sources;
- collection of data from Defra, the Rural Payments Agency, Natural England and the Forestry Commission;
- analysis of data;
- drafting of the evaluation report;
- weekly meetings/teleconferences with the Defra Project Manager to monitor progress and address issues.
5. Requirement and Timescales

Objective
The overall objective of the project is to produce an ex post evaluation of the ERDP which meets the requirement of the Regulations detailed in Section 2 above and is accepted by the EU Commission as meeting Defra’s ERDP ex-post evaluation obligations.

The consultants will produce an interim evaluation report by the 15 December 2008.

The consultants will produce the final evaluation report by 27 February 2009.

Methodology
The report should follow evaluation guidance set out in the Regulations and Commission guidance detailed in Section 2 above.

The structure will follow that outlined in Annex F.

Constraints
If, in the opinion of the consultants, the particular project milestones cannot be met:

- due to a lack of data and/or information, or
- where the collation of data/information would result in unacceptable resource requirements or inability to meet project deadlines,

the consultants will draw these issues to the attention of the Project Manager. The Project Manager and consultants will agree approach to resolve issues raised.

Timescale
The consultants may start work on the award of the contract. The contract will end on 30 April 2009.

6. Tasks or Deliverables, including Reports (Outputs)

<table>
<thead>
<tr>
<th>Task or deliverable product</th>
<th>Required by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project plan for production of the ERDP ex-post evaluation report</td>
</tr>
<tr>
<td>2</td>
<td>Interim ERDP ex-post evaluation report which will include relevant CMEF output and result data</td>
</tr>
<tr>
<td>3</td>
<td>Final ERDP ex-post evaluation report and recommendations.</td>
</tr>
</tbody>
</table>

7. Bidders Capability Profile / Skills and experience
The consultants should be able to provide staff that can:

- gain a rapid understanding of EU Regulatory requirements and guidance documents;
- collect and interpret ERDP monitoring and evaluation data;
- draft an evaluation report in line with EU Commission guidelines;
- demonstrate good project management skills.
8. **DEFRA Facilities and Resources**

Defra staff will be available to:

- provide guidance and interpretation on meeting Regulatory requirements;
- facilitate discussions, interviews and data collection with ERDP delivery bodies;
- provide a point of contact with the EU Commission.

9. **Contract / additional Information**

The contract will be let under the Catalist Environmental Advice, Support and Delivery Services Framework and subject to the Catalist terms and conditions.
Appendix 2

Scheme profiles
Annex 2 – Scheme Profiles

Annex 2 – Scheme Profiles ............................................1
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1.1 Introduction

England implemented the various Chapters of the Rural Development Regulation through ERDP schemes. The table below summarises the allocation of schemes to each Chapter.

Annex 2 provides a profile of each scheme to assist the reader of the Ex Post Evaluation. The profiles were produced by scheme specialists on the consultant team – further detail regarding these specialists is provided in the Methodology and Annex 3a. The material within each profile is sourced from interviews with scheme policy owners within Defra and related agencies; previous evaluations; and professional knowledge. Note that no description of the Hill Livestock Compensation Allowance scheme is provided which only featured in year 1 of ERDP.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Schemes of the ERDP</th>
</tr>
</thead>
</table>
| 1       | Energy Crops Scheme (ECS) (Misconstrues planting)  
          | Rural Enterprise Scheme (RES) (diversification of agriculture) |
| 2       | Setting up young farmers - not programmed in England |
| 3       | Vocational Training Scheme (VTS) |
| 4       | Early retirement – not programmed in England |
| 5       | Hill Livestock Compensatory Allowance (2000 only)  
          | Hill Farm Allowance (HFA) (2001 and following years) |
| 6       | Countryside Stewardship Scheme (CSS)  
          | Environmentally Sensitive Areas (ESA)  
          | Organic Farming Scheme (OFS)  
          | Entry Level Stewardship (ELS)  
          | Organic Entry Level Stewardship (OELS)  
          | Higher Level Stewardship (HLS) |
| 7       | Processing and Marketing Grant (PMG) |
| 8       | Farm Woodland Premium Scheme (FWPS)  
          | Woodland Grant Scheme (WGS)  
          | English Woodland Grant Scheme (EWGS) |
| 9       | Rural Enterprise Scheme (RES) (promoting the adaptation and development of rural areas). |
1.2 ERDP Ex Post Evaluation: Energy Crop Scheme

1.2.1 Brief Description of the Nature of the Scheme

The aim of the Energy Crop Scheme (ECS) was to encourage the development of energy crops in order to contribute to commitments on the reduction of greenhouse gases and to the UK Government’s targets to produce energy from renewable sources. It also offered a diversification opportunity to farmers. The scheme provided establishment grants for the planting of energy crops; short rotation coppice (SRC) (willow and poplar) and Miscanthus.

Establishment grants were available for:

- SRC of £1,000/ha based on 50% of the approximate establishment costs.
- Miscanthus at £920/ha based on 40% of the approximate establishment costs.

It also provided support to assist with the development of SRC producer groups who would work together to harvest crops ensuring a regular supply of fuel to end-users. Grants for setting up producer groups were available for up to 50% of approved expenditure but with a ceiling of £200,000 per group. A producer group is a legally established group of SRC growers who work together to harvest their crops and supply them, after processing and storage if necessary, to one or more energy end-uses, thus an important mechanism in ensuring a regular supply of fuel to end-users.

The ECS was funded by 2 chapters within RDR, Chapter I ‘Investment in agriculture holdings’ covered the ECS Miscanthus planting support and Chapter VIII ‘Forestry’ covered the ECS Short Rotation Coppice planting and producer groups support.

1.2.2 Operation of the Scheme

Establishment Grants

These were available for proposed cropping of 3 ha or more, falling within a reasonable radius of an end user. The period for the agreement was five years. Applicants had to complete a general ERDP form and a supplementary Energy Crops Establishment Grant form. Applications were submitted to Defra accompanied by additional information which consisted of:

- Evidence to demonstrate end use, either; a supply contract with end user, letter of intent or evidence of own use,
- a supporting map of the holding, signed and dated by all parties, showing the holding number, boundary of holding, land proposed to be planted and OS grid reference for access to planted area,
- Holding number,
- Landlord’s consent form.

In addition to the above, Miscanthus applications also had to include:

- Evidence of economic viability,
- Evidence of occupational skills and competence,

RDS staff determined preliminary eligibility for establishment grants. The application was entered on a public register for 28 days. Forestry Commission staff undertook an environmental impact assessment of the proposed planting, as required, and designated any necessary open ground allowances. Applicants were told to expect a response from Defra within 3 months. Applications had to be received by 31 December for planting the following spring and grants could only be claimed once planting had occurred.
SRC Producer Groups

Grant applications required the completion of a general ERDP form and a supplementary Energy Crops Scheme Producer Group form together with:

- A detailed business plan showing the proposed commitments and expenditure of the group,
- A supporting map,
- If required, evidence that the group will have an energy market and that all potential members are growing short rotation coppice for an energy end-use,
- If appropriate, a copy of the group’s constitution documentation.

Applications were sent to the Agri-industrial Materials Branch where they underwent a technical assessment prior to being put before a Defra chaired Project Appraisal Panel. Applicants were normally informed within three months. Once approved the applicant had to submit quarterly progress reports to Agri-industrial Materials Branch and costs could be claimed in arrears on a quarterly basis.


1.2.3 Scheme Achievements

Over 4,500 ha of perennial energy crops – Miscanthus and short rotation coppice (willow and poplar) have been planted under the ERDP Energy Crops establishment grant scheme since the scheme began. ECS closed to new applications on 31 July 2006, but applications for over 8,600 ha were approved in that year for planting in 2007 and 2008.

Table 1 The targets of Chapter I ECS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Crops (Miscanthus)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (hectares) under miscanthus</td>
<td>5,000</td>
<td>3,356</td>
</tr>
<tr>
<td>Tonnage of biomass produced</td>
<td>64,000</td>
<td>43,000</td>
</tr>
<tr>
<td>Carbon emissions saved (tC)</td>
<td>9,980 - 43,920</td>
<td>6,700 - 29,480</td>
</tr>
<tr>
<td>Energy derived from miscanthus (mGJ)</td>
<td>1.0</td>
<td>0.67</td>
</tr>
</tbody>
</table>


Table 2 The Targets of Chapter VIII ECS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) under short rotation coppice</td>
<td>16,700</td>
<td>4,425 \textsuperscript{1}</td>
</tr>
<tr>
<td>Tonnage of biomass produced</td>
<td>215,000</td>
<td>44,250 \textsuperscript{2}</td>
</tr>
<tr>
<td>Carbon emissions saved (tC)</td>
<td>33,420 – 147,040</td>
<td>2,360 – 10,390 \textsuperscript{3}</td>
</tr>
<tr>
<td>Energy derived from short rotation coppice (mGJ)</td>
<td>3.3</td>
<td>0.23 \textsuperscript{3}</td>
</tr>
</tbody>
</table>

1.2.4 Discussion

A separate evaluation of ECS has not yet been completed. The comments below are based upon consultation with the representatives of Natural England, interviewed by the scheme specialist. Refer to Annex 3a.

Overall, the targets were perceived as challenging to achieve, influenced by a low uptake of the scheme which has mostly been a reflection of the marketplace and not a lack of promotion. Barriers to uptake included:

- Bioenergy was a relatively new concept at the start of the scheme.
- Scheme applicants had difficulty finding an end user for the crops.
- The application process often required farmers and others to employ an agent to prepare the application.
- Problems in getting planning permission for power stations to burn energy crops were reported.
- The economic viability appraisal of potential Miscanthus growers (which was an obligatory element in the application) has been a deterrent to growers to proceed with applications.

Issues from the delivery perspective have also been identified, including a lack of joined up working between Defra and the Department of Trade and Industry. ECS needed people on the ground linking representative in the chain together, engaging with end users and linking them to the growers.

The initial lack of applicant awareness suggests that there could have been a better launch for the scheme and follow up with stakeholders to present the opportunities. Foot and Mouth Disease slowed uptake of the scheme in 2001/2002. However, scheme brochures were rewritten following the Mid Term Evaluation to make schemes clearer. It was suggested that developing and demonstrating exemplar projects should have been undertaken as part of initial promotion and also to provide feedback on success. Furthermore, there were not felt to be enough advisors in RDS to do the facilitation required. It was perceived that industry end-users drove the scheme more strongly in the later years, leading to an increase in demand.

SRC developed in regional patches, for example in North Lincolnshire and South Yorkshire, but some end-users pulled out and farmers found themselves with crops but no buyer.

It should be noted that the measure of hectares grown in the results is not a guarantee that an end-user was found. It is considered that ‘tonnes sold’ would be a better, but harder to capture, measure of scheme success, demonstrating that the scheme worked effectively.

The potential role of other government and non-government agencies and trade associations should be explored, to stimulate market demand and ‘sell’ bioenergy projects to energy generators and suppliers. The ECS operated within a challenging marketplace that made targets harder to achieve.

Within the broader context of market factors that were a limitation to ECS’ potential achievements, lessons have been learned about the need to promote the scheme with more clarity and preparation, and stimulate real end-user opportunities from the start. The ECS needed to be joined up across the regions and cross-promoted. Stronger links needed to be made with RDA to ensure that a wide audience of beneficiaries were accessible.

It was suggested that a contracted or in-house group of advisors could have been used, to handle promotion and facilitation of how to grow the crops and engage with end users in future. In addition it was suggested Defra should consider adding Entry Level Stewardship Scheme points for SRC and Biomass crops.
In 2005, Defra set up a working group that comprised representatives from English Nature, Countryside Agency, Rural Development Services, Forestry Commission, English Heritage, Environment Agency, Government Offices and the Rural Development Agencies to develop and produce a set of regional maps identifying opportunities and optimum sitings for energy crops (short rotation coppice (SRC) and Miscanthus). This work was referred to in the Government’s Response to the Biomass Task Force and completed at the end of 2006. The maps can be seen at http://www.defra.gov.uk/farm/crops/industrial/energy/opportunities/index.htm

ECS has been continued in the new RDR from 2007 to 2013. Nearly £47 million of new money will be made available to support the establishment of around 60,000 hectares of energy crops. In addition, the RDAs will be supporting activity which is related to the delivery of biomass energy and supporting its supply chain.
1.3 ERDP Ex Post Evaluation: The Rural Enterprise Scheme

1.3.1 Brief Description of the Nature of the Scheme

The objective of the Rural Enterprise Scheme (RES) was to “provide targeted assistance to projects that support the development of more sustainable, diversified and enterprising rural economies and communities and help protect the rural environment, with a particular focus on the need to aid adjustment to the declining role of mainstream agricultural production within the rural economy”. The scheme particularly focused on the farming community to help them adapt to the changing marketplace, reorientate their businesses or diversify into new business areas. Other rural businesses or community organisations could apply to the scheme for assistance with small scale community based projects. RES also had a broader role in supporting the adaptation and development of the rural economy, community, heritage and environment.

The scheme supported the following activities:
- Setting-up of farm relief and farm management services
- Marketing of quality agricultural products
- Basic services for the rural economy and population
- Renovation and development of villages and protection and conservation of the rural heritage
- Diversification of agricultural activities and activities close to agriculture to provide multiple activities or alternative incomes
- Agricultural water resources management
- Development and improvement of infrastructure connected with the development of agriculture
- Encouragement for tourist and craft activities.
- Protection of the environment in connection with agriculture, forestry and landscape conservation as well as with the improvement of animal welfare.

The RES provided 3 levels of grant aid:
- 50-100% for projects which have no or a minimal economic return to the applicant (i.e. a project that principally benefits the local community or environment).
- 30-50% for projects where an economic return to the applicant is the primary objective of a project.
- 15-30% for projects generating a substantial economic return to the applicant (an annual return in excess of 25% of the total investment).

RES was funded by two RDR Chapters, Chapter I ‘Investment in Agriculture Holdings’ - diversification within agriculture away from production of surplus commodities and Chapter IX ‘Promoting the adaption and development of rural areas’ - article 33 measures.

1.3.2 Operation of the Scheme

Application procedure

Applicants had to complete a general ERDP application form and a supplementary RES form, together with a detailed business plan with relevant supporting documentation. If the project
required planning consent it had to be obtained in advance, and submitted with the application. Completed applications were sent to the regional RDS office, receipt was acknowledged and an initial eligibility check was carried out.

A technical assessment would then be carried out by RDS staff; in some regions RDS staff would visit the applicant to discuss the project. The assessment report and project application would be considered by a Regional Appraisal Panel (RAP) composed of senior Defra officials, applications were assessed on a competitive basis against other projects (including applications for VTS and PMG as well as other RES ones) and regionally identified priorities as defined in the regional Project Based Scheme targeting statements.

If a project was approved an ‘offer letter’ was issued which set out any special conditions relating to the project stipulating the agreed performance targets and timescale for claiming grant aid. This acted as the legal commitment, once signed and returned. Some regions ran workshops to help applicants to become familiar with the application process. During the implementation of a grant-aided project the beneficiary had to submit regular progress reports.

A ‘fast track’ assessment and approval process (for grants of £15,000 or less) was developed following the Mid Term Evaluation, where applications were subject to a shorter, more streamlined assessment process. Also in the second half of the programme, the RAP membership was altered in order to give Regional Development Agencies a more formal role in the process, in view of the decision in 2003 to transfer responsibility of the PBS to the RDAs, in the next programming period (2007-13).

### 1.3.3 Scheme Achievements

The total budget for RES over the seven years was approximately £150 million, of which nearly £145.2 million was committed by the end of the ERDP. Note that these reported figures are for committed spend whereas the target was for disbursed spend. The RES programme is reported to have assisted over 3,000 projects, creating or safeguarding over 14,500 jobs, supporting over 1,200 diversified farm enterprises and the marketing of over 3,800 quality agricultural products. It provided funding for 548 village initiatives, assisting almost 165,000 rural community members with basic services and supporting over 3,500 new tourism enterprises. The RES was a competitive scheme with only the applications which scored well being approved. Over the life of the scheme 5,654 applications were received of which 3,034 projects were approved.

**Table 3 The targets of Chapter I RES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in Agricultural Holdings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of projects assisted</td>
<td>500</td>
<td>359</td>
</tr>
<tr>
<td>Number of FTE jobs created</td>
<td>400</td>
<td>1658</td>
</tr>
<tr>
<td>Setting up of farm relief and farm management services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses benefiting</td>
<td>701</td>
<td>3,282</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>277</td>
<td>869</td>
</tr>
<tr>
<td>Rural area served by farm relief and other services (sq km)</td>
<td>202,714</td>
<td>33,278</td>
</tr>
<tr>
<td>Marketing of quality agricultural products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses participating</td>
<td>2,037</td>
<td>8,634</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,154</td>
<td>3,158</td>
</tr>
<tr>
<td>Increase in annual value of marketed products</td>
<td>5-10%</td>
<td>N/A</td>
</tr>
<tr>
<td>Description</td>
<td>Target</td>
<td>Achieved</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>Number of quality products marketed</td>
<td>1,485</td>
<td>3,805</td>
</tr>
<tr>
<td>Number of collaborative projects</td>
<td>303</td>
<td>291</td>
</tr>
<tr>
<td>Basic services for the rural economy and population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number and type of beneficiaries</td>
<td>126,857</td>
<td>164,657</td>
</tr>
<tr>
<td>Number of services supported</td>
<td>127</td>
<td>281</td>
</tr>
<tr>
<td>Type of services supported</td>
<td>13</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of ICT projects supported</td>
<td>92</td>
<td>18</td>
</tr>
<tr>
<td>Renovation and development of villages and protection and conservation of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the rural heritage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of beneficiaries</td>
<td>146,178</td>
<td>286,841</td>
</tr>
<tr>
<td>Number of village initiatives</td>
<td>200</td>
<td>548</td>
</tr>
<tr>
<td>Diversification of agricultural activities and activities close to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>agriculture to provide multiple or alternative incomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of new enterprises supported</td>
<td>1,247</td>
<td>1,235</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,033</td>
<td>6,653</td>
</tr>
<tr>
<td>Agricultural water resources management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses supported</td>
<td>176</td>
<td>205</td>
</tr>
<tr>
<td>Area (ha) of land made irrigable</td>
<td>8,562</td>
<td>9,444</td>
</tr>
<tr>
<td>Environmental impact: contribution to increased summer water levels in</td>
<td>13</td>
<td>N/A</td>
</tr>
<tr>
<td>rivers or aquifers (i.e. volume of abstracted water replaced)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development and improvement of infrastructure connected with the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>development of agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of businesses benefiting</td>
<td>405</td>
<td>491</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>303</td>
<td>224</td>
</tr>
<tr>
<td>Encouragement for tourist and craft activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism/craft enterprises supported</td>
<td>1,550</td>
<td>3,595</td>
</tr>
<tr>
<td>Number of jobs created/sustained</td>
<td>1,044</td>
<td>2,981</td>
</tr>
<tr>
<td>Number of (quality assured) farm/rural bed places created/improved</td>
<td>2,720</td>
<td>6,071</td>
</tr>
<tr>
<td>Number of tourist days-visits per annum</td>
<td>680,014</td>
<td>3,535,646</td>
</tr>
<tr>
<td>Number of new rural craft practitioners created</td>
<td>367</td>
<td>240</td>
</tr>
<tr>
<td>Number of projects to facilitate public access</td>
<td>338</td>
<td>94</td>
</tr>
<tr>
<td>Number of visitor management plans</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Protection of the environment in conjunction with agriculture, forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and landscape conservation as well as with the improvement of animal welfare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of projects supported</td>
<td>373</td>
<td>179</td>
</tr>
<tr>
<td>Areas (ha) of land protected</td>
<td>13,053</td>
<td>188,460</td>
</tr>
<tr>
<td>Number of projects benefiting animal welfare</td>
<td>91</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: ERDP Annual Report 2006 (Defra, 2007)
1.3.4 Discussion

The comments below are based upon consultation with the scheme policy owner, refer to Annex 3a.

RES was a largely successful scheme which helped a number of farmer beneficiaries (around 3% of the total number of commercial farm businesses in England) to plan and implement new business strategies. The grant aid lowered the financial risk for farmers involved in challenging or novel forms of diversification. Farming’s financial situation during the operation of the scheme was generally poor (refer to the EPE introduction for further context), which stimulated interest in RES as farmers were open to exploring diversification. In addition, the scheme had some notable success in supporting rural community activities and infrastructure, especially village hall improvements. Less success was apparent in respect of encouraging non-farm economic or environmental enhancement in rural areas.

Achieving the scheme targets was challenging in the early years and action had to be taken to stimulate uptake. Foot and Mouth Disease slowed uptake in 2001/2002. Promotion of the scheme was regarded as insufficient by stakeholders, but with a limited budget it can be counter-productive to promote a scheme too vigorously. Defra-commissioned research (Rural Partnerships, 2003) suggested that a lack of resources constrained the regional offices from adapting head office promotional literature and mechanisms. This lack of ‘regionalisation’ has acted as a barrier to some potential applicants who feel unable to relate to the scheme. The then current promotional materials and the application forms were perceived to be complicated and difficult to understand particularly for some groups such as smaller farmers and non-agricultural clients.

In the early stages of the scheme, farm tourism proved a popular choice for applicants. However, it was felt by RDS that this was probably not the best use of funds due to the risk of market saturation, and there was some concern about the balance of RES projects more generally, with most projects focused upon single farm diversifications. Additional promotion in the mid and later years of the scheme was aimed at stimulating more applications from non-farm related activities, non-food production and ‘protection of the environment’, with limited success.

New diversification often called for farm families to acquire new skills and hence training, for which the Vocational Training Scheme was promoted alongside RES.

One barrier to application was the applicant’s understanding of the selection criteria and, in particular, the importance of being able to demonstrate how their project met regional priorities (as set out in the published ‘regional targeting statement’). Furthermore, significant constraints in the application process were reported. These included the length of time taken to complete a form and elicit a response, the costs involved in preparing a submission and the lack of clarity in the criteria used to evaluate applications (Rural Partnerships, 2003).

After the Mid Term Evaluation, RDS staff were trained and scheme brochures re-written to explain these criteria more fully. Access to the details of how the technical scoring system was applied by RDS assessors would have helped applicants to put together better applications. The need for full planning consent to have been obtained before application slowed demand for certain projects. This added to the overall time burden of putting the application together and a perceived slow turn-around by RAPs with meetings generally quarterly. These factors were a barrier to applications which meant that some business opportunities were missed. However, improvements were made in this area; for example, the South West RAP increased meeting frequency to 6 times per year which reduced waiting times for applicants (Marston, 2006).

In 2002, free planning advice was provided in response to the planning barrier perceived by applicants, which was designed to assist them in gaining planning approval prior to making a
RES application. Defra’s Planning Consultancy Advice scheme saw uptake exceed expectations. The scheme was continued for 2003/04 and the budget was been fully allocated on a first-come, first-served basis.

In addition, a fast-track system was developed to allow RDS staff to approve smaller applications following assessment.

The main lessons learned related to key scheme management issues, such as focusing more on facilitation to help applicants, and providing a better system of project follow-up for monitoring inputs, costs and outputs and reviewing project activities. In addition, the scheme results prompted some questions about whether the small scale of the overall budget should have been more tightly focused in order to achieve more strategic priorities in rural areas. It is understood that Regional priorities are much clearer now for RDPE.

References


1.4 ERDP Ex Post Evaluation: The Vocational Training Scheme

1.4.1 Brief Description of the Nature of the Scheme

The aim of the Vocational Training Scheme (VTS) was to fund training which contributed to an improvement in the occupational skill and competence of those directly involved in farming and forestry activities and their diversification. The objectives of the scheme were that VTS should lead to:

- Preparation of farmers for qualitative reorientation of production;
- Improved skills base in agriculture, horticulture and/or forestry;
- Improved economic situation for agriculture, horticulture and/or forestry;
- Improved competitiveness;
- Strengthened rural economy;
- Further diversification;
- Application of production practices compatible with the maintenance and enhancement of the landscape;
- Protection of the environment;
- Adoption of best practice in relation to hygiene standards and animal welfare; and
- Application of forest management practices that improved the economic, ecological and social function of forests.

VTS only supported training if it was vocational and fell within one of the following areas: Information and communications technology (ICT); business operation and management; marketing; conservation and environment skills; diversification opportunities; managing resources; managing yourself and your staff; looking at new ways of working; technical skills (forestry); technical skills (agriculture and horticulture); on-farm food production and processing skills.

The VTS awarded grant aid for up to 75% of the eligible costs for training. The VTS was funded by Chapter III ‘Training’ of the RDR.

1.4.2 Operation of the Scheme

Applications for a grant could be received from individual trainees, a trainee co-ordinator or a training provider. Projects could last up to 3 years. Applications to the scheme had to complete a general ERDP application form and a supplementary VTS form, together with a detailed training delivery plan and supporting documentation explaining the project in full, cost targets and references. All trainees had to complete a Training Needs Assessment before undertaking training. Applications were submitted to the regional RDS office, applicants would receive acknowledgement of receipt and an initial check was made to confirm eligibility. RDS staff undertook a technical assessment of the project application which would then be considered by the Regional Appraisal Panel (see RES for details of these) at scheduled meetings, alongside applications for RES and PMG, in a competitive selection process. If successful an ‘offer letter’ was issued stating the terms and conditions including a timetable for when funding was to be claimed.
Following a review of VTS by Defra in 2002 a fast-track appraisal process was introduced. The application required less supporting documentation and was subject to an immediate funding decision by the RDS Regional Manager, with the aim of providing a decision within a month of receipt of application.

On completion of the training, either the individual trainee or training organisation completed a form to claim the grant. Details had to be provided about the nature of the training, information on people attending the training and each trainee had to complete an evaluation sheet.

### 1.4.3 Scheme Achievements

Over £21.5 million of the £22 million VTS budget was committed at the end of the programme. It can be seen that all the targets set for VTS have been exceeded. Over the life of the scheme a total of 1,261 applications were received, of which 825 were approved.

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of training days</td>
<td>48,000</td>
<td>156,802</td>
</tr>
<tr>
<td>Number of training courses / workshops</td>
<td>2,400</td>
<td>18,796</td>
</tr>
<tr>
<td>Number of qualifications obtained</td>
<td>5,000</td>
<td>17,135</td>
</tr>
</tbody>
</table>


The Mid Term Evaluation survey of ERDP VTS beneficiaries highlighted that 71% agreed that it was unlikely training would have taken place without VTS funding. This supports the rationale that one of the barriers to training is cost. In addition, 84% agreed that their businesses had benefited from the training undertaken through the scheme.

### 1.4.4 Discussion

Separate evaluations have not been completed VTS. The comments within this section are based upon consultation with the scheme policy owner, refer to Annex 3a.

The VTS contributed to supporting the ERDP objective ‘Creation of a productive and sustainable rural economy’ by enhancing farmers’ skills and knowledge. The ICT training volume was much bigger than environmental training, which had a low uptake. Most training was about running an effective farm business, less about diversification. There had been criticism from some stakeholders about the focus of some of the training and the potential for duplication with other training programmes. It was felt that there was a general lack of innovation in VTS-supported training provision.

Achieving the scheme targets was challenging in the first couple of years and additional promotional activity had to be taken to stimulate uptake. VTS got off to a slow start due to the combined impact of Foot and Mouth Disease in 2001/2002, the general farming financial position and also farmers needing to see the advantages that training could have on their farm business. The training providers may not have been sufficiently pro-active in realising how VTS could help them and in promoting their courses to farmers. A strategy of stronger direct engagement with training providers was one result of the early review of poor uptake, within RDS.

Both applicants and stakeholders have been critical of the application process, in that it was not straightforward, too complicated and the nature of technical assessments was not clear. The
requirement for each trainee to complete a Training Needs Assessment (TNA) before receiving training was seen as a major barrier so an online TNA was brought in which was shorter and thus helped remove barriers.

RDS undertook promotion and communications for the VTS, and uptake improved after the Mid Term Evaluation. To promote access, RDS staff were trained and scheme brochures rewritten to explain things better. Regions that still had training groups supported originally by the old Agricultural Training Board network or Lantra, were more successful in putting together applications. This accounted for differences in the regional spend. These training organisations promoted the scheme, organised training schedules and were proactive in seeking applicants.

Defra officers felt that if they could have been more flexible with the rate of grants, for example with training on environmental issues receiving closer to 100% funding, this would have helped get maximum environmental gain from the scheme.

Some applicants have used RES to fund elements of training as a minor subsidiary part of a RES project. This has been done rather than applicants submitting a separate VTS application, even though the grant rate for training is higher under VTS. Some stakeholders have commented that training, rather than offered as a separate VTS would be better incorporated into the other schemes.

Apart from a few evaluation sheets completed by beneficiaries, the Mid Term Evaluation reported no independent evaluation of the training courses (quality of training, satisfaction of trainees and longer term impacts). Some aspects were not recorded on PROBIS; for example, 156,000 farmers gained training certificates and whilst the number was recorded individual names weren’t, so it has not been possible to undertake any surveys of beneficiary experience.

It was suggested by interviewees that the VTS could have been promoted jointly with the Rural Enterprise Scheme more from the start of ERDP. Also, it should be possible to alter schemes to make them more accessible if uptake is low at the start. Lessons learnt were the need to be more pro-active in marketing the scheme and to have a better system for monitoring inputs, costs and outputs and reviewing project activities.

Training remains a high priority to Defra as it is not nearly as accessible in rural areas as it is in towns and cities. It has great potential to improve rural skills and the rural economy, both within and beyond the agricultural sector. There is large vocational training gap to be filled and in RDPE Lantra has been taken on to develop further activity in this area, for a number of the Regional Development Agencies who are now responsible for delivering rural training under the programme. However, there are some problems in stimulating demand in respect of those kinds of training where its public benefit exceeds the immediate financial benefit to the individual farm business (e.g. environmental training, in particular).
1.5 ERDP Ex Post Evaluation: Hill Farm Allowance

1.5.1 Brief Description of the Nature of the Scheme

Farming in the Less Favoured Areas (LFA) has been supported under various regimes for more than 50 years. The Hill Farm Allowance (HFA) was introduced in 2001 following the earlier Hill Livestock Compensatory Allowance which continued into the first year of ERDP. The HFA was designed to compensate beef and sheep hill farmers for the difficulties of farming in LFAs and in recognition of the vital role they played in maintaining the landscape and rural communities of the uplands.

The objectives were both social and environmental:

- Requiring that land in the LFA was maintained in agricultural land use under sustainable farming systems in such a way as to maintain the countryside,
- To maintain a viable rural community through support for continued agricultural land use.

The continuation of extensive suckler cow, beef and sheep breeding was considered to be crucial to maintaining the environment and social fabric of the LFA.

Previous support for LFAs was made as headage payments, which did not have environmental targets and had been heavily criticised for their potential to encourage overstocking of sensitive upland areas. The HFA payments comprised basic area payments with a supplement of 10% or 20% for farms agreeing to certain environmental enhancements. Different payment rates were made for 3 categories of land (Disadvantaged Area - DA, Severely Disadvantaged – SDA, and SDA moorland) and payment rates varied each year depending on the number of hectares.

The HFA was funded by Chapter V of the RDR ‘Less Favoured Areas’.

1.5.2 Operation of the Scheme

To qualify for HFA payments, farmers had to meet certain specific criteria having a minimum of 10 ha of eligible LFA forage land, keeping breeding sheep and/or breeding cows and maintaining stocking rates above the minimum level of 0.15 livestock units per ha.

Claims were made via the Integrated Administration and Control System (IACS) form, through which farmers claimed their CAP Pillar 1 payments. The details on these forms were then cross-checked against claims made for the Suckler Cow Premium Scheme or the Sheep Annual Premium Scheme in the same year, to ensure that the eligible hectares, stock types and enterprises were consistent. The scheme is administered by the Rural Payments Agency, which processes the claims. The RPA was required to inspect 5% of beneficiaries per year, making on-farm visits to check for compliance.

In 2005 there was an administrative change to the scheme when the Single Payment Scheme (SPS) Form replaced the IACS form, following decoupling of Pillar 1 aids. Again, farmers claiming HFA had to tick boxes on the SPS form if they had land in the LFA and had to state the number of eligible suckler cows and breeding ewes they kept.

1.5.3 Scheme Achievements

Payments have been made to approximately 10,000 producers each year, with a further 1,000 or so claiming but being rejected. The number of claims paid each year has declined. Total expenditure under the 2006 scheme was £20.3 million, of which £10.2 million came from EU Funds (previous spends were £39.5m, £35.2m and £26.9m in 2003, 2004 and 2005 respectively. The area of farms benefiting from support under this measure exceeds 1.4 million
ha. However, monitoring and evaluation of the HFA is limited by the lack of an accurate counterfactual.

Table 5 The Targets of HFA

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative position of Net Farm Incomes in the LFA and non LFA</td>
<td>Compensatory allowance not to exceed relative difference in incomes</td>
<td>Not Available¹</td>
</tr>
<tr>
<td>Area (hectares) attracting basic HFA payment</td>
<td>No decrease in 1.4m hectares, normally declared, relative to decrease in non-LFA UAA*</td>
<td>Achieved. There were 1.4 m hectares claimed in 2005².</td>
</tr>
<tr>
<td>Area (hectares) attracting enhanced payments for sustainable management</td>
<td>Year-on-year increase in area attracting enhanced payments</td>
<td>Not achieved after 2003 – see below.</td>
</tr>
</tbody>
</table>

Source: 1. Defra ERDP Annual Report 2006 (Defra 2007) and previous years; 2, HFA scheme monitoring data.

*UAA: Utilisable Agricultural Area

The table below shows the total and enhanced areas paid under HFA by year, which suggests the area attracting enhanced payments were decreasing (by 3.68% in 2004 and by 3.25% in 2005) after 2003. Defra suggest this may have been caused by the removal of some enhancements to avoid double funding by ELS.

Table 4a

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (million ha)</th>
<th>% Change</th>
<th>Enhanced</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Paid</td>
<td>Total</td>
<td>Ha</td>
<td>Enhanced</td>
</tr>
<tr>
<td>2001</td>
<td>1.4</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>1.37</td>
<td>-2.14</td>
<td>1.2</td>
<td>0.00</td>
</tr>
<tr>
<td>2003</td>
<td>1.435</td>
<td>4.74</td>
<td>1.277</td>
<td>6.42</td>
</tr>
<tr>
<td>2004</td>
<td>1.43</td>
<td>-0.35</td>
<td>1.23</td>
<td>-3.68</td>
</tr>
<tr>
<td>2005</td>
<td>1.44</td>
<td>0.70</td>
<td>1.19</td>
<td>-3.25</td>
</tr>
</tbody>
</table>


1.5.4 Discussion

The HFA was generally a straightforward simple scheme which was thought to meet its objectives and had low administrative costs. As support for hill farmers has been available for a number of years there was no real need to promote the scheme when ERDP was launched, and application involved simple tick boxes on forms. The HFA, therefore, had very low running costs, estimated at 1% in the MTE (ADAS, 2003).

The scheme had a direct relevance to the ERDP objective ‘creation of a productive and sustainable rural economy’ and indirectly met the objective ‘conservation and enhancement of the rural environment’ as it had some environmental benefits. The main economic rationale for public support for hill farming appears to be to ensure the provision of public goods that would
otherwise be under provided. The continuation of hill farming appears critical, in particular, to maintaining and enhancing the environmental quality of the uplands (IEEP et al., 2004).

However it should be borne in mind that the money it provided to each farm was very low compared to that received under the total of the headage based subsidies and later SPS payments. This makes its impact on both the business and the environment hard to measure.

There were no real barriers to uptake. During Foot and Mouth Disease period there were some exemptions on the minimum stocking levels to assist those affected by FMD. In 2006 there were difficulties within the RPA on the Single Farm Payment system which caused unusually delayed HFA payments. The usual timetable was for claims made in May to be paid in March to May of the following year.

The amount of money put into the scheme was modest and it was also difficult to measure environmental benefits. However there is evaluation and research evidence that shows that the scheme, although small, was significant in its role in supporting the viability of hill farms. As hill farmers diversify their activities, stimulate the local economy and create local employment opportunities, they can also be seen to contribute to maintaining rural communities, which in turn stimulates demand for local services (IEEP et al., 2004). In addition, the HFA represents an important commitment by government to this particular cultural group, on the grounds of the critical environmental role played by their activities. This commitment has become more important following decoupling, since the latter reduces the link between CAP support and active management of the most marginal areas. The potential impact of CAP Reform and other key policies on upland farms has been investigated by research (e.g. Cumulus Consultants et al., 2006).

The scheme was targeted at the active grazier. Going forward the objectives could be more specific and measurable to raise additionality and focus on environmental activity. Removing the social objective of HFA has already been progressed in the early years of RDPE and is a significant further change in current plans.

No information from ERDP was available in order to answer the question of whether the scheme was meeting its social objectives. The Hill Farm Allowance (HFA) was rolled over under the new Rural Development Programme for England (RDPE), which commenced in 2007. It will continue in 2008 and 2009, after which time it will be replaced by the Uplands ELS and managed by Natural England.

References

Cumulus Consultants, in association with IEEP and CCRU Assessment of the impact of CAP Reform and other key policies on upland farms and land use implications in both Severely Disadvantaged & Disadvantaged Areas of England. Final report to Defra

1.6 ERDP Ex Post Evaluation: Countryside Stewardship Scheme

1.6.1 Brief Description of the Nature of the Scheme

The Countryside Stewardship Scheme (CSS) existed prior to the start of the ERDP, being introduced as a pilot scheme in 1991, and is funded by RDR Chapter 6. CSS is a land-based scheme targeted primarily at conservation and improvement of the rural environment, and promotes environmentally friendly and sustainable farming systems and land management practices in areas of England not covered by the Environmentally Sensitive Areas (ESAs).

The overall objectives of CSS are to:

- Sustain the beauty and diversity of the countryside,
- Improve and extend wildlife habitats,
- Conserve archaeological sites and historic features,
- Improve opportunities for countryside enjoyment,
- Restore neglected land and features,
- Create new habitats and landscapes.

The scheme supports national priorities in relation to biodiversity and has been used to encourage farming activities which benefit particular rare species and habitats. Nationally CSS targets a number of specific landscape types and habitats, and locally it targets specific areas within each county.

The scheme provides annual payments for specific types of land and habitat management, and grants for capital works such as hedge laying and planting, and repairing dry-stone walls.

1.6.2 Operation of the Scheme

CSS was open to all land managers, regardless of whether or not they farm. It focused on enhancement and re-creation as much as maintenance of habitats and features. CSS targeted landscape types such as arable farmland (since 2002), chalk and limestone grassland, old meadows and pastures, uplands and features such as field boundaries, historic sites and new access.

Acceptance of land into CSS was at Natural England’s (previously RDS) discretion, and proposals were assessed and scored on both the inherent ‘environmental value’ and the proposed ‘enhancements’. Applications were assessed against criteria that reflect national, regional and local priorities. As applications normally exceeded the available budget, the scheme sought to obtain best value for money by directing limited funds towards areas where the greatest benefit was likely to be obtained, and the scoring system was the primary way of implementing this. The agreement negotiation, as part of the approval process, also contributed to maximising value for money.

Agreements last for 10 years, and advice is available from Project Officers during this time.
1.6.3 Scheme Achievements

**Table 6 The Targets of CSS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) and characteristics of land and features under agreement, in relation to nationally and regionally targeted landscapes and features, including: Meadow, pastures and rough grazing land</td>
<td>Retain existing land under agreement within CSS or transfer it to new Environmental Stewardship Scheme. CSS closed to applications Mar 2004.</td>
<td>322,260 ha of existing land under agreement retained within CSS.</td>
</tr>
<tr>
<td>Moorland</td>
<td>For each additional £1m allocated: Retain (or transfer to new scheme) agreements responsible for the annual management of: 4,300 ha of land 700 ha of arable field margin and 350km of hedges and stonewalls</td>
<td></td>
</tr>
<tr>
<td>Lowland heath</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal land and habitats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field boundaries and margins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arable land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic landscapes and features</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: ERDP Annual Report 2006 (Defra, 2007)*

1.6.4 Discussion

CSS has benefited from an initial pilot scheme and a long life with periodic refinements. It had broad objectives, although an emphasis on enhancement e.g. habitat re-creation tended to reward those who might previously have damaged the environment, and made the good stewards less likely to be eligible. It was also less good at covering the wider countryside. The scheme would have benefited from having resource protection as an objective.

Although the competitive nature of CSS put off some potential applicants, it did help ensure good value agreements. Stakeholder engagement over targeting and other issues was a useful feature of the scheme. Pre-application visits from project officers helped provide a filter for potential applications, and encouraged good value applications.

The administration of the scheme did have problems, especially in dealing with scheme amendments which were disproportionately time consuming.

An area of concern is the low renewal rates of CSS agreements into Environmental Stewardship (renewal rate was 30% at September 2007), which risks losing the benefits that have been gained. Many reasons underpin this, explored further in the ES Review of Progress (Defra and Natural England, 2008).
1.7 ERDP Ex Post Evaluation: Environmentally Sensitive Areas Scheme

1.7.1 Brief Description of the Nature of the Scheme

The ESA scheme was introduced in 1987, in response to the threat of agricultural intensification, and promotes farming systems and land management practices that conserve specific areas of national environmental significance. By 1992, 22 ESAs had been designated covering some 1,175,767 hectares (approximately 10% of agricultural land in England). It is a land-based scheme targeted primarily at conservation and improvement of the rural environment, and is funded under RDR Chapter 6. The scheme closed to new applications in March 2004, although existing ESA agreements continue to run.

The ESA scheme objective is “to protect the landscape, wildlife and historic interest of certain areas where conservation depends on the adoption, maintenance or extension of particular farming practices.”

The scheme pays annual payments based on the area of land under agreement, with the different options or tiers reflecting the traditional farming methods which have led to the special environmental interest in each ESA. There are also grants for capital works carried out as part of a conservation plan.

1.7.2 Operation of the Scheme

All farmers within the ESA boundary were eligible to enter into 10-year management agreements, with an optional break clause after 5 years.

In some ESAs applicants had to enter all their land within the ESA into the scheme, but in others they could choose to enter only part of the farm – these criteria related to the specific environmental objectives in each ESA (i.e. whether targeting particular habitats, or whole landscapes). Applicants could select from the available tiers on a field by field basis, with more demanding tiers having a higher payment rate. Entry was discretionary but non-competitive, and Project Officers were required to encourage the best quality applications through negotiation with potential applicants.

The Project Officers within ESAs were proactive, visiting applicant farms, discussing potential applications and negotiating agreements, as well as dealing with ongoing care and maintenance visits, and with agreement amendments and renewals. Higher tiers offered greater scope for environmental enhancement and efforts were made to increase the proportion of land in higher tiers during the major rounds of ESA agreement renewals in 2002 and 2003.

1.7.3 Scheme Achievements

Table 7 The Targets of ESA

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (hectares) and characteristics of land and features under agreement</td>
<td>Retain existing land under agreement within ESA ESA schemes closed to applications Mar 2004.</td>
<td>377,072 ha of existing land under</td>
</tr>
</tbody>
</table>
Each ESA has a set of environmental objectives which reflect the aim of each management tier. Each objective has a set of published uptake indicators and targets.

Source: ERDP Annual Report 2006 (Defra, 2007)

1.7.4 Discussion

The comments within this section draw upon consultation with the scheme policy owner, refer to Annex 3a.

The scheme targeted high nature-value landscapes in England, which are also very important for biodiversity protection, containing a high proportion of the country’s SACs and SPAs. The lower tiers of the scheme sought to prevent detrimental change, so the scheme was stronger on maintenance and protection then enhancement. However increases in the budget available for capital expenditure did allow further enhancement. The English ESA results are probably the most comprehensive long-term monitoring information on the success of Agri-environment schemes in the whole of the EU.

The scheme benefited from an early launch of a small number of ESAs, enabling the scheme to evolve. During the ERDP period activity was focused on renewals of applications, and Project Officers took a pro-active role in helping agreement holders through the process, including encouraging them to commit to higher tiers of management.

An area of concern is the low conversion rates of ESA agreements into Environmental Stewardship, when the ESA agreements reach the end of their term (the renewal rate was only 24% of eligible agreements, as at September 2007). This represents a significant risk of losing the long-term benefits that have been gained on farms which have been practicing environmental management for anything between 5 and 15 years, under the ESA scheme. This is partly because of the large differential in rates of payment and available management options between ELS and ESAs, and the lack of any funding for capital works (especially for landscape feature restoration – e.g. hedgerows, stone walls, trees, ditches) under ELS. HLS offers these features but is more tightly targeted and competitive than ESAs, so much of the land previously under lower tiers of ESA management is likely to be unable to qualify for HLS without radically changing land management so that it targets more ambitious environmental goals. As a result, most farmers in these areas only contemplate moving from ESAs into ELS, where the payment rates and management options are less attractive and varied than those which they had in ESA agreements. Refer to the ES Review of Progress (Natural England and Defra, 2008) for more discussion of these issues.
1.8 ERDP Ex Post Evaluation: Organic Farming Scheme

1.8.1 Brief Description of the Nature of the Scheme

The OFS was funded by the Agri-Environment Chapter of the RDR. Organic production is governed by Regulation 2092/91. The previous version of the OFS, which operated under EC Regulation 2078/92, was carried forward into the ERDP.¹

- Participants in the OFS were required to complete registration with an approved organic inspection body (also known as ‘sector bodies’ or ‘certification bodies’ or ‘CBs’); to convert the scheme land to organic farming by the end of a 5-year period; and to observe certain environmental prescriptions.
- The OFS was closed to new entrants in March 2005 and replaced with the Organic Entry Level Stewardship Scheme (OELS).

Objectives of the OFS

The OFS was designed to encourage farmers to convert to organic production by providing assistance to overcome the income deficit during the conversion period.

According to the ERDP, Conversion to organic production “provides gains in terms of soil health and fertility, benefits for bio-diversity and wider landscape benefits resulting from the use of crop rotations, as well as the absence of synthetic pesticides, herbicides and fertilisers” (ERDP: 9.4.11 to 9.4.14 p. 149).

The OFS target was 45,000 ha / 650 holdings to be converted per year, with a total of 430,000 ha total to be converted in the period 2000 to 2006.

1.8.2 Operation of the Scheme

OFS provided aid over a 5-year period. Payment rates were based on income foregone and were in three categories relating to land type:

- Arable land & land in permanent crops — total 450/ha
- Other improved land 350/ha
- Unimproved grassland/rough grazing 50/ha
  - An additional £600 was paid for consultancy advice.
  - Additional ‘Maintenance payments’ were introduced in 2003 and were available for a further five year period.

50% of the payment was received in year 1 and c. 20% in year 2. OFS was front-loaded to reflect the income forgone in the typical 2–year period of organic conversion when the participant could not access organic premium prices.

Participants in the OFS were required to complete registration with a CB and to have a certificate of conversion in place as part of the application procedure. Certification typically cost £450/year (costs varied between CBs) and a new certificate as proof of inspection had to be presented annually to claim payments under the scheme.

¹ EC 2078/92 was restricted to organic management of land and crops; EC 2092/91 extended the regulation to cover livestock production
1.8.3 Scheme Achievements

Table 8 The Targets of OFS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion of farmland to organic production</td>
<td>430,000 ha total to be converted in the period 2000 to 2006</td>
<td>137,158 ha approved for conversion under the OFS</td>
</tr>
<tr>
<td>Number of beneficiaries per year</td>
<td>650</td>
<td>1,762 total (2005)*</td>
</tr>
</tbody>
</table>

*OFS closed to new applications from March 2005. Aid for converted and converting land to organic production was after that provided under the OELS. Source: ERDP Annual Report 2006 (Defra, 2007)

Prior to OELS, ongoing Maintenance payments were introduced as an interim in recognition of the environmental benefits of organic farming. This had been proposed in the English Organic Action Plan (Defra, 2002) and reflected the recommendations of the Curry Report, Farming and Food, A Sustainable Future (2002).

Further statistics about uptake can be found at [http://www.defra.gov.uk/erdp/schemes/ofsofsstatistics.htm](http://www.defra.gov.uk/erdp/schemes/ofsofsstatistics.htm)

The Scheme was important to the majority of farmers during conversion: 66% found the Scheme's support essential; 42% found it useful but not enough; 26% claimed that they would have converted without the Scheme (Centre for Rural Economics Research, 2002).

1.8.4 Discussion

The comments within this section are informed by consultation with the scheme policy owner, refer to Annex 3a.

The OFS opened in April 1999 and closed at the end of November, having attracted around 1,300 applicants. It remained closed throughout 2000 and reopened in January 2001 (Centre for Rural Economics Research, 2002). This had a detrimental effect on subsequent scheme participation and probably helped destabilise the market for organic production by re-inforcing peaks and troughs in farmland entering conversion. As market conditions varied (from high to low organic food premiums) they had positive and negative effects on farmers’ decisions to sign up to agreements.

Some aspects of compliance with organic standards represented a difficulty, especially in upland and hill areas. Demand tapered off over the lifetime of the scheme and there were uptake variations across the country, linked to enterprise type.

Although OFS did not meet its original targets, the scheme has helped to achieve the overall priorities of the ERDP, especially the environmental objectives. Research evidence shows that organic farming benefits the environment & biodiversity. While inappropriate organic management practices (such as ploughing of leys and legumes) could bear some potential risk of polluting ground and surface water, the negative effects from organic farming, when evaluated on a per-hectare basis, tend to be lower than those of conventional farming systems. However, with increasing implementation of water protection measures in conventional farming, these differences are becoming smaller (Centre for Rural Economics Research, 2002). There is also evidence that the take up of other agri-environment schemes is higher among organic farmers than conventional farmers.

There is also research evidence of socio-economic benefits from the OFS – more labour is employed on organic farms than on comparable conventional farms. There is also evidence of benefits for the rural economy from supply chain development and innovations, such as on-farm processing and other enterprises. The socio-economic benefits of organic farming were further
explained in the English Organic Action Plan (Defra, 2002), which highlighted that organic farming may encourage consumers to take a closer interest in how land is farmed and, in the context of its particular contribution to local food marketing, can help to develop a sense of community between buyer and seller.

Aid to organic farmers can help to achieve rural sustainability in the RDPE and the subsequent RDPE. There should be definite objectives for sustainable development - for farmers, for the market and the rural economy. OFS / OELS are beneficial to wildlife. It is also consistent with Defra’s wider objectives on carbon footprinting and global warming.

References


1.9 ERDP Ex Post Evaluation: Environmental Stewardship

ES was launched in March 2005 following the 2002-2004 Agri-Environment Review and the recommendation of the Curry Commission that a ‘broad and shallow’ agri-environment scheme should be developed to complement the previous narrowly focused approach of Countryside Stewardship (CS) and Environmentally Sensitive Areas (ESA) (Defra and Natural England, 2008).

ES is still in the relatively early days of operation, limiting the extent to which conclusions can be drawn. However, a CSL report (2007) found that generally ES was working well, with good understanding from farmers particularly on ELS. Early indications showed that the six most popular options (of the 60 available) accounted for around 50% of all points scored, with the top 20 covering 90%, suggesting that some re-balancing might be called for.

A Review of Progress was completed by Defra and Natural England in 2008, which provides useful insight for the scheme profiles.

**Environmental Stewardship** (ES) aims to secure widespread environmental benefits. There are three elements:

- Entry Level Stewardship
- Organic Entry Level Stewardship
- Higher Level Stewardship

**Entry Level Stewardship** (ELS) - a ‘whole farm scheme’ open to all farmers and land managers. Where there is a mix of conventionally and organically farmed land, or all land is farmed organically, application should be to OELS.

**Organic Entry Level Stewardship** (OELS) - a ‘whole farm scheme’ similar to ELS, open to farmers who manage all or part of their land organically and who are not receiving aid under the Organic Aid Scheme (OAS) or the Organic Farming Scheme (OFS). If any part of a farm is registered with an Organic Inspection Body, application should be to OELS rather than ELS.

**Higher Level Stewardship** (HLS), which will be combined with ELS or OELS options, aims to deliver significant environmental benefits in high priority situations and areas. HLS is discretionary and concentrates on the more complex types of management where land managers need advice and support and where agreements need to be tailored to local circumstances.

Profiles of each scheme are provided below.
1.10  ERDP Ex Post Evaluation: Entry Level Stewardship

1.10.1  Brief Description of the Nature of the Scheme

Entry Level Stewardship (ELS) is one of the three elements of the Environmental Stewardship scheme that was introduced in 2005, and it is funded by RDR Chapter 6. ELS is a ‘broad and shallow’ whole farm scheme that is open to all farmers and land managers.

The aim is to encourage a large number of farmers across a wide area of farmland to deliver simple yet effective environmental management with minimal administrative cost. The objectives are to:

- Conserve wildlife (biodiversity),
- Maintain and enhance landscape quality and character,
- Protect the historic environment and natural resources,
- Natural resource protection.

Payment is for undertaking specific types of land management, and there are no capital grants available under this scheme.

1.10.2  Operation of the Scheme

Acceptance into ELS is guaranteed provided the scheme requirements are met. Applicants choose from a menu of management options which each have an allocated number of points. There is a wide range of over 50 options to choose from (e.g. hedgerow management, stone wall maintenance, low input grassland, buffer strips, and arable options) to cover all farming types.

Sufficient options must be selected. These options contribute to a points score, and each application has to offer enough points to meet the target for their holding, which is dependent upon the eligible land area. Agreements last for 5 years and agreement holders receive payments of £30 per hectare, per year across the whole farm (except in extensively grazed upland areas, where the payment rate is lower).

Agreement holders have to identify and map their farm’s environmental features on a ‘Farm Environment Record’ map (FER) as part of their application, and undertake to retain those features. They also have to follow Good Farming Practice throughout their farm, as well as delivering the selected options, in accordance with the prescribed management requirements.

The scheme was designed to be simple to apply for and carry out, and to be relatively low cost to administer, and therefore ‘hands off’, in terms of technical advice and support. Approval of ELS applications is a purely administrative process involving no individual technical assessments.

1.10.3  Scheme Achievements

Table 9 The Targets of ELS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS</td>
<td>60% land by end 2007</td>
<td>3.8m ha – 69% of 2007</td>
</tr>
</tbody>
</table>
1.10.4 Discussion

The consultation with scheme policy owner was used to inform this discussion; refer to Annex 3a.

As ELS is a ‘broad and shallow’ scheme available to all, a substantial uptake was expected from the outset, encouraged by a high profile programme of launch meetings and seminars. There were initial problems with the formation of NE and the introduction of a new IT system. Problems with the Rural Payments Agency achieving accurate registration of farm holdings on the Rural Land Register, which was a pre-requisite for obtaining maps to prepare FERs when applying for ELS, prevented many farmers from joining the scheme initially, but as these problems were resolved the rate of application increased. The introduction of the Single Payment Scheme, which had a greater financial priority for farmers, at the same time as ES also distracted farmers from applying. However by the end of 2006, some 44% of eligible land was in either ELS or OELS.

A large proportion of agreement holders took up a limited number of the available management options. CSL’s study (CSL, 2007) found that most agreement holders chose options appropriate for their farm, but evidence suggested that greater uptake of some of the less popular options could greatly increase benefits for biodiversity. Although participants generally chose options that either required least change or were easy to do, the study found that a considerable amount of change in management practices would be required on farms in order to fulfill the less popular option prescriptions.

To encourage wider uptake of the less popular options, it would be possible to cap the number of points that can be earned from the more popular options. However as the scheme is voluntary it is recognised by Defra, in its review of progress of ES (2008) that there is a balance to be struck between encouraging participation and maximising benefits. CSL also recommended that greater availability of advice to applicants could also encourage uptake of a wider range of options.

O/ELS do not provide capital payments for landscape feature restoration which were a significant feature of the previous agri-environment schemes in England. Because HLS is very tightly targeted to high priority situations and areas, there is a significant differential in both payments and the range of management options offered (including capital works) between the provisions of the entry and higher level ES schemes.

The CSL study evaluated the first eighteen months of Environmental Stewardship, and formed the main evidence base for the comprehensive Review of Progress of Environmental Stewardship by Defra and Natural England, published in 2008. The recommendations of this Review are now being taken forward by an implementation project led by Natural England.

References

CSL (2007) Evaluation of the introduction and operation of Environmental Stewardship
1.11 ERDP Ex Post Evaluation: Organic Entry Level Scheme (OELS)

1.11.1 Brief Description of the Nature of the Scheme

Objectives of the OELS

OELS is a 'whole farm scheme' similar to ELS and open to farmers who manage all or part of their land organically and who are not receiving aid under the Organic Aid Scheme (OAS) or the Organic Farming Scheme (OFS). If any part of a farm is registered with an Organic Inspection Body, application should be to OELS rather than ELS. It aims to encourage a large number of organic farmers across a wide area of farmland to deliver simple yet effective environmental management.

1.11.2 Operation of the Scheme

Land entered into the scheme must be farmed organically and registered with an approved Organic Inspection Body. Applicants are required to record features on the farm using the Farm Environment Record (FER) map supplied by RDS/NE. This is a voluntary and non-competitive scheme.

Farmers with a mix of organic and conventional land can apply for OELS on their OELS eligible land and ELS on the remainder at the applicable ELS payment rates as part of one, whole farm, OELS agreement.

There are five year agreements with payments sent out every six months. Payments are of £60 per hectare per year (in the lowlands) for all organic land entered into the scheme. 60 'points' worth of management options per hectare of this organic land are required in return.

Aid for converting conventionally farmed improved land and established top-fruit orchards is also available as a top-up to OELS payments. Payment rates are £175 per hectare per year for two years for improved land and £600 per hectare per year for three years for established top fruit orchards.

OELS is administered by Natural England from their North West Office in Crewe.

1.11.3 Scheme Achievements

<table>
<thead>
<tr>
<th>Table 10 The Targets of OELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>OELS</td>
</tr>
</tbody>
</table>

Source: CSL

1.11.4 Discussion

Many of the conclusions and pointers regarding ELS are also relevant to OELS, and the reader is therefore referred to the previous section.

OELS does not provide capital payments and as HLS is very targeted to high priority situations and areas, there is a gap between the provisions of the entry and higher levels. The CSL study evaluated the first eighteen months of Environmental Stewardship, and formed the main evidence base for the comprehensive Review of Progress of Environmental Stewardship by...
Defra and Natural England, published in 2008. The recommendations of this Review are now being taken forward by an implementation project led by Natural England.

The replacement of the OFS by the OELS has provided clearer environmental objectives and targets and is simpler to administer. This incorporation of OFS within ES was supported by the Centre for Rural Economics Research (2002) who recommended that organic stewardship support be implemented as part of a wider, low level, broad-entry agri-environmental scheme available to all farmers. Regional targeting may become important as aid is rolled forward in RDPE.
1.12 ERDP Ex Post Evaluation: Higher Level Scheme (HLS)

1.12.1 Brief Description of the Nature of the Scheme

Higher Level Stewardship (HLS) is the third element of the Environmental Stewardship scheme that was introduced in 2005, and it builds on the land management commitments made under Entry Level Scheme (ELS) or Organic Entry Level Stewardship (OELS). All Environmental Stewardship schemes were funded by RDR Chapter 6.

HLS aims to deliver significant environmental benefits in high priority situations and areas, and with only a few exceptions, farmers must enter all their land into ELS or OELS before applying for HLS. The primary objectives are:

- Wildlife conservation,
- Maintenance and enhancement of landscape quality and character,
- Natural resource protection,
- Protection of the historic environment,
- Promotion of public access and understanding of the countryside.

Secondary objectives are:

- Flood management,
- Conservation of genetic resources.

Payment is for undertaking specific types of land management, for example to maintain, restore or create habitats, and there are grants available for complementary capital works.

1.12.2 Operation of the Scheme

HLS is only suitable for land that is of significant environmental interest. To enter HLS a formal assessment of the features on the land - a Farm Environment Plan (FEP) - has to be made, and this assessment informs the selection of suitable HLS management options. Farmers can apply for a payment to assist them with the cost of hiring a consultant to undertake the preparation of the FEP, under HLS – these consultants include technical officers from environmental NGOs as well as commercial land agents.

The completed application with accompanying FEP receives an initial assessment from a NE adviser who assigns a score in respect of the extent to which the application meets the scheme’s targets and is of a high quality. It is also scored against the ‘priority targets’ agreed for the relevant Joint Character Area within which the land falls (JCAs identify and delineate the specific character of different rural landscapes across the whole of England, as defined by a national JCA map and accompanying landscape descriptions. Natural England determined the priority targets for each JCA following consultation with environmental and farming stakeholders, prior to the launch of HLS). Those applications that meet or exceed a pre-determined threshold score receive a visit. Amendments may be negotiated to provide better value for money and increase the score, and the management requirements of the selected options and their indicators of success will be discussed. An agreement may then be offered but the scheme is competitive, with only the best applications approved for funding. The
threshold score for acceptance into the scheme was altered more than once in response to budgetary considerations, during the first year of implementation.

Agreements last for 10 years and run concurrently with the ELS or OELS. Advice is available from the assigned NE adviser during the period of agreement.

1.12.3 Scheme Achievements

Table 11 The Targets of HLS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS</td>
<td>200,000ha by end of 2007</td>
<td>81,000 ha, 40.5% of end of 2007 target</td>
</tr>
</tbody>
</table>

Source: CSL

1.12.4 Discussion

As with ELS and OELS, delays in obtaining accurate Rural Land Register farm holding maps from Defra’s RPA (these were newly introduced with the Single Payment Scheme, also in 2005) led to delays in applications initially, as did farmers’ other preoccupations with claiming the support under Single Payment Scheme (SPS) with its new rules and procedures. The evident complexity of what was an unfamiliar scheme was also a significant barrier to uptake. The Farm Environment Plan (FEP) required as part of the application, was regarded as particularly complicated and off-putting, although an independent evaluation (CSL, 2007) found it to be useful from an environmental perspective, but too complex and detailed for its intended purpose.

Changes made in the threshold score required for gaining entry into the scheme also demotivated potential applicants and the commercial and NGO advisers who were supporting their applications. In the latter part of 2006 the qualifying number of points was increased, leading to many of those who had been preparing an application then failing to qualify, once the application was submitted, because the threshold score had been increased in the meantime. This was apparently due to budgetary constraints and uncertainties, although the details of these remain unclear. These issues were also raised at the regional focus group consultations, carried out for the Ex Post Evaluation of ERDP.

More pre-application advice from NE project officers in order to ensure that applicants and advisors were sufficiently aware of (changing) scheme requirements would have prevented wasted efforts by applicants, and wasted expenditure under the scheme for the preparation of FEPs that were unlikely to lead to successful applications (a grant was paid for preparation of an acceptable FEP even if the accompanying application was unsuccessful). Pre-application visits were instigated in 2007 as a response to the findings of independent evaluation.

A survey of stakeholders suggested that there was a lack of consistency between Joint Character Areas in the way in which targeting statements and scoring processes were used, and concerns were expressed that the system overly favoured multi-objective applications as against those which were single-issue but nonetheless tackling high-priority environmental goals (CSL, 2007)

In general the introduction of HLS suffered from many policy and institutional changes being introduced over the same time period, including a major restructuring of the administrative organisation, a new administrative system, the Rural Land Register and the introduction at the same time of the new Single Payment Scheme for Pillar 1 CAP support. The internal
administration for HLS was complex, and there were IT system difficulties in processing and generating agreements.

The independent study by CSL evaluated the first eighteen months of Environmental Stewardship, and formed the main evidence base for a comprehensive ‘Review of Progress of Environmental Stewardship’ by Defra and Natural England, which was published in 2008. The recommendations of this Review are now being taken forward in an ‘implementation project’ led by Natural England. Scheme changes include some simplification of the FEP, as well as the improvement achieved by providing more guidance from NE advisers, prior to FEP preparation. A move to introduce explicit, map-based targeting should improve the consistency of the targeting methodology between the different Joint Character Areas. However, it is too early to say whether these kinds of change will be sufficient to increase the uptake of HLS, especially bearing in mind the potentially lasting negative impact of the barriers to uptake that have been identified here. The wasted time and effort on the part of those applicants who sought early entry into the scheme and were then rejected due to budgetary constraints and short-term upward shifts in the scoring threshold is felt to have had significant negative impacts upon the scheme’s image, to date.
1.13 ERDP Ex Post Evaluation: Processing and Marketing Grant Scheme

1.13.1 Brief Description of the Nature of the Scheme

The Processing and Marketing Grant (PMG) was a capital grant scheme designed to increase the competitiveness of agriculture and horticulture by improving the infrastructure for processing and marketing of primary agricultural products. The aim was to encourage innovation and investment to achieve added value for English primary products and to enhance market opportunities, benefiting the rural economy by securing the sector’s future and stimulating rural employment.

Grants supported the development of processing facilities such as the erection of new buildings, the refurbishment of old buildings and the purchase of new equipment. Grants were available at 30% of eligible costs, the project spend had to be at least £70,000 per application and the maximum grant payable was £1.2 million to any one project. The grant was available to individuals, groups of primary producers and companies, with priority given to SMEs. Of the 70% private funding required at least 45% of total eligible project costs had to come from the applicant’s own resources. All projects had to contribute to one or more of the following scheme objectives:

- Guide production in line with foreseeable market trends.
- Encourage the development of new outlets for agricultural products.
- Improve or rationalise marketing channels.
- Improve or rationalise processing procedures.
- Improve the presentation and preparation of products.
- Achieve the better use or elimination of by-products or waste.
- Apply new technologies.
- Apply innovation.
- Improve and monitor quality.
- Improve and monitor health conditions.
- Protect the environment.

PMG was funded by Chapter VII of RDR ‘Processing and marketing of agricultural produce’.

1.13.2 Operation of the Scheme

Applicants to the scheme completed a general ERDP application form and a supplementary PMG application form, together with a detailed project proposal and business plan with relevant supporting documentation. Applications had to be sent to the regional RDS office and applicants received acknowledgement of receipt of the application and the application was checked for eligibility. The mechanism for allocation of grant was on a technical assessment using a scoring system, relating to the quality of the project, value for money and fit with regional priorities as set out in published regional targeting statements. RDS technical staff submitted a detailed evaluation of the application for consideration by a Regional Appraisal Panel. PMG was awarded on a competitive basis alongside awards for VTS and RES, in a common process. The applicant received an offer letter after approval and this contained targets and conditions of the award and acted as a contract and legal commitment. The beneficiary then provided regular reports on progress and a final report on performance and outcome two years after completion.
All projects were inspected on completion and a sample were checked during the course of the project. Claims for payment of grant could be made for up to 80% of the grant value in two interim claims, and a final claim on completion.

PMG closed to new applications in June 2006, and management of existing agreements was transferred to the RDAs.

1.13.3 Scheme Achievements

Of the £44 million total budget of the scheme over the 7 year period of the ERDP, £46.6 million had been committed by the end of the programme. The whole programme created or safeguarded over 8,300 jobs and introduced more than 130 new products to market.

Table 12 The Targets of PMG

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of jobs created and safeguarded</td>
<td>2,200</td>
<td>8,393</td>
</tr>
<tr>
<td>Number of projects assisted</td>
<td>370</td>
<td>158</td>
</tr>
<tr>
<td>Number of collaborative marketing ventures supported</td>
<td>100</td>
<td>64</td>
</tr>
<tr>
<td>Number of novel outlets created</td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>Number of projects involving increase in amount of locally produced/sourced raw material purchased</td>
<td>288</td>
<td>132</td>
</tr>
<tr>
<td>Number of projects resulting in reduced pollution emissions, energy and water use, and waste production</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>Number of new products brought to market</td>
<td>70</td>
<td>134</td>
</tr>
<tr>
<td>Number of collaborative marketing groups helped to merge or form federal structures, resulting in improved marketing</td>
<td>7-14</td>
<td>48</td>
</tr>
<tr>
<td>Number of assurance schemes assisted</td>
<td>7-14</td>
<td>33</td>
</tr>
</tbody>
</table>


The financial target and employment target were over-achieved but this was through fewer, larger and less diverse/innovative types of project than had originally been envisaged.

1.13.4 Discussion

PMG was evaluated independently (ADAS, 2003) and the evidence from this evaluation, together with the EPE evidence and consultation with Defra, informs the comments below. Refer to Annex 3a.

PMG experienced relatively slow uptake in the earlier phases of the scheme. At the mid point, in 2003, expenditure under the scheme had been below the £8 million allocated budget and scheme uptake was a problem, with implications for the competitive allocation of funds (ADAS, 2003).

A number of factors contributed to this:
• The requirement to have a minimum capital expenditure of £70,000 for a project was perceived as a barrier to uptake. The threshold was originally introduced in order to delineate PMG from similar provisions available under RES, and to control scheme administrative costs. Having the ability to be more flexible with this minimum project size would have helped to encourage more, smaller applications.

• Only products listed in Annex 1 to the Treaty of Rome (detailing primary food products) were eligible under the scheme. This excluded many value-adding processes which used prepared primary produce; for example, preparing ready meals from already cut/washed ingredients.

• The need to include inputs from third parties rather than solely processing own produce.

• Foot and Mouth Disease slowed uptake of the scheme in 2001/2002

• A perceived initial lack of promotion of the project based schemes. In this respect the fact that PMG was a new scheme with which RDS staff was unfamiliar may have been a factor.

The general financial position of farming was generally poor during the scheme but this probably helped stimulate a few producers to add value by better processing and marketing. Scheme brochures were re-written following the Mid Term Evaluation to make schemes clearer. A lot of effort was put in to promoting success stories in the press and this was a successful way of stimulating interest. The aim of PMG scheme was to encourage small food businesses to innovate in terms of processes, products and markets, therefore the targeting of applicants needed to include those outside farming. Promotion of the scheme could have utilised the regional food groups, representative bodies and trade associations to help achieve this more effectively.

The business plans required as part of the application process were generally assessed as good and proportional to the size of the projects that were being submitted. Applications were typically for projects of over £100,000 and ranged up to £6 million of capital expenditure. It was thought the business plan approach actually helped applicants with this size of project to be sure that their proposed investment would be sound and financially viable. The contribution that sound business planning can make to project sustainability is discussed further in the main EPE report.

The scoring approach needed to be more focused on providing evidence to support additionality, displacement, return to primary producers and other project benefits. By simplifying and clarifying the scheme eligibility criteria the selection process would have been more transparent to potential applicants. Offering a facilitation service providing information to applicants would also have been beneficial (discussed further in ADAS, 2003).

There were no reported issues on monitoring outputs and budgets in PMG. However it was commented that there does need to be a clear reporting framework to avoid reporting difficulties. Some projects saw significant project delays due to investment difficulties with milestones not met and grant claims delayed causing additional administration costs. Initial estimates suggested that PMG had running costs of 15%, deemed to be relatively high (ADAS, 2003), despite the high average project size.
1.14 ERDP Ex Post Evaluation: Farm Woodland Premium Scheme

1.14.1 Brief Description of the Nature of the Scheme

The Farm Woodland Premium Scheme (FWPS) was designed to encourage the creation of new woodlands on farms. It did this by offering annual payments for between 10 - 15 years as compensation for the income foregone when agricultural land is planted to woodland. The longer period of annual payments was for woodlands mostly comprised of broadleaved species to reflect the longer growing period.

Unlike most forestry grants, which are not subject to tax, the FWPS annual payments were part of the farm income and treated as such for the purposes of calculating tax.

Once land was planted under the FWPS it could not be used for any agricultural purpose.

The FWPS was not available as a “stand alone” grant. In order to receive FWPS annual payments applicants had to satisfy the environmental and silvicultural standards of the Woodland Grant Scheme (WGS).

To be accepted into the FWPS applicants must be running an agricultural business. Tenant farmers required the consent of their landlord.

The land to be planted must be agricultural land, and in agricultural use for at least 3 years before an application to join FWPS. Land had to fall within specified size requirements, typically between 1.0 ha and 200 ha.

Land eligible for the Arable Area Payments Scheme (AAPS) and entered into FWPS could be counted towards the farms Set-aside obligation, providing a productive use of Set-aside land.

Generally new woodland was created by planting but, direct seeding and natural regeneration were also acceptable.

FWPS was funded under Chapter VIII measures with reference to Regulation 1257/99 which relates to afforestation of agricultural land (Article 31) and other forestry measures (Article 30).

Objectives

The objective of the FWPS was to enhance the environment through the planting of farm woodlands, in particular to improve the landscape, provide new habitats and increase biodiversity. In doing this, land managers were to be encouraged to realise the productive potential of woodland as a sustainable land use.

In 1998, the Government produced a forestry strategy for England – the England Forestry Strategy (EFS) – which had four main objectives:

- To increase the contribution of forests and woodlands to local economies and rural development,
- To expand the role of woodlands in supporting the economic regeneration of former industrial land and disadvantaged communities,
- To promote public access to woods and forests and develop recreational opportunities,
- To conserve and improve the biodiversity, landscape and cultural heritage of our forests and woodlands.
There were also four priorities for woodland creation: creating larger woodlands where they can bring greater benefits; creating woodlands in the urban fringe; the restoration of former industrial land; and reversing the fragmentation of existing woodlands.

The ERDP principle forestry objective was “to improve the landscape, habitats, wildlife and amenity value of agricultural and non-agricultural land by planting woodland, thereby creating employment and diversifying land use; (and) to improve the ecological and social functions of existing forests”.

The EFS and ERDP forestry objectives were combined into the WGS/FWPS, which was revised in 2000 to include a points based application process.

Types of Aid

The FWPS annual payments were made for 10 years or 15 years depending on the types of trees planted and how they would be managed.

To receive payments over 15 years, more than 50% of the area of the woodland must be planted with broadleaved trees. The wood could not be felled within 30 years of the first annual payment. Woodlands with more than 50% of the area planted with conifers received annual payments for 10 years. Fast growing broadleaves (e.g. poplars) that would be felled in less than 30 years also received payments for 10 years (provided they were not felled within 20 years).

A suite of annual payments based on income foregone were available for different types of land (arable, other improved, unimproved), and whether they were in Disadvantaged Areas, Severely Disadvantaged areas or the lowlands.

1.14.2 Operation of the Scheme

A joint application pack comprising WGS and FWPS forms was provided by the FC. When completed application forms and maps were received the FC referred the FWPS application to MAFF/Defra for checking and approval of the agricultural information.

The FC checked the WGS part of the application to ensure that it met the environmental and silvicultural standards of the scheme, carried out the statutory consultations and placed the scheme details on the Public Register.

The first installment of the WGS planting grant and FWPS annual payments was claimed as soon as planting was completed. A joint claim form was provided by the FC with the scheme approval.

Annual payments would continue on the basis of the first claim for 5 years, at which point a second 5 years claim form would be sent to the farmer by MAFF/Defra. For schemes attracting annual payments for 15 years a further 5 year claim form would be sent.

The second 5 year stage claim form of the WGS planting grant would be sent from the FC.

Woodlands planted under the FWPS must be maintained for at least 20 years or 30 years, depending upon whether they were attracting 10 years or 15 years annual payments. The felling and clearance of woodlands may require a felling licence from the FC, and this is normally only granted on condition that the land is replanted. However, applications to return the land to agriculture would be considered on their merits.

There is a statutory appeals procedure available to farmers if FWPS/WGS payments are withheld, and a complaints procedure if farmers have complaints about how their application was dealt with.
Post agreement follow up visits were carried out by RDS.

Further information can be seen at [http://www.defra.gov.uk/erdp/schemes/fwps/default.htm](http://www.defra.gov.uk/erdp/schemes/fwps/default.htm)

### 1.14.3 Scheme Achievements

#### Table 13 The Targets of FWPS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of new woodland planted</td>
<td>21,000</td>
<td>20,403¹</td>
</tr>
<tr>
<td>Arable land area (%)</td>
<td>40%</td>
<td>51%¹</td>
</tr>
<tr>
<td>Improved grassland (%)</td>
<td>50%</td>
<td>41%¹</td>
</tr>
<tr>
<td>Broadleaf planted area (ha) / conifer planted area (ha)</td>
<td>4:1</td>
<td>10:1²</td>
</tr>
</tbody>
</table>

Source: 1, ERDP Annual Report 2006 (Defra, 2007); 2, based on Annex 3 indicator reference VIII.1.A-2.1;

During 2006, nine applications to convert 23 ha of agricultural land were approved under the FWPS. The FWPS is now formally closed to new applications in England, having been replaced (along with the WGS) by the FC’s EWGS.

### 1.14.4 Discussion

The FWPS achieved some 97% of its planting target and, therefore, its objective to improve the landscape, provide new habitats and increase biodiversity. It also follows that timber production will be increased, although the high ratio of broadleaved trees planted suggests that environmental objectives were placed ahead of commercial timber production. This at least in part reflects the lower payments and shorter grant period offered for coniferous species.

If the potential for timber to provide income to rural economies is to be realised there is a continuing need on farms for good silvicultural management advice.

On many farms there is a lack of woodland management and this has implications for the public and environmental benefits in so far as they are not fully realised. Many farmers may not have the necessary woodland management skills or machinery, and the management required may be uneconomic. Good silvicultural management requires the timely thinning and pruning of appropriate trees to produce good quality trees for the future. For example inappropriate management can result in under-thinned stands and loss of ground flora, excessively thinned woodlands can result in problematic growth of understorey vegetation such as brambles. Both are likely to result in reduced biodiversity, poorer timber quality or impeded (public) access.

Offering appropriate management advice for farm woodlands has previously been considered under ESA agreements and could also be a factor encouraging woodland scheme uptake if offered within other agri-environment scheme delivery systems. For example points could be awarded for woodland management under the Entry Level Stewardship (ELS) scheme.

An economic evaluation of woodland creation under WGS and FWPS was completed in 2002, relatively early in the ERDP (Clegg & Co, et al., 2002). The reader is referred to the full report for detailed findings, which are discussed in the scheme profile of WGS.
1.15 ERDP Ex Post Evaluation: Woodland Grant Scheme

1.15.1 Brief Description of the Nature of the Scheme

The Woodland Grant Scheme (WGS) provided incentives for people to create and manage woodlands. The Forestry Commission (FC) provided grants for establishing and looking after woodlands because of the benefits that well managed woodlands give to society.

Grants were paid to help with the creation of new woodlands and to encourage the good management and regeneration of existing woodlands.

There were a suite of capital grants, percentage of agreed costs and annual payments as described more fully below. These grants were exempt from tax under the special status of forestry in the taxation regime.

The WGS was open to both owners and tenants (with landlords consent).

All woodlands could be considered for grants under the WGS. However, areas of trees too small or narrow to be thought of as woodland would not be eligible. Normally, woodlands would have to be at least 0.25 ha in extent and 15 m wide.

Applications could also include proposals to thin or fell trees in woodlands which are being grant aided, avoiding the need for a separate thinning or felling licence.

Applications were considered by the FC on the basis of a completed application form and clear Ordnance Survey map.

The WGS was revised in 2000 to include a points based application process, reflecting increased environmental and public benefits. The setting of a threshold score enabled the FC to more flexibly manage the number and quality of applications.

The WGS closed to new applications in June 2004, except for final applications which satisfied existing commitments and the transitional arrangements to continue support during the change-over period to the EWGS.

The WGS was funded under Rural Development Regulation, Chapter VIII measures with reference to Regulation 1257/99 which includes afforestation of agricultural land (Article 31) and other forestry measures (Article 30).

Objectives

In 1998, the Government produced a forestry strategy for England – the England Forestry Strategy (EFS) – which had four main objectives:

- To increase the contribution of forests and woodlands to local economies and rural development,
- To expand the role of woodlands in supporting the economic regeneration of former industrial land and disadvantaged communities,
- To promote public access to woods and forests and develop recreational opportunities,
- To conserve and improve to biodiversity, landscape and cultural heritage of our forests and woodlands.

There were also four priorities for woodland creation: creating larger woodlands where they can bring greater benefits; creating woodlands in the urban fringe; the restoration of former industrial land; and reversing the fragmentation of existing woodlands.
The ERDP principle forestry objective was “to improve the landscape, habitats, wildlife and amenity value of agricultural and non-agricultural land by planting woodland, thereby creating employment and diversifying land use; (and) to improve the ecological and social functions of existing forests”.

The EFS and ERDP forestry objectives were combined into the WGS/FWPS as follows:

- To encourage people to create new woodlands and forests to increase the production of wood, improve the landscape, provide new habitats for wildlife, and offer opportunities for recreation and sport.
- To encourage the good management of forests and woodlands, including their well timed regeneration, particularly looking after the needs of ancient and semi natural woodlands.
- To provide jobs and improve the economy of rural areas and other areas with few sources of economic activity.
- To provide a use for land instead of agriculture.

**Types of Aid**

Capital grants for planting new woodlands were payable in installments at planting and after 5 years. Significantly higher grants were paid for planting broadleaved trees. Separate annual payments were available to farmers planting eligible agricultural land under the Farm Woodland Premium Scheme.

Additional supplements were paid for planting on better agricultural land, providing public access near populations and in Community Forest areas.

There were also capital grants for restocking existing woodlands – these were much lower than the new planting grants.

A two element grant for restocking by natural regeneration comprised a fixed payment equivalent to the restocking grant above, plus a 50% discretionary payment for work necessary to encourage the natural regeneration.

WGS Annual Management Grant (AMG) was available at a fixed rate per ha payable for 5 years for work to benefit the environmental value or public access.

WGS Woodland Improvements Grants (WIGs) were available at 50% of agreed costs for a range of environmental and public access projects.

Initially WGS grants were also available for planting short rotation coppice with rates for Set-aside land and a higher rate on non Set-aside land (now funded under the Energy Crops Scheme).

**1.15.2 Operation of the Scheme**

An application pack was provided by the FC to help applicants.

It was recommended that applicants speak to the local FC Woodland Officer before preparing a scheme. Addresses of organisations able to provide other professional help were provided.

Land managers were advised also to discuss proposals with any neighbours who may be affected. Applications could be made by owners or leaseholders (with landlords agreement). Applications had to be made using the application forms. An Ordnance Survey Map had to show woodland areas.

Applications including planting or felling were placed on a Public Register for comment and the FC consulted relevant statutory bodies and local authorities.
The approval would specify a claim year and in most cases a claim form would be sent by the FC.

For new planting the second (final) installment was paid 5 years after planting, but the area had to be maintained to the reasonable satisfaction of the FC for at least 10 years.

Post agreement follow up visits were carried out by RDS.

1.15.3 Scheme Achievements

Table 14 The Targets of WGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of new woodland planted with grant aid (EWGS + WGS)</td>
<td>30,000 ha</td>
<td>30,921 ha</td>
</tr>
<tr>
<td>Area of new woodland under approved management schemes (EWGS + WGS)</td>
<td>300,000 ha</td>
<td>293,802 ha</td>
</tr>
</tbody>
</table>

Source: ERDP Annual Report 2006 (Defra, 2007)

For the year ending 31 December 2006, a final 39 WGS applications were approved, bringing 168 ha under management agreements. A further area of some 1200 ha of new woodlands was planted under pre-existing agreements.

Over the full 7 year ERDP period the combined progress through WGS, FWPS and EWGS has resulted in almost 14,000 approved applications, bringing some 294,000 ha of woodland under management agreements, about 98% of the original target of 300,000 ha. A further 30,921 ha of new woodland was created, exceeding the original target of 30,000 ha by 3%.

An early evaluation of WGS and FWPS identified that the principal driver of the uptake of both schemes was an individual's and organisation's interests and objectives in creating new woodlands. Personal interest, financial circumstances and wider business opportunities underpinned this. The type of occupancy of the farm holding was a minor factor influencing uptake: tenants had very limited interest. Scheme rules and administration were not cited as uptake barriers (Clegg & Co, 2002).

1.15.4 Discussion

The WGS was successful in meeting its targets, and a number of improvements have been incorporated in the subsequent English Woodland Grant Scheme (EWGS). On the administration of the scheme, the new EWGS brings the planting grant and annual payment elements into one scheme (compared to WGS and FWPS under the old arrangements).

The WGS target for woodland management was almost achieved, although many foresters believed a more ambitious target was required to reflect the number of woodlands still unmanaged. Many of these unmanaged woodlands were small uneconomic farm woods and the rates of grant offered were not sufficiently attractive. The EWGS addresses this with a wider range of management grants.

An economic evaluation of woodland creation under WGS and FWPS was completed in 2002, relatively early in the ERDP (Clegg & Co, et al., 2002). The reader is referred to the full report for detailed findings. However, one conclusion was that financial intervention to reduce or ameliorate market failure for landowners remains a valid rationale for woodland creation policy in England; and that WGS and WGS/FWPS are effective delivery mechanisms for delivering such market intervention. The size of plots was one concern raised, with a note that sites under
3ha have been undertaken largely for amenity and environmental reasons; many would probably have proceeded without funding support; and can be expected to carry higher administrative costs (ibid.)

Without public sector intervention through the provision of grants, there would be market failure as the costs of woodland creation with the potential for delivering the environmental and social benefits that the public value would be unattractive to many private landowners.

Reference

Clegg & co., Firn Crichton Roberts Ltd, with CJC consulting and Ecoscope applied ecologists (2002) evaluation of woodland creation in England under the Woodland grant scheme & the Farm woodland premium scheme. Report to Defra

1.16 ERDP Ex Post Evaluation: English Woodland Grant Scheme

1.16.1 Brief Description of the Nature of the Scheme

The English Woodland Grant Scheme (EWGS) is administered by the Forestry Commission (FC) and opened to applicants in July 2005. It replaced and incorporated significant elements of the former Woodland Grant Scheme (WGS) and Farm Woodland Premium Scheme (FWPS) under one umbrella scheme.

The new scheme had an increased focus on public benefits, both on new planting and the management of existing woodlands. The EWGS consists of six grants for the creation and stewardship of woodlands.

Applications may also include proposals to thin or fell trees in woodlands which are being grant aided, avoiding the need for a separate thinning or felling licence. Participants must comply with forestry regulations, the UK Forestry Standard and associated FC Guidance.

Funding is managed on a regional basis and some grants are focused to meet the priorities laid out in the Regional Forestry Framework action plans. Grants were offered where they met national and regional objectives and there was money available. Applicants were recommended to check the EWGS website for an indication of whether funds were available before applying.

The EWGS is open to both owners and tenants (with landlords consent).

The EWGS is funded by Chapter VII of the RDR (Regulation 1257/99) which includes afforestation of agricultural land (Article 31) and other forestry measures (Article 30).

Objectives

The objectives of the EWGS are:

- To sustain and increase the public benefits derived from existing woodlands in England.
- To invest in the creation of new woodlands in England of a size, type and location that most effectively deliver public benefits.

Types of Aid

The grants offered are as follows:

Woodland Planning Grant (WPG) – payment per ha on a sliding scale to support the preparation of management plans that meet UKWAS.

Woodland Assessment Grant (WAG) – a suite of grant payments per ha to support information gathering where there is an identified need based on site sensitivity e.g. Ecological Assessment, Historical and Cultural Heritage.

Woodland Regeneration Grant (WRG) – a suite of grant payments per ha - higher on Ancient Woodland Sites, lower on Secondary Woodland Sites.

Woodland Management Grant (WMG) – a flat rate annual grant per ha (for 5 years) to support basic management activities that underpin sustainability e.g. SSSI woodlands, within Red squirrel reserves, etc.
Woodland Improvement Grant (WIG) – up to 80% of capital costs for projects which sustain and increase public benefits in woodlands. There were national funds for SSSI’s, Biodiversity Action Plan, Red Squirrel and Public Access, plus some regional funds.

Woodland Creation Grant (WCG) – a suite of grant payments per ha to support the creation of properly designed and well located woodlands based on a regional scoring form. The highest payments were for broadleaves, with additional grants for locations close to populations or within the National Forest or Community Forest areas. An annual payment for up to 15 years is available to compensate for the loss of agricultural income where planting is on agricultural land.

Refer to http://www.forestry.gov.uk/forestry/infd-6dccen for further detail.

1.16.2 Operation of the Scheme

To apply for grants under EWGS the applicant and the land in question must be registered on the Rural Land Register (RLR).

When an application is received the FC will consult with other statutory bodies as appropriate. For example applications affecting SSSI’s were sent to English Nature (now part of Natural England). All felling and woodland creation proposals are entered on a Public Register for 28 days for anyone to view and comment upon.

Approved woodland work must be completed and claimed in the claim year agreed in the contract, otherwise the grant offer is lost.

1.16.3 Scheme Achievements

Table 15 The Targets of EWGS

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of new woodland planted with grant aid</td>
<td>30,000 ha</td>
<td>30,921 ha</td>
</tr>
<tr>
<td>(EWGS + WGS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area of new woodland under approved management</td>
<td>300,000 ha</td>
<td>293,802 ha</td>
</tr>
<tr>
<td>schemes (EWGS + WGS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


2006 represented a period of consolidation for EWGS following its opening in 2005. Extra functionality was added to the IT system principally to enable payments and amendments to existing schemes. The first EWGS payments were made on time in April 2006 and, by 31 December 2006, £3.9m of EWGS payments had been made.

Grants made available for the second year of EWGS included two new higher rate contribution WIG’s. These were targeted in the SE region to woodlands where key butterfly species are under threat, and in the SW region to support specific work in Ancient Woodland priority areas. Other active promotion work included encouragement of applications for a WIG focused on improving the condition of woodland SSSI’s in support of government’s Public Service Agreement target to bring 95% of SSSI area into favourable or recovering condition by 2010.

Uptake of the Woodland Management Grant was modest, largely as a result of strict eligibility criteria. These criteria required woodlands over 30 ha to be independently certified under the UK Woodland Assurance Standard as well as being important to the UK Biodiversity Action
Plan. Other woodlands may have qualified, for example, by offering public access where there is a demand.

1.16.4 Discussion

At the end of 2006 the EWGS (and earlier Woodland Grant Scheme) was on course to achieve both new planting and management targets.

The introduction of the EWGS reflected a change in emphasis away from productive forestry and towards public benefits both as objectives for planting and for woodland management.

However, the ERDP has two high level priorities:
1. The creation of a productive and sustainable rural economy.
2. The conservation and enhancement of the rural environment.

The EWGS objectives do not directly address the “creation of a productive and sustainable rural economy”, and changes may be required if the opportunities to plant restored or under utilised land are not to be lost.
Appendix 3

Consultation
1 Scheme Policy Owners

1.1 Introduction

Interviews with Scheme Policy Owners were carried out by ADAS Scheme Specialists. There were four Scheme Specialists covering the 14 schemes:

- Jean Churchward – Agri-Environment Schemes Specialist (CSS, ESA, ELS, OELS and HLS)
- Alex Blair – Forestry Schemes Specialist (WGS, EWGS and FWPS)
- Steve Ford – Project Based Schemes Specialist (VTS, RES, PMG, HFA, ECS)
- David Frost – Organic Farming Scheme Specialist (OFS)

1.2 Methodology

A standard interview guide was developed by the evaluation team. This was then reviewed and endorsed by the Steering Group and a social research methods expert at Defra.

The Steering Group provided guidance on appropriate candidates for interview, who were then approached by the scheme specialists. The interviews were carried out face to face where possible, or over the telephone using the standard interview questions (listed below).

The interviews with Scheme Policy Owners allowed the team to gain an insight into the practicalities and issues with scheme delivery. The outcomes of the interviews have helped to inform the scheme profiles.

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How appropriate to the overall priorities of ERDP were the scheme objectives?</td>
</tr>
<tr>
<td>2</td>
<td>How realistic were the scheme targets? How were they arrived at?</td>
</tr>
<tr>
<td>3</td>
<td>How challenging were the scheme targets to achieve?</td>
</tr>
<tr>
<td>4</td>
<td>What barriers were there to uptake – from the application process?</td>
</tr>
<tr>
<td>5</td>
<td>What was done during the life of the scheme to promote access to the scheme/address any barriers?</td>
</tr>
<tr>
<td>6</td>
<td>Was there good demand for the scheme and was this even across regions/sectors/lifetime of the scheme?</td>
</tr>
<tr>
<td>7</td>
<td>To what extent did external conditions (for example the economic conditions of farming) represent a barrier?</td>
</tr>
<tr>
<td>8</td>
<td>Were there any efforts made, or examples of good practice, to refer applicants to other ERDP schemes?</td>
</tr>
<tr>
<td>9</td>
<td>If so, what were the other ERDP Schemes that were most appropriate to promote to applicants of this scheme?</td>
</tr>
<tr>
<td>10</td>
<td>If you had the chance to run the scheme differently between 2000 and 2006, what would you chose to do differently and why?</td>
</tr>
<tr>
<td>12</td>
<td>Are there any lessons from your experience of this ERDP scheme which you would recommend to implementers of RDPE?</td>
</tr>
<tr>
<td>13</td>
<td>Are there any particular lessons from the monitoring and evaluation of this scheme in the ERDP</td>
</tr>
</tbody>
</table>
which are relevant to RDPE?

14 Are there any other observations at all that you would like to make about the scheme including the relevance of it to RDPE or any future rural development interventions?

1.3 Results

The interview results have been used to inform the scheme profiles written by each specialist, presented in Annex 2.

1.4 Limitations

It is acknowledged that the ex post evaluation is completed two years after the ERDP ended, and accordingly the interviews are dependent upon recalled observations and experiences.

An appropriate Scheme Policy Owner was not available within Defra for PMG. Instead, an interviewee with close associations with PMG was made available for the interview.

1.5 Interviewees

The table below is a list of the Scheme Policy Owners that were interviewed.

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Scheme</th>
<th>Scheme Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Baylis, Defra</td>
<td>CSS, ESA, ELS, OELS, HLS</td>
<td>Jean Churchward</td>
</tr>
<tr>
<td>Martin Ruddy, Natural England</td>
<td>CSS, ESA, ELS, OELS, HLS</td>
<td>Jean Churchward</td>
</tr>
<tr>
<td>Phil Ruff, Natural England</td>
<td>OFS</td>
<td>David Frost</td>
</tr>
<tr>
<td>Gail Hopkins, Natural England</td>
<td>OFS</td>
<td>David Frost</td>
</tr>
<tr>
<td>Andrew Eldridge, Defra</td>
<td>OFS</td>
<td>David Frost</td>
</tr>
<tr>
<td>James Winpenny, Defra</td>
<td>OFS</td>
<td>David Frost</td>
</tr>
<tr>
<td>Dr Simon Pryor, Forestry Commission</td>
<td>WGS, EWGS, FWPS</td>
<td>Alex Blair</td>
</tr>
<tr>
<td>Geoff Howe, Natural England</td>
<td>ECS</td>
<td>Steve Ford</td>
</tr>
<tr>
<td>Marion Jenner, Defra</td>
<td>HFA</td>
<td>Steve Ford</td>
</tr>
<tr>
<td>David Harris, Natural England</td>
<td>PMG</td>
<td>Steve Ford</td>
</tr>
<tr>
<td>Gary Larkman, Defra</td>
<td>RES, VTS</td>
<td>Steve Ford</td>
</tr>
</tbody>
</table>
1 Regional Focus Groups

1.1 Introduction

Regional focus groups brought together public sector representatives ('delivery agencies') and non-governmental organisations ('stakeholders'). The focus groups enabled closer understanding of the ERDP’s operation and examination of key lessons learned. The following is intended as a summary of the comments that were made at the three regional focus groups. The results of the focus groups have been used to inform the discussion and conclusions sections.

1.2 Key Issues

The focus groups generated a wealth of material to help inform the EPE. The groups primarily concentrated on the ERDP itself, with a secondary consideration of monitoring/evaluation, and the future of CAP Pillar 2 policies.

All three of the regional groups agreed that, as a programme, the ERDP had been successful, some schemes more than others. On the whole it was felt that the ERDP was successful in supporting farmers and landowners and had a positive impact on the rural economy and environment.

The focus group conclusions are grouped into 6 key themes (Integration, Administration, External Influences, Sustainability of Outcomes, Facilitation and Management) which are discussed below.

1.2.1 Integration

Integration was a key theme at all three of the focus groups. The topic of integration included: the integration between agencies and stakeholders; bringing together previously unrelated activities; operational and policy integration; and integration at the beneficiary level.

Comments regarding partnership working and bringing together the delivery of previously disparate activities were very positive, on the whole. However, the comments regarding policy and operational integration and the ‘cross selling’ of schemes tended to emphasise the need for improvement in these areas.

Bringing together disparate activities

On the whole, there were very positive views of how the ERDP brought together previously disparate activities under one common programme. In the East Midlands it was felt to be positive that existing schemes (such as Environmentally Sensitive Areas) were incorporated into the ERDP as this aided their integration within a broader rural development agenda.

It was felt that as time went on, projects delivering ‘holistic’ cross benefits were more commonplace. In the South West, delivery agencies spoke of giving priority to schemes that could deliver multiple benefits and complement other projects. In Yorkshire and Humber the need to deliver more joint benefits from projects and funding was emphasised, e.g. new woodland with recreational benefits.
Partnership Working

All regions felt that the ERDP aided and encouraged partnership working between different agencies and stakeholders. This brought benefits and an improved understanding of each other’s work.

Operational and Policy Integration

South West delivery agencies felt that advice to support scheme delivery is separate and not well integrated, both at the national and regional level.

Integration at the beneficiary level

The importance of ‘cross selling’ of schemes (socio-economic and environmental) and the linkages between projects was emphasised in all three regions. Across the regions it was felt that although Project Based Schemes, Woodland Schemes and Agri-Environment Schemes were successful in their own right; there was a lack of integration between them. This was particularly seen as a missed opportunity with VTS. It was felt that VTS could have offered greater benefits or added value and reached a wider audience if it had been linked in with other schemes, for example, as a part of RES. This is also covered under ‘Bureaucracy’.

It was commented that there are three distinct ‘cultures’ pulling in different directions (with stakeholders and agencies representing either the wider rural economy, the environment or agriculture). Therefore, it could sometimes be hard to get all of these interests to work together. In order to deliver holistically and in an integrated way, well trained coordination staff are needed who can identify the potential for more win-win outcomes. In the East Midlands in particular, the absence of ‘cross selling’ and the relatively low occurrence of multi-goal projects was attributed to a lack of awareness and training of staff on the ground.

1.2.2 Administration

Issues surrounding administration were popular topics at all three focus groups; in particular, bureaucracy.

Bureaucracy

A unanimous criticism of the ERDP was that it was too bureaucratic. In the East Midlands it was commented that the programme was so bureaucratic that delivery agencies got the feeling that there was no trust in them to use their own initiative. In the South West it was felt that the ERDP was largely run by bureaucracy rather than how to best deliver useful outcomes and long term sustainable benefits. A consultee in Yorkshire Humber commented that the amount of rules and regulations and over complicated forms put off some applicants. A key criticism was that the same form had to be completed no matter what the project size. It was felt that this could be simplified and scaled down for smaller applications. The application process was streamlined for lower value projects but there was a mixed reaction to this. This is discussed further under ‘Facilitation’.

There was frustration in Yorkshire and Humber over the Regional Chapter; there was some disagreement as to its merit. Stakeholders felt that extensive consultation took place, requiring considerable time input. However, perceptions remained that the resulting Regional Chapter was ‘nebulous’ and ‘a complete waste of time’. Some of the stakeholders felt that rural issues are very much the same wherever you are. Because of this belief, they felt that regional differences are relatively minor and Regional Chapters were not needed. There was some agreement with this, but also disagreement from some of the delivery agencies who felt that the Regional Chapter provided direction and was useful in setting targets and priorities. There were also benefits in bringing people together for the first time and setting the tone for partnership.
working. The point was raised that any regional differences may have been better addressed by a simple targeting statement.

An issue that arose in Yorkshire and Humber and the East Midlands was about the potential value of using an ‘Expression of Interest’ process to help manage demand. A formal Expression of Interest was not used during the pre-application stage, however, there was a virtually unanimous feeling amongst these focus groups that it would have been very beneficial. Expressions of Interest enable potential applicants to find out if their initial ideas are likely to be funded and thus avoids wasting applicants’ time in preparing detailed applications if these are inappropriate, particularly with regard to Project Based Schemes. In Yorkshire and Humber, delivery agencies spoke of an informal Expression of Interest approach that they had employed. This meant applicants could come and talk to them and they could then advise them on how likely they were to succeed with an application, before taking it any further.

The various stipulations of VTS, such as the minimum number of training days delivered, were stated in all three regions as key factors in its perceived failure to deliver good value for money. It was felt that such schemes should be less driven by bureaucracy and more tailored to the needs of the applicants.

Despite this perception of the ERDP being overly bureaucratic, it was generally felt that things improved as the programme progressed and all the partners and delivery agencies developed more familiarity with the process and each other’s goals and ways of working.

Communication

The need for the use of plain and simple English in scheme literature was highlighted at the Yorkshire and Humber focus group. It was felt that this would improve uptake, as a stakeholder in the East Midlands pointed out ‘rural businesses don’t live in the world of policy and strategy’.

Over complicated language and guidelines were identified as a problem for applicants, but also for delivery staff and stakeholders. There were challenges with understanding the Programme complexities and funding rules, which were exacerbated by the language and style used to interpret them. Plain English and simple, clear explanations of the rules would have helped.

The targeting statements were more popular, but it was felt that there could be greater flexibility. Simple, focused targeting statements that can adapt to change were a popular suggestion at the Yorkshire and Humber focus group.

It was widely commented that it would be useful for those involved in the appraisal of projects to have the opportunity to see successful projects on the ground as this would promote understanding and awareness. This is also covered under ‘Management’.

In the South West sharing of successful projects was used as a promotional tool in an attempt to increase uptake.

In Yorkshire and Humber the impression was that, as time went on, farmers and land owners became less sceptical of the ERDP and understood its value.

1.2.3 External influences

There were numerous external influences that were cited as factors that would have affected the success of the ERDP, including: changing political and socio-economic background; changing markets; unforeseen events; environmental awareness; and institutional changes.

Context

In all of the regions, there was a strong recognition that external influences shaped the programme’s development and success, for example market changes (such as demand for products and commodity prices) and political and socio-economic issues (such as the popularity of bio fuels as a renewable energy source). EGS was cited as an example of a scheme that suffered due to political changes at all three focus groups.
The impact of unforeseen events such as foot and mouth disease on the success of the programme was also discussed. In Yorkshire and Humber the role that the ERDP funding played in supporting farmers through this difficult time was acknowledged.

In Yorkshire and Humber it was observed that there was a development in beneficiaries’ awareness of environmental issues as the ERDP went on. It was felt that the ERDP played an important role in this amongst landowners and farmers. However, the increase in wider society’s environmental awareness was also acknowledged. Environmental issues have become more central to the general public’s consciousness between 2000 and 2006.

Institutional changes

There was a perception that the institutional changes that took place between 2000 and 2006, particularly in respect of rural delivery, 2004 - 2006, led to a drop in applications and a loss in knowledge and skills. If this is indeed the case, it would be likely to have impacted upon the overall success of the ERDP. The impact of institutional changes is covered further under ‘Management’.

1.2.4 Sustainability of outcomes

When asked about how success should be measured, the long term sustainability of the projects was a priority in all of the regions. In the South West in particular, sustainability was central to the discussions.

Legacy of ERDP

The importance of quality, enduring projects was emphasised in all of the focus groups. It was felt that the legacy of a scheme should be one of the most important indicators of success as opposed to ‘getting money out of the door’. They identified a risk of poorer quality, unsustainable projects arising from the obligation to spend the allocated budgets. This was an issue that was particularly emphasised in the South West focus group.

Robust Business Plans

In Yorkshire and Humber, the importance of ensuring (at the outset) that business plans are robust and sustainable in the long term was identified as a key issue in delivering long lasting benefits. This is discussed further under ‘Facilitation’.

A Proactive, Targeted Approach

In the East Midlands and Yorkshire and Humber the consultees raised the point that there would be better socio-economic and environmental outcomes if there had been a more targeted approach. Both regions described the approach taken as a reactive ‘scatter gunning’ of projects and scheme agreements. It was felt that benefits would be increased if there was a more targeted, proactive approach. An example of this is the additional environmental benefits that could arise from targeting a large area of land and all the beneficiaries within that landscape, as opposed to small parcels of land dotted around the region.

Measuring Success

Whilst it was unanimously felt that the sustainability and legacy of projects was of crucial importance, what was less clear was how this could, or should, be measured. Key questions were: ‘what constitutes longevity’ and ‘what would be appropriate targets to apply when appraising and assessing projects’?

An issue that was stressed at the East Midlands and Yorkshire and Humber focus groups was that there should be more of an emphasis on moving towards environmental enhancement and not merely maintaining the status quo, with agri-environment funding.

Reporting and monitoring are covered further under ‘Management’.
1.2.5 Facilitation

The importance of facilitation was a popular topic at all three focus groups, with the general feeling being that facilitation is very important in helping to deliver successful outcomes. Most felt that more facilitation on the ground was needed than was available under ERDP, though it is vital that adequate timescales, resources and training are provided, if it is to be a success.

Risk

Facilitation can be employed as a risk management tool. In all three of the regions, the importance of practical, on the ground support for applicants was emphasised in improving the quality of projects and minimising the risk of unsuccessful projects. An example of this is helping applicants to develop more sustainable, robust business plans.

There were mixed feelings about the streamlining of the application process for lower cost projects (cutting out the Regional Appraisal Panel). In the South West it was felt that this led to a decrease in quality and an increase in risk. However, this was not identified as a problem in the other regions.

Managing Expectations

The management of applicants’ expectations was emphasised in all regions as an important aspect of effective programme delivery. In Yorkshire and Humber, the group also talked about the importance of ensuring that applicants understood the responsibilities and obligations that they were signing up to.

Approach

In the East Midlands, the value of informal engagement was discussed. Drop-in clinics were run in the region and applicants could come in and talk to advisors about their ideas, on a casual basis. It was felt that this more relaxed approach was more useful than formal one-to-one facilitation for each potential applicant, in many cases.

In Yorkshire and Humber it was felt that informal engagement with applicants in the early stages was extremely valuable. The delivery agencies employed an informal kind of ‘Expression of Interest’ to advise people on how likely they were to succeed and to give advice on the application.

Trust

It was felt to be of utmost importance that applicants/beneficiaries trust Defra and the delivery agencies, and that this was an issue which had applied to ERDP. If there is no trust, then there will be fewer applications and projects are less likely to be successful. Moving the goalposts (i.e. the rapidly changing required points threshold for an HLS agreement, during the first year that this scheme was made available) and not communicating clearly and openly with applicants are two of the examples given that had a negative effect on trust and the relationship between delivery agencies and applicants/beneficiaries. For ERDP, the relatively low level of facilitation support would have contributed to a lack of trust in the programme, in some cases.

Improving Uptake

Ways of improving uptake were discussed at all three focus groups and the key points were:

- Better publicity of schemes and the benefits – including promoting successful local examples
- Targeting ‘hard to reach’ groups – there is a perception that those that really need the money the most don’t get it, perhaps because they lack the confidence or business acumen to apply. Stronger facilitation could help to address this issue.
The Right People

The importance of using the ‘right people for the job’ was discussed, in respect of scheme advisors. Advisors that work on the ground should be able to talk intelligently about relevant issues. This wasn’t always the case for all ERDP schemes as the advisors didn’t always have an understanding of a wide range of issues. There was some commentary that advisers for the agri-environment schemes lacked agronomic knowledge, for example. It is also important that advisors have strong communication skills.

In the East Midlands there was criticism of the lack of recognition by scheme advisers and delivery agencies of applicants’ existing knowledge and skills. Farmers generally have a lot of skill and knowledge when it comes to land management. This wasn’t always recognised by staff, so there was a feeling that farmers ended up being patronised. The group thought that this was due to a lack of awareness and training of agency staff.

A stakeholder in the East Midlands suggested that there should be an ‘expert panel’ supporting the work of the main delivery agencies, which could offer constructive advice on proposals and promote and identify opportunities for joint benefits from schemes or projects.

1.2.6 Management

Risk Taking

In Yorkshire and Humber, the point was raised that there did need to be a certain level of risk taking by scheme deliverers in order to see greater benefits. There was a feeling that Defra was over-cautious and should have explored the potential for innovation more, under ERDP.

Transition Planning

Better transition planning is essential for future Programmes to ease the pressures and problems of funding gaps and institutional changes during the programme period, such as those that occurred with ERDP.

Exit Strategy

The need for a comprehensive ‘exit strategy’ for schemes that are closing or changing their method of delivery was discussed at all of the focus groups. This was particularly important to the attendees at the South West focus group. It was said that in the last few months of the programme, funds were running out, but a lot of applications were still coming in. Some of the stakeholders felt that applicants were misled and weren’t told that funds were running out so they were unlikely to succeed with their application. This led to applicants feeling that they had wasted time and resources.

Reporting

A point that arose on a number of occasions was that a thorough, up to date baseline is required against which to measure results. The outcomes should be related back to the baseline information and the objectives of the targeting statement or Regional Chapter. This was seen as a particularly important issue in the East Midlands and Yorkshire and Humber. The lack of a satisfactory baseline was said to be due to a lack of resourcing for this at the start of the programme. At the East Midlands focus group, it was suggested that organisations that hold and manage baseline data (such as the Biological Records Centre) should be more strongly supported. The information that they hold is vital and it was felt that more funding is needed to ensure that the data is captured and retained during the programme period.

Reporting was a popular topic in all three of the regions. The key points were:

- Reporting should be fit for purpose and show how well the schemes are meeting the targets set (or not)
- The ERDP computer systems were ‘rudimentary’ and ‘archaic’ and did not allow analysis of trends over time
Delivery Agencies had to ‘talk two languages’, i.e. what Defra considers to be a success isn’t necessarily the same as how beneficiaries would measure success. Additionally, Defra reporting requirements don’t tend to tie in with other requirements such as UK BAP reporting.

There were difficulties in capturing any unexpected outcomes (positive or negative) from projects or schemes, due to a lack of flexibility in the reporting framework and the systems used.

Gathering more qualitative evidence alongside the basic output data would add colour and depth to our understanding of what the programme has achieved.

The challenges of recording multiple benefits (these are often indirect and are therefore not captured by the formal reporting process)

In the East Midlands it was remarked that there were no common indicators that could be used to measure the holistic achievements of the programme and that they now have to sit down and develop some for RDPE. It would have been very useful to have a central, formal monitoring framework designed to capture all the different impacts of projects and schemes for all to use.

### Flexibility

A need for regular ‘health checks’ to review progress against the ERDP goals and targets was identified. All three regions agreed that there needed to be flexibility to make changes to the Programme if necessary. This links in with ‘Context’.

### Appreciation of Day to Day Issues

It was agreed at all of the focus groups that it would be valuable for centrally-based policy makers and more agency delivery staff to see completed real-life projects in order to gain an appreciation of the day to day issues that affect scheme performance.

### Methodology

The three regions where focus groups were held were the East Midlands, Yorkshire and Humber and the South West; because detailed profiles of these regions were developed at the Mid Term Evaluation. The evaluators worked closely with Defra, Government Offices and former members of the various ERDP groups to identify suitable participants.

Invitations were sent to public sector representatives, including Forestry Commission, Natural England, Regional Development Agencies and Government Offices. The stakeholders were invited from across the rural affairs, economic, environmental and social sectors. Participants were either formally involved in ERDP delivery or were engaged as active stakeholders during the programme period.

Independent moderators recorded each focus group and transcribed the results, including making behavioural observations. Initial codes were then generated to classify the responses gathered, and common themes were developed, revised and defined. Key themes from each focus group were summarised and circulated to attendees and to those that sent apologies. This helped ensure that the issues picked up on by the moderators were agreed as giving a good representation of the discussions that took place.

### Limitations

It is acknowledged that the ex post evaluation is completed two years after the ERDP ended, and accordingly the focus group is dependent upon recalled observations and experience.

The moderators sought to have equal representatives from delivery agencies and stakeholder organisations; however, resourcing constraints and short-notice cancellations meant that the public sector bodies generally had a larger presence at the three meetings that were held.
1.5 Consultees

The following is a record of the location, dates and attendees of each of the regional focus groups.

1.5.1 South West Focus Group

Date: 25th September 2008

Time: 10am – 12 noon

Facilitators: Sarah Milne, Gemma Blackler and Jon Bevan, Hyder Consulting

Location: Hyder Consulting, 5th Floor, The Pithay, All Saints Street. Bristol. BS1 2NL

Attendees:

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Tidy</td>
<td>South West Regional Development Agency</td>
</tr>
<tr>
<td>Maddie Rowland</td>
<td>South West Regional Development Agency</td>
</tr>
<tr>
<td>Mark Watson</td>
<td>Natural England</td>
</tr>
<tr>
<td>Steve Marston</td>
<td>Natural England</td>
</tr>
<tr>
<td>Peter Dunning</td>
<td>South West Acre Network</td>
</tr>
<tr>
<td>Gillian Collins</td>
<td>South West Chamber of Rural Enterprise</td>
</tr>
<tr>
<td>Tim Brooks</td>
<td>Farming and Wildlife Advisory Group</td>
</tr>
<tr>
<td>Steve Colderick</td>
<td>Forestry Commission</td>
</tr>
<tr>
<td>Rob Iles</td>
<td>English Heritage</td>
</tr>
<tr>
<td>Rod Porter</td>
<td>Ramblers Association</td>
</tr>
<tr>
<td>Apologies</td>
<td></td>
</tr>
<tr>
<td>Phil Owens</td>
<td>Natural England</td>
</tr>
</tbody>
</table>
1.5.2 East Midlands Focus Group

Date: 29th September 2008

Time: 2.30pm – 4.30pm

Facilitators: Sarah Milne and Gemma Blackler, Hyder Consulting and Janet Dwyer, Countryside and Community Research Institute

Location: Government Office for the East Midlands, The Belgrave Centre, Stanley Place, Talbot Street, Nottingham, NG1 5GG.

Attendees:

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Stubbs</td>
<td>East Midlands Development Agency</td>
</tr>
<tr>
<td>Melanie Fischer</td>
<td>East Midlands Development Agency</td>
</tr>
<tr>
<td>Sue Buckenham</td>
<td>Natural England</td>
</tr>
<tr>
<td>Ken Johnston</td>
<td>Natural England</td>
</tr>
<tr>
<td>Ian White</td>
<td>Government Office East Midlands</td>
</tr>
<tr>
<td>Alex Bowness</td>
<td>Government Office East Midlands</td>
</tr>
<tr>
<td>Lynsey Craig</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>Anna Hall</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>Helen Wooley</td>
<td>Country Land and Business Association</td>
</tr>
<tr>
<td>Charlotte Gault</td>
<td>Wildlife Trust</td>
</tr>
<tr>
<td>Apologies</td>
<td></td>
</tr>
<tr>
<td>Simon Fisher</td>
<td>National Farmers Union</td>
</tr>
<tr>
<td>Frank Thomas</td>
<td>Campaign for the Protection of Rural England</td>
</tr>
<tr>
<td>Suzanne Fletcher</td>
<td>Peak District National Park</td>
</tr>
</tbody>
</table>
1.5.3 Yorkshire and Humber Focus Group

**Date:** 2nd October 2008

**Time:** 10am – 12 noon

**Facilitators:** Sarah Milne and Gemma Blackler, Hyder Consulting

**Location:** Government Office for Yorkshire and the Humber, Lateral, 8 City Walk, Leeds, LS11 9AT

**Attendees:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Bainbridge</td>
<td>Yorkshire Forward Regional Development Agency</td>
</tr>
<tr>
<td>Emily Ledder</td>
<td>Natural England</td>
</tr>
<tr>
<td>Rachel Ashelford</td>
<td>Natural England</td>
</tr>
<tr>
<td>Sue Ogilvy</td>
<td>Natural England</td>
</tr>
<tr>
<td>David Carter</td>
<td>Natural England</td>
</tr>
<tr>
<td>Martin O’Hanlon</td>
<td>Natural England</td>
</tr>
<tr>
<td>Peter Welsh</td>
<td>Natural England</td>
</tr>
<tr>
<td>Ian Smith</td>
<td>Government Office Yorkshire Humber</td>
</tr>
<tr>
<td>Iain McDonnell</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>Sara Metcalfe</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>Richard Ellison</td>
<td>National Farmers Union</td>
</tr>
<tr>
<td>Crispin Thorn</td>
<td>Forestry Commission</td>
</tr>
<tr>
<td>Dorothy Fairburn</td>
<td>Country Land and Business Association</td>
</tr>
</tbody>
</table>

**Apologies**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Barfoot</td>
<td>North Yorkshire Moors National Park Authority</td>
</tr>
<tr>
<td>Gill Stride</td>
<td>Campaign for the Protection of Rural England</td>
</tr>
<tr>
<td>Jenny Haynes</td>
<td>Campaign for the Protection of Rural England</td>
</tr>
</tbody>
</table>
1 Introduction

The interviews were carried out with public sector representatives (‘delivery agencies’) and non-governmental organisations (‘stakeholders’). The interviews enabled detailed perspectives to be gained on the successes, challenges and key lessons from the ERDP.

2 Themes

Interviews were opened with a general discussion of overall perceptions of the ERDP. Consultees highlighted the ‘sound ethos’ of the Programme, a ‘clear vision’ and range of measures available with good uptake for the schemes. The ERDP’s delivery arrangements were strongly debated, but the value of bringing together stakeholders and delivery bodies, as well as the transparency, were emphasised.

Precise policy direction from ‘the top’ was identified as essential to the underlying programme components of objectives, targets, implementation and monitoring. The project based schemes (PBS), in particular, were felt to lack in this regard. Poor clarity in objectives was perceived as a limitation to the actual benefits that could be delivered. A need to focus on outcomes, rather than outputs, was expressed, although the existing ‘audits culture’ would need to be ‘shaken off’ for this to happen. Clear objectives were also required in order to achieve support from potential beneficiaries. This would then enable schemes to grow in momentum, attract positive attention/promotion, and obtain a critical mass in membership numbers. The need for continuity in objectives was also highlighted for farmers, in particular, to take a longer-term view about their businesses.

The customer perspective arose frequently in interviews. The image presented by managing authority representatives was seen as important. One public sector consultee considered that the field staff did not relate closely to one another, meaning that customers did not often realise that everyone operated under one umbrella organisation, Defra, and one umbrella Programme. A second consultee considered that greater interagency partnership may help avoid local competition for grants (although evidence of this has not been raised elsewhere in the EPE).

Looking across all of the interviews, it is clear that the ERDP had some successes in its customer relations, but also how easily customer confidence could be lost.

Discussions around value for money were also held. Consultees identified the low transfer rates of agri-environment scheme members into the new Environmental Stewardship as a risk, particularly the forthcoming cohort of Countryside Stewardship beneficiaries whose agreements expire in 2010. Nonetheless, looking at the ERDP itself, the introduction of geographic and thematic targeting was seen to improve value for money, when compared to previous programming periods.

Opinions regarding highly targeted approaches and comparisons to ‘broad and shallow’ schemes varied widely. The low administration costs of the Entry Level Scheme were seen favourably, as was its ‘open to all’ rationale. Nonetheless, wide uptake of the scheme was seen as essential if the broad and shallow approach is to be effective at delivering noticeable improvements across a landscape. Concerns were raised that the entry level approach, however, may simply ‘hold the status quo’ of environmental quality. The untargeted approach was also perceived as having a limited ability to address resource protection, particularly when measures may not be matched spatially to risk (e.g. flood zones).

As the interviews progressed into the finer details of the ERDP, the theme of integration draws together several comments made. The former agri-environment schemes of Countryside Stewardship (CSS) and Environmentally Sensitive Areas (ESA) were cited as examples of good practice, bringing multiple benefits. One consultee highlighted a farm building restoration, designed to bring environmental benefits, but also additional visual improvements to the
landscape which may be appreciated by tourists. The unrecorded jobs supported ‘downstream’ by suppliers and craftsmen were also identified. Woodland schemes were also considered to bring multiple benefits across landscape quality, recreation, biodiversity and supported employment. Insufficient funding for facilitation was noted as one constraint upon such collaborative projects, particularly at the launch stage.

Whilst frustrations with the funding rules were expressed, the limited ability to make changes was acknowledged. The need to balance strict financial controls with uptake was noted. Secondly, the complex funding rules (arising from different accounting years and spending requirements) were perceived as burdensome to interpret. Challenges were seen with approving only the highest quality projects, but still ensuring that budgets were spent within the allotted timeframe. One, in particular, questioned whether additionality could have been proven for some approved projects: suggesting that the pressure to spend money could result in lower quality projects being funded.

Interviews also sought perspectives on change management. In particular the handover of project based schemes to Regional Development Agencies (RDAs) was brought up. Generally, it was felt that the handover had gone reasonably well in business terms. Schemes were closed to new applicants before handover to RDAs, meaning no live business was inherited. Difficulties were encountered, however, with perceived cultural differences. One noted that the RDAs found CAP-related funding ‘quite foreign.’ However, a general consensus was that it is too early to judge the effectiveness of the transfer, and that a ‘learning curve’ is being followed still. Other changes within the ERDP period were raised, such as the creation of Natural England. The impact upon staff morale and stress levels was emphasised. A desire for stronger change management and programme management was raised. This included looking ahead at potential risks and proactively identifying controls.

3 Method

National representatives for consultation were identified through liaison with Defra and the Steering Group. The consultation comprised semi-structured interviews, face to face or over the telephone.

Invites were sent to public sector representatives including Natural England, Environment Agency and Defra. The stakeholders were invited from across the rural affairs, economic, environmental and social sectors.

It is acknowledged that the ex post evaluation is completed two years after the ERDP ended, and accordingly the consultation is dependent upon recalled observations and experiences. Two participants did not contribute views on the ERDP itself, since their organisations’ ERDP specialist was no longer working with them / not available.

Consultees interviewed as part of the national consultation are listed below:

- Jamie Letts – Environment Agency
- Nick Grant – Rural Payments Agency
- Andrew Clark – NFU
- Steve Chaplin – Natural England
- Rebecca Frost – Commission for Rural Communities
- Steve Trow – English Heritage
- Peter Gaskell – Heritage Link
- Louise Cavender – RSPB
- Dave Stewart – Rural Affairs Forum
- Ian Woodhurst – CPRE
- Tom Oliver – CPRE
- Dominic Rowland – Defra
- Peter Barfoot – National Parks Authority
- Dr Derrick Wilkinson – Country Land and Business Association
- Chloe Palmer – Farming and Wildlife Advisory Group
- Richard Britton – Forestry Commission
Appendix 4

Questionnaire
Annex 4 - Questionnaire
**England Rural Development Programme (ERDP) Survey**

### Section 1

1. Is your business/organisation….. (tick one box only)
   - A farm [ ]
   - Community/voluntary group [ ]
   - Forestry holding [ ]
   - Other type of enterprise/organisation (Please describe below) [ ]

2. Which of the following best describes your business? (tick one box only)
   - Family owned [ ]
   - Corporate business [ ]
   - Local Authority operation [ ]
   - Trust/Charity/Voluntary group/NGO operation [ ]

3. We need to get an understanding of the number of people in your “Business Family”. By this we mean members of your immediate and extended family, including yourself, who benefit in some way from your business (e.g. income, keep or accommodation on a farm).

   Please can you give the number of people who you feel fall into the category of your “Business Family”?

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults over 65 yrs</td>
<td></td>
</tr>
<tr>
<td>Adults 22 - 65 yrs</td>
<td></td>
</tr>
<tr>
<td>Young adults 16 - 21 yrs</td>
<td></td>
</tr>
<tr>
<td>Children 15 yrs and under</td>
<td></td>
</tr>
</tbody>
</table>

4. If your business is a farm, approximately, what proportion of your ‘business family’ income in 2006 came from each of the following sources? (Please tick one box in each row, ensuring the percentages don’t add to more than 100%)

   **If your business is not a farm skip to Q5**

<table>
<thead>
<tr>
<th>None</th>
<th>1 - 10%</th>
<th>11 - 25%</th>
<th>26 - 50%</th>
<th>Above 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming Activities (e.g. crops, livestock, farming subsidies)</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Diversification (e.g. adding value to produce, rented accommodation, livery)</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Off-farm income (e.g. wages, pensions, investments)</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

   **Note:** “Business family” definition at Q3

5. What is the age make up of the permanent staff working in your business? Enter the number of people in each box

<table>
<thead>
<tr>
<th>Owner/partner</th>
<th>Family staff</th>
<th>Other staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 - 39 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 - 65 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 65 yrs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   - Yes [ ]
   - No [ ]
The England Rural Development programme (ERDP) was an initiative to bring a range of agri-environment and rural development schemes under a single umbrella. The following schemes were part of this initiative. We would like to ask you a few questions to determine which schemes you received money from under ERDP.

7. Did you have an agreement with or receive money from the following schemes between 1st January 2000 and 31st December 2006?  

**Please note the time period as this is important**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countryside Stewardship Scheme (CSS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Environmentally Sensitive Area Scheme (ESA)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Organic Farming Scheme (OFS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hill Farming Allowance (HFA)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Woodland Grant Scheme (WGS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Farm Woodland Premium Scheme (FWPS)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

8a. Have you received a grant from:  

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Enterprise Scheme (RES)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Process and Marketing Grant Scheme (PMG)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Energy Crops Scheme (ECS)?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

8b. Have you or any of your employees received training through the Vocational Training Scheme (VTS) between 2000 and 2006?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

8c. Did you have an agreement with or receive money from the following schemes before 31st Dec 2006?  

**Please note the time period as this is important** For this survey we do not need to know about agreements in ELS, HLS, OELS or EWGS where you joined after 31st Dec 2006.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Level Stewardship (ELS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Higher Level Stewardship (HLS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Organic Entry Level Stewardship (OELS)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>English Woodland Grant Scheme (EWGS)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Important: Please Read This Note Before Moving To Section 2

Thinking about your answers at Question 8:

If you have ticked “yes” for only one scheme in Question 8 answer section 2 about this scheme then skip to section 4.

If you ticked “yes” for two or more schemes in Question 8 please answer the next 2 sections about the two schemes that you received the most money from.

It is very important that we know which schemes you are providing information for, so please tick the relevant scheme at section 2 and section 3.
Section 2

9. Which of the schemes from Question 8 are you providing information about in this section? (Please tick one box only)
   - Rural Enterprise Scheme (RES)?
   - Process and Marketing Grant Scheme (PMG)?
   - Vocational Training Scheme (VTS)?
   - Energy Crops Scheme (ECS)?
   - Entry Level Stewardship (ELS)?
   - Higher Level Stewardship (HLS)?
   - Organic Entry Level Stewardship (OELS)?
   - English Woodland Grant Scheme (EWGS)?

   Remember only tick any of these schemes if you had an agreement with or received money from the scheme before 31st December 2006

   Answer Questions 10-13 about the scheme ticked at Question 9

10. We need to understand your business employment structure and assess the impact the ERDP scheme has had on your staffing levels. In order to do this we need your assessment of this impact. Please provide details of your workforce below and indicate what impact the scheme initiatives have had on these posts.

   Remember only answer the question about the impact of the scheme you have ticked at Q9

   Enter the number of people in the boxes provided

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total number of people employed in your business including yourself</td>
<td>How many of these jobs (Column a) were created as a direct result of the ERDP scheme ticked at Q9</td>
<td>How many of the existing posts (at column a) have been safeguarded as a direct result of the ERDP scheme ticked at Q9</td>
</tr>
<tr>
<td>Full-time family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time employee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casuqals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed (not family)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. How much do you agree or disagree with the following statements:

   Tick one box for each statement

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree or disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My ERDP funded projects would not have happened without the grant from the scheme ticked at Q9</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My ERDP funded projects would have happened more slowly without the grant from the scheme ticked at Q9</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My ERDP funded project would have been smaller if there were no grant from the scheme ticked at Q9</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

12. What has been the financial effect of the ERDP scheme ticked at Q9 on your business? Tick one box only

<table>
<thead>
<tr>
<th></th>
<th>Negative effect (i.e. it has cost me money)</th>
<th>Some contribution to income</th>
<th>No effect (i.e. cost neutral)</th>
<th>Significant contribution to income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Don't know</td>
</tr>
</tbody>
</table>
13. What has been the financial effect of the scheme ticked at Q9, on your suppliers, customers and competitors?

Tick one box for suppliers, one for customers, one for competitors

<table>
<thead>
<tr>
<th>Effect</th>
<th>On suppliers</th>
<th>On customers</th>
<th>On competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficial effect</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No effect</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Negative effect</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

If you only ticked “Yes” for one scheme at Question 8 move on to Section 4
If you ticked “Yes” for more than one scheme at Question 8 continue to Section 3

Section 3

14. Which is the second scheme from Question 8 that you are providing information about? (Please tick one box only)

- Rural Enterprise Scheme (RES)? 1
- Process and Marketing Grant Scheme (PMG)? 2
- Vocational Training Scheme (VTS)? 3
- Energy Crops Scheme (ECS)? 4
- Entry Level Stewardship (ELS)? 5
- Higher Level Stewardship (HLS)? 6
- Organic Entry Level Stewardship (OELS)? 7
- English Woodland Grant Scheme (EWGS)? 8

Remember only tick any of the following schemes if you had an agreement with or received money from the scheme before 31st December 2006

Answer Questions 15-18 about the scheme ticked at Q14

15. We need to understand your business employment structure and assess the impact the ERDP scheme has had on your staffing levels. In order to do this we need your assessment of this impact. Please provide details of your workforce below and indicate what impact the scheme initiatives have had on these posts.

Remember only answer the question about the impact of the scheme you have ticked at Q14

(a) Total number of people employed in your business. Please use the same information as you entered in (Column a) at Q10

<table>
<thead>
<tr>
<th>Employment Type</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casuals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed (not family)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) How many of these jobs (Column a) were created as a direct result of the ERDP scheme ticked at Q14

<table>
<thead>
<tr>
<th>Employment Type</th>
<th>Column a</th>
<th>Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casuals</td>
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(c) How many of the existing posts (at column a) have been safeguarded as a direct result of the ERDP scheme ticked at Q14

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16. How much do you agree or disagree with the following statements....

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<th>Tick one box for each statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree or disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tr>
<td>My ERDP funded projects would not have happened without the grant from the scheme ticked at Q14</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>My ERDP funded projects would have happened more slowly without the grant from the scheme ticked at Q14</td>
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<td>My ERDP funded project would have been smaller if there were no grant from the scheme ticked at Q14</td>
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<td>2</td>
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<td>5</td>
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17. What has been the financial effect of the scheme ticked at Q14 on your business? Tick one box only

| Negative effect (i.e. it has cost me money) | 1 |
| No effect (i.e. cost neutral)               | 2 |
| Some contribution to income                 | 3 |
| Significant contribution to income          | 4 |
| Don't know                                  | 5 |

18. What has been the financial effect of the scheme ticked at Q14 on your suppliers, customers and competitors?

| Beneficial effect | 1 |
| No effect         | 2 |
| Negative effect   | 3 |
| Don't know        | 4 |

Section 4 - Rural Enterprise Scheme (RES)

Only answer this section if you have received funding under the Rural Enterprise Scheme (RES) i.e. you ticked “yes” for RES at Question 8

(If you have not had RES funding skip to Section 5)

19. Was your RES project related to tourism? Yes 1 No 2

20. Did your RES project involve craft based activities? Yes 1 No 2

21. By approximately how much has your average annual business income increased as a result of the RES grant? Please give this amount in pounds sterling and exclusive of all your costs. £

Section 5 - Energy Crops Scheme (ECS)

Answer this section if you have received a grant through the Energy Crops Scheme (ECS) i.e. you ticked “yes” for ECS at Question 8

(If you are not in ECS skip to Section 6)

22. Have you planted or do you grow Miscanthus or Short Rotation Coppice (SRC)? (Please tick all appropriate)

| Miscanthus | 1 |
| Short rotation coppice | 2 |
| Neither | 3 |

23. How many hectares of Miscanthus and/or Short Rotation Coppice do you have?

| Miscanthus | ha |
| Short rotation coppice | ha |
24. On average what is the total value of Miscanthus and/or Short Rotation Coppice that you sell each year? Please give your answer in pounds sterling.

Miscanthus £
Short rotation coppice £

If none harvested yet, tick this box and skip to Q26

25. How many days of farm labour per year (including family labour) would you estimate that it takes to grow, harvest and sell the Miscanthus and/or Short rotation coppice that you told us about at Q24? Exclude contract labour from your figure.

Miscanthus _______ days per year
Short rotation coppice _______ days per year

Section 6 - Vocational Training Scheme (VTS)

Answer this section if you or your employees have received training through the Vocational Training Scheme (VTS) between 2000 and 2006 i.e. you ticked “yes” for VTS at Question 8

(If you have not had training through VTS skip to Section 7)

26. Please answer question 25a-d within the table below by entering the number of farmers and/or employees in the spaces provided.

(a) How many people within your business, including yourself, received training through the Vocational Training Scheme (VTS) between 2000 and 2006
(b) How many of those who received training received better pay as a result of the training
(c) How many of those who received training received non-financial benefits such as increased job satisfaction, greater work security & better working conditions
(d) In total how many people benefitted from better pay and/or other non-financial benefits

Farmer or Woodland manager/tenant

Employees

Please note that employees includes farm managers, forestry managers, estate managers as well as all other employees, both full time and part time. Do not include contract workers.

Section 7 - Process and Marketing Grant Scheme (PMG)

Answer this section if you received funding through the Process and Marketing Grant Scheme i.e. you ticked “yes” for PMG at Question 8

(If you have not received PMG funding go to the end of the questionnaire)

27. Thinking of all the time your processing line is available for use, what percentage of this time on average is it actually used?

%  

28. As a result of the Process and Marketing Grant, are you: tick one box only

Producing more product 1
Processing product more quickly 2
Benefitting from other efficiencies related to processing 3
Not experiencing any benefits or negative effects related to processing 4
Experiencing negative effects related to processing 5

Thank you for taking part in this survey. Please return this questionnaire by 5th December in the envelope provided to: QPSMR Ltd, 3 Thames Park, Lester Way, Wallingford, Oxon, OX10 9YZ (QPSMR are handling the questionnaires on behalf of ADAS)

We assure you that all survey data will be aggregated for reporting purposes, individual responses will not be identifiable

Your responses will only be used for the purpose of this survey.
Appendix 5

Detailed answers to evaluation questions
Defra

Ex Post Evaluation of England Rural Development Programme

Annex 5: answers to common evaluation questions
Defra

Ex Post Evaluation of England Rural Development Programme

Editors  S Milne and M Temple

Checker  J Dwyer

Approver  B Lascelles

Report No  009-WX23525-BR-R-02

Date  23 December 2008

This report has been prepared for Defra in accordance with the terms and conditions of appointment for Ex Post Evaluation of ERDP dated 11 June 2008. Hyder Consulting (UK) Limited (2212959) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.
Annex 5 Detailed Answers to Commission Questions
**Evaluation Questions Addressed by Evaluation Team**

The Following table lists all the EC Evaluation questions. The Evaluation team addressed those questions listed. The reason why the others were not addressed is generally either because the ERDP Chapter was not adopted in England, or the Baseline study commissioned by Defra identified the question as not being applicable to England.

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The Ex-post Evaluation of the ERDP

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Chapter I. Investments in Agricultural Holdings

Indicator ref. I.1-1.1

To what extent have supported investments improved the income of beneficiary farmers?

Criteria
The income of beneficiary farmers has improved

Indicator
“Gross farm income” of assisted holdings

Scheme
Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)

Answer
[To be completed]

Explanation of Sources and calculations
See I.1-1.1(a) and (b) for RES and ECS

References to data sources
Chapter I. Investments in Agricultural Holdings

Indicator ref. I.1-1.1

To what extent have supported investments improved the income of beneficiary farmers?

Criteria
The income of beneficiary farmers has improved

Indicator
“Gross farm income” of assisted holdings

Scheme
Energy Crop Scheme (ECS)

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
### Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.1-1.1**

To what extent have supported investments improved the income of beneficiary farmers?

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**Explanation of Sources and calculations**

**References to data sources**
## Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.2-1.1**

To what extent have supported investments contributed to a better use of production factors on holdings?

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<td>Output per hectare on assisted holdings (€/h). Total outputs are defined in Annex 1</td>
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<td>Scheme</td>
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**Explanation of Sources and calculations**
See I.2-1.1 for RES and ECS

**References to data sources**
## Chapter I. Investments in Agricultural Holdings

<table>
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To what extent have supported investments contributed to a better use of production factors on holdings?

**Criteria**  
Increase in factor productivity

**Indicator**  
Output per hectare on assisted holdings (€/ha). Total outputs are defined in Annex 1

**Scheme**  
Energy Crop Scheme (ECS)

**Answer**  
[To be completed]

### Explanation of Sources and calculations

### References to data sources
## Chapter I. Investments in Agricultural Holdings

### Indicator ref. I.2-1.1

To what extent have supported investments contributed to a better use of production factors on holdings?

**Criteria**
Increase in factor productivity

**Indicator**
Output per hectare on assisted holdings (€/h). Total outputs are defined in Annex 1

**Scheme**
Rural Enterprise Scheme (RES)

**Answer**
N/A

**Explanation of Sources and calculations**
N/A Defra Baseline Study.

**References to data sources**
### Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.2-1.2**

To what extent have supported investments contributed to a better use of production factors on holdings?

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**Explanation of Sources and calculations**

See I.2-1.2 for RES and ECS

**References to data sources**

Chapter I. Investments in Agricultural Holdings

Indicator ref. I.2-1.2

To what extent have supported investments contributed to a better use of production factors on holdings?

Criteria
Increase in factor productivity

Indicator
Output per hour of labour on assisted holdings (€/h)

Scheme
Energy Crop Scheme (ECS)

Answer
[To be completed].

Explanation of Sources and calculations

References to data sources
### Chapter I. Investments in Agricultural Holdings

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**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**

Chapter I. Investments in Agricultural Holdings

Indicator ref. I.3-1.1

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria
Holdings redeploy production by moving out of surplus product lines or moving into products which have good market outlets

Indicator
Net change in “surplus product” activity after the investment [Surplus products = cereals, beef, milk etc.]

Scheme
ECS/RES

Answer
Not quantified. ECS Miscanthus planting clearly substituted for cereals, beef and sheep production but the effect cannot be quantified. Collection of information would result in disproportionate costs. The RES was less likely to displace cereals, beef or sheep but may have had a small effect through some diversification of farm production.

Explanation of Sources and calculations
See I.3-1.1 for RES and ECS

References to data sources
Chapter I. Investments in Agricultural Holdings

Indicator ref. I.3-1.1

To what extent have supported investments contributed to the re-orientation of farming activities?

<table>
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<td>Net change” in “surplus product” activity after the investment [Surplus products = cereals, beef, milk etc]</td>
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<td>Scheme</td>
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<tr>
<td>Answer</td>
<td>ECS Miscanthus planting has clearly reduced production of agricultural products such as cereals, beef and sheep which have been in surplus or benefitted from supported markets but the collection of information to quantify the effect would result in disproportionate costs</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

Up to the close of 2006 there were 3,356 hectares of Miscanthus planted against a target of 5,000 hectares in Annex VII of the ERDP (ERDP Annual Report 2006, Defra).

Information was collected at the MTE about the nature of the agricultural production displaced by planting (see the ERDP MTE, ADAS 2003). Most of this planted area will have replaced cereals, other combinable crops or grassland producing beef or sheep. These are commodities which are in surplus or benefit from support through levies or tariffs.

References to data sources

Chapter I. Investments in Agricultural Holdings

Indicator ref. I.3-1.1

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria
Holdings redeploy production by moving out of surplus product lines or moving into products which have good market outlets

Indicator
Net change” in “surplus product” activity after the investment [Surplus products = cereals, beef, milk etc.]

Scheme
Rural Enterprise Scheme (RES)

Answer
Not answered. Information not available.

Explanation of Sources and calculations

There were 366 agricultural diversification grants given under the Chapter 1 element of the RES according to the PROBIS data supplied for this evaluation. These projects relate to 333 holdings. From a brief inspection of the project titles it is clear that some of these resulted in alternative use of land, but many did not. It has not been possible to quantify the extent of any reduction in production of surplus products.

References to data sources

RES scheme monitoring data: RES.xls file supplied by Natural England.
Chapter I. Investments in Agricultural Holdings

Indicator ref. I.3-2.1

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria  Holdings take up more alternative activities
Indicator  Number of assisted holdings introducing alternative activities
Scheme    Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)
Answer    819

Explanation of Sources and calculations
See I.3-2.2.1 for RES and ECS

References to data sources
Defra PROBIS monitoring data. RES.xls and ECS.xls supplied by Natural England.
Chapter I. Investments in Agricultural Holdings

Indicator ref. I.3-2.1

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria: Holdings take up more alternative activities

Indicator: Number of assisted holdings introducing alternative activities

Scheme: Energy Crop Scheme (ECS)

Answer: 486 holdings have agreements to grow Miscanthus, 237 of which have finished their Miscanthus projects. 15,422 hectares in total are under agreement, 6,822 of which were finished projects.

Explanation of Sources and calculations

In the monitoring data, there are 486 projects altogether either under live agreement or with the projects finished to grow Miscanthus. These projects cover 15,422 hectares of land in total, 6,822 of which were finished. These numbers were based on the planned areas at approval but no actual outcomes were recorded in the monitoring data.

References to data sources

Defra PROBIS data: ECS.xls supplied by Natural England.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Holdings take up more alternative activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Number of assisted holdings introducing alternative activities</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>333 holdings</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This is the number of holdings that have invested in alternative activities through the RES scheme as indicated in the Defra monitoring data under Measure 5 (I) Diversification into alternative agricultural activities.

**References to data sources**

RES scheme monitoring data: RES.xls file supplied by Natural England.
Chapter I. Investments in Agricultural Holdings

Indicator ref. 1.3-2.2

To what extent have supported investments contributed to the re-orientation of farming activities?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Holdings take up more alternative activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of assisted holdings with a significant part of their turnover (&gt;10%) from alternative activities (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>32%</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
In the mid-term evaluation, 20 of the 65 RES projects who have received final payment and 5 out of the 13 Miscanthus grower which equates to 25 out of 78 (32%).

References to data sources
Chapter I. Investments in Agricultural Holdings

Indicator ref. 1.3-2.2

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria: Holdings take up more alternative activities

Indicator: Share of assisted holdings with a significant part of their turnover (>10%) from alternative activities (%)

Scheme: Energy Crop Scheme (ECS)

Answer: 40%

Explanation of Sources and calculations
In the mid-term evaluation, a survey of ECS beneficiaries asks what proportion of their farm family income over the last 12 months came from diversification. Of the 5 respondents who planted Miscanthus, 2 indicated that more than 10% came from this source.

References to data sources
### Chapter I. Investments in Agricultural Holdings

**Indicator ref.** 1.3-2.2

<table>
<thead>
<tr>
<th>To what extent have supported investments contributed to the re-orientation of farming activities?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria</strong></td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
</tr>
<tr>
<td><strong>Answer</strong></td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

In the mid-term evaluation, from the ADAS survey of RES applicants who have submitted a final claim, 31% of the respondents indicated that turnover from the RES funded enterprise was over 10% of their turnover. This would equate to 20 beneficiaries who have submitted their final claim. The figures are for 32 who responded to the questionnaire. But individual applicants do not know if their project has been funded out of this related measure. Additionally, these respondents were asked about all diversification income to their business (not just from the RES project) and 53% of respondents indicated that more than 10% of their income came from diversification. This compared to a figure of 52% to the same question that was asked of RES beneficiaries who have not submitted their final claim as part of the main ERDP survey.

**References to data sources**

Chapter I. Investments in Agricultural Holdings

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>1.3-2.3</th>
</tr>
</thead>
</table>

To what extent have supported investments contributed to the re-orientation of farming activities?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Holdings take up more alternative activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of working time spent on alternative activities on the holding (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>6% (ECS only)</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Information only available for ECS, this figure is not available for RES projects. However, in the mid-term evaluation, an estimate was made by looking at the proportion of total FTE jobs which were created or maintained because of the RES project. Of the 233 FTE posts on the respondents businesses, 86 (37%) were created or maintained because of the RES project. However, this may over-estimate the contribution, as a created or maintained post may not involve solely working on the RES enterprise.

**References to data sources**

Chapter I. Investments in Agricultural Holdings

To what extent have supported investments contributed to the re-orientation of farming activities?

Criteria

Holdings take up more alternative activities

Indicator

Share of working time spent on alternative activities on the holding (%)

Scheme

Energy Crop Scheme (ECS)

Answer

6% of man year

Explanation of Sources and calculations

In the mid-term evaluation, of the 5 beneficiary holdings who responded to the ECS survey an average of 16 man days were reported to have been spent on activities related to grant application and crop establishment. This figure excludes the contribution of contractors and suppliers, which is significant. The initial stages of energy cropping (establishment and post establishment husbandry (excluding harvest) were investigated by survey of participating Holdings. The following Table presents the average number of man days spent on each activity:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application process</td>
<td>3.4</td>
</tr>
<tr>
<td>Contract negotiation</td>
<td>0.8</td>
</tr>
<tr>
<td>Land preparation</td>
<td>2.6</td>
</tr>
<tr>
<td>Planting</td>
<td>3.8</td>
</tr>
<tr>
<td>Post-planting crop care</td>
<td>3.2</td>
</tr>
<tr>
<td>Harvesting</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15.8</td>
</tr>
</tbody>
</table>

Assuming a 260 day year this equates to 6% a man year

These figures exclude contractor activities, which were significant. As a percentage of all activity, contractor effort was as follows:

- Autumn Sprays: 20%
- Cultivation: 20%
- Seed bed preparation: -
- Pre-planting sprays: -
- Planting: 60%
- Fencing: 20%
- Cut-back: 60%
- Fertiliser application: -

In addition, 80% of growers plan to use contractors for harvesting.

References to data sources

### Chapter I. Investments in Agricultural Holdings

#### Indicator ref. 1.3-2.3

To what extent have supported investments contributed to the re-orientation of farming activities?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Holdings take up more alternative activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of working time spent on alternative activities on the holding (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Estimated at 37%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Information is not available for RES projects. However, in the mid-term evaluation, an estimate was made by looking at the proportion of total FTE jobs which were created or maintained because of the RES project. Of the 233 FTE posts on the respondent businesses, 86 (37%) were created or maintained because of the RES project. However, this may over estimate the contribution, as a created or maintained post may not involve solely working on the RES enterprise.

**References to data sources**

Chapter I. Investments in Agricultural Holdings

Indicator ref. I.5-1.1

To what extent has diversification of on-farm activities originating from supported alternative activities helped maintain employment?

Criteria
Employment is maintained or increased through alternative activities on the holding

Indicator
Number of full-time equivalent jobs (FTEs) maintained or created thanks to the assistance for alternative activities.

Scheme
Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)

Answer
1501

Explanation of Sources and calculations
See I.5-1.1 for RES and ECS

References to data sources
RES scheme monitoring data: RES.xls file supplied by Natural England.
Chapter I. Investments in Agricultural Holdings  

Indicator ref.  I.5-1.1

To what extent has diversification of on-farm activities originating from supported alternative activities helped maintain employment?

Criteria

Employment is maintained or increased through alternative activities on the holding

Indicator

Number of full-time equivalent jobs (FTEs) maintained or created thanks to the assistance for alternative activities.

Scheme

Energy Crop Scheme (ECS)

Answer

0

Explanation of Sources and calculations

Survey results in the mid-term evaluation indicate only a modest amount of on-farm labour is diverted to ECS activities, suggesting little likelihood of job creation. Survey evidence indicates significant contractor use, which may result in jobs being created and maintained, but this has not been measured.

The initial stages of energy cropping (establishment and post establishment husbandry (excluding harvest) were investigated by survey of participating Holdings. The following Table presents the average number of man days spent on each activity:

<table>
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<tr>
<th>Activity</th>
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</thead>
<tbody>
<tr>
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<td>3.4</td>
</tr>
<tr>
<td>Contract negotiation</td>
<td>0.8</td>
</tr>
<tr>
<td>Land preparation</td>
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</tr>
<tr>
<td>Planting</td>
<td>3.8</td>
</tr>
<tr>
<td>Post-planting crop care</td>
<td>3.2</td>
</tr>
<tr>
<td>Harvesting</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>15.8</td>
</tr>
</tbody>
</table>

Assuming a 260 day year this equates to 6% a man year

These figures exclude contractor activities, which were significant. As a percentage of all activity, contractor effort was as follows:

- Autumn Sprays: 20%
- Cultivation: 20%
- Seed bed preparation: -
- Pre-planting sprays: -
- Planting: 60%
- Fencing: 20%
- Cut-back: 60%

Fertiliser application: -

In addition, 80% of growers plan to use contractors for harvesting.

A recent report (Elliott et al., 2003) indicated that bio-energy was the only RE form that created significant dispersed rural economic income, primarily through cropping contractors.

References to data sources


Chapter I. Investments in Agricultural Holdings  
Indicator ref. I.5-1.1

To what extent has diversification of on-farm activities originating from supported alternative activities helped maintain employment?

Criteria
Employment is maintained or increased through alternative activities on the holding

Indicator
Number of full-time equivalent jobs (FTEs) maintained or created thanks to the assistance for alternative activities.

Scheme
Rural Enterprise Scheme (RES)

Answer
1,501

Explanation of Sources and calculations
The monitoring data shows 1,923.93 jobs maintained or created based on projections submitted with applications. Limited information was provided on project actual outcomes that only about 10-15% of supported projects have recorded the progress of meeting the targets. For those with recorded progress, the actual number of jobs sustained or created is 444.98, which represents 78% of the initial targets (571.68) being met. With the assumption that the same level (78%) of outcome will be delivered for other supported projects without recording the actual progress is, the predicted number of jobs sustained or created would be 1501 (=1923.93* 78%)

References to data sources
RES scheme monitoring data: RES.xls file supplied by Natural England.
### Chapter I. Investments in Agricultural Holdings

#### Indicator ref. I.6-1.1

To what extent have supported investments facilitated environmentally friendly farming?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Integration of environmental concerns into farm investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of beneficiary holdings introducing environmental improvements thanks to the co-financing (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>68%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

All ECS Miscanthus projects (assumed due to GHG savings – not because they are necessarily otherwise environmentally beneficial) and a proportion of RES farm diversification projects have introduced environmental improvements. The monitoring data shows that there are 595 Miscanthus projects in ECS scheme and 366 farm diversification projects in RES. Based on the estimation from the MTE which suggests that 16% of RES have introduced environmental improvements, it is estimated that there are 59 (=366*16%) RES projects contributing to environmental improvements. Therefore, there are 654 projects (=595 ECS Miscanthus projects + 59 RES farm diversification projects) having introduced environmental improvements, which represents 68% of the total of 961 projects (=366 RES + 595 ECS).

**References to data sources**

RES scheme monitoring data.
ECS scheme monitoring data.
### Chapter I. Investments in Agricultural Holdings

#### Indicator ref. I.6-1.1 (a)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Integration of environmental concerns into farm investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share introducing environmental improvements (a) with the environmental improvements as the direct aim of the investment (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>62%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Environmental protection was not a direct aim of the agricultural diversification projects in RES. For ECS, carbon saving was the main objective of all the investment. The monitoring data shows that there are 595 Miscanthus projects in ECS and 366 farm diversification projects in RES. 100% of the ECS projects (595 projects) and 0% of RES projects should be accounted for having the environmental improvements as the direct aim of the investment. These 595 projects represent 62% of the total of 691 assisted projects (=595 ECS projects +366 RES projects).

**References to data sources**

RES and ECS scheme monitoring data.
Chapter I. Investments in Agricultural Holdings

Indicator ref. 1.6-1.1 (b)

To what extent have supported investments facilitated environmentally friendly farming?

Criteria
Integration of environmental concerns into farm investments

Indicator
Share introducing environmental improvements (b) as a collateral effect (e.g. due to new equipment acquired mainly for economic purposes) (%)

Scheme
ECS/RES

Answer
6%

Explanation of Sources and calculations
This question was not applicable to ECS (see Hill B, et al (2002), ERDP Baseline Study) therefore it is assumed 0% of ECS projects are in this category.
At the MTE respondents to the RES survey were asked if the project resulted in an environmental spin off that were not formal aims of the RES funded project. 16% (5) responded that their project did result in an environmental spin off that was not a formal aim of the project. Assuming the same proportion of the 366 RES farm diversification projects having introduced environmental improvements as a collateral effect, it will give an estimate of 59 projects in total. This represents 6% of the 961 (=595 ECS + assisted projects).

References to data sources
ECS and RES monitoring data.
### Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.6-1.1 (c)**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Integration of environmental concerns into farm investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share introducing environmental improvements relating to waste and excess manure (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This question is not relevant to ECS and RES (See Berkley Hill Baseline study).

**References to data sources**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Integration of environmental concerns into farm investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share introducing environmental improvements relating to on-farm water management (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This question is not relevant to RES and ECS (See Berkley Hill Baseline Study)

**References to data sources**

Chapter I. Investments in Agricultural Holdings

Indicator ref. 1.6-1.1 (e)

To what extent have supported investments facilitated environmentally friendly farming?

Criteria Integration of environmental concerns into farm investments

Indicator Share introducing environmental improvements relating to (other) benign farming practices/systems (%)

Scheme Rural Enterprise Scheme (RES) and Energy Crop Scheme (ECS)

Answer Information not available (Not answered) for RES; N/A for ECS.

Explanation of Sources and calculations
A cursory examination of the project descriptions suggests that RES grants for agricultural diversification were rarely linked to setting up new benign farming systems. In principle it might be possible to cross refer between RES beneficiaries and OFS beneficiaries but this would miss many longstanding organic farmers and has not been possible due to disproportionate cost.

References to data sources
RES scheme monitoring data: RES.xls file supplied by Natural England.
# Chapter I. Investments in Agricultural Holdings

## Indicator ref. I.7-1.1

To what extent have supported investments improved the production conditions in terms of better working conditions and animal welfare?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Working conditions have been improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Evidence of significant reduction thanks to the assistance in exposure to: noxious substances, odours, dust, extreme climatic conditions, heavy loads, working hours</td>
</tr>
<tr>
<td>Scheme</td>
<td>ECS/RES</td>
</tr>
<tr>
<td>Answer</td>
<td>Evidence of some improvements in working conditions from survey in the mid-term evaluation, obtaining detailed data would result in disproportionate costs. It is unlikely that there will be any impacts from ECS.</td>
</tr>
</tbody>
</table>

## References to data sources

# Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.7-1.1**

<table>
<thead>
<tr>
<th><strong>Criteria</strong></th>
<th>Working conditions have been improved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator</strong></td>
<td>Evidence of significant reduction thanks to the assistance in exposure to: noxious substances, odours, dust, extreme climatic conditions, heavy loads, working hours (description)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>At the time of the MTE it was judged that it was too early for them to be any impacts but suggested that it was unlikely that there will be any impacts.</td>
</tr>
</tbody>
</table>

## Explanation of Sources and calculations

**References to data sources**

Chapter I. Investments in Agricultural Holdings

To what extent have supported investments improved the production conditions in terms of better working conditions and animal welfare?

Criteria
- Working conditions have been improved

Indicator
- Evidence of significant reduction thanks to the assistance in exposure to: noxious substances, odours, dust, extreme climatic conditions, heavy loads, working hours

Scheme
- Rural Enterprise Scheme (RES)

Answer
- There is evidence of working conditions being improved

Explanation of Sources and calculations
In the mid-term evaluation, respondents to the RES survey were asked whether there had been any improvements to working conditions of people working on the business as a direct result of the RES funded project. 44% (14) indicated yes, 44% (14) indicated no. With 13% (4) not stating.

References to data sources
ADAS RES survey in the ERDP mid-term evaluation.
Chapter I. Investments in Agricultural Holdings

Indicator ref. I.7-2.1

To what extent have supported investments improved the production conditions in terms of better working conditions and animal welfare?

**Criteria**
Working conditions have been improved

**Indicator**
Share of animals on assisted holdings enjoying improved welfare thanks to assisted investments (%)

**Scheme**
Rural Enterprise Scheme (RES)

**Answer**
16%

Explanation of Sources and calculations
In the MTE RES survey respondents were asked whether there had been any improvements to animal welfare as a direct result of the RES funded project. 16% (5) indicated yes, 41% (13) indicated no. With 31% (10) indicating it was not relevant and 13% (4) not stating.

References to data sources
ADAS RES survey in the ERDP mid-term evaluation.
### Chapter I. Investments in Agricultural Holdings

**Indicator ref. I.7-2.1**

To what extent have supported investments improved the production conditions in terms of better working conditions and animal welfare?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Working conditions have been improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of animals on assisted holdings enjoying improved welfare thanks to assisted investments (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Not relevant to ECS

**References to data sources**

Chapter I. Investments in Agricultural Holdings

Indicator ref. I.7-2.1

To what extent have supported investments improved the production conditions in terms of better working conditions and animal welfare?

Criteria
- Working conditions have been improved

Indicator
- Share of animals on assisted holdings enjoying improved welfare thanks to assisted investments (%)

Scheme
- Rural Enterprise Scheme (RES)

Answer
- 16%

Explanation of Sources and calculations
In the mid-term evaluation, respondents of the RES survey were asked whether there had been any improvements to animal welfare as a direct result of the RES funded project. 16% (5) indicated yes, 41% (13) indicated no. With 31% (10) indicating it was not relevant and 13% (4) not stating.

References to data sources
ADAS RES survey in the ERDP mid-term evaluation.
Chapter III. Training

To what extent are the assisted training courses in accordance with the needs and coherent with other measures of the programme?

Criteria
The training responds to the needs and potential adaption (conversion, re-orientation, improvement) at the level of individuals, sectors or regions (including gaps/weaknesses or potential/opportunities identified during programming or ex-ante evaluation)

Indicator
Share of assisted training accommodating [addressing] issues identified as gaps/weaknesses or potential/opportunities during programming/ex-ante evaluation (%)

Scheme
Vocational Training Scheme (VTS)

Answer
100%

Explanation of Sources and calculations
The best evidence of the types of training delivered in relation to needs identified during programming remains the MTE. The following topics were identified as gaps/weaknesses during the programming of the scheme and all training funded by VTS is required to address one of these. The monitoring data records which gap/weakness the funded training addresses and this is recorded in the monitoring data. Percentages below are based on records in the monitoring data (note rounding area so total adds to 99%).

- Business Skills – 10%
- Conservation and environment skills – 4%
- Diversification opportunities – 3%
- ICT – 29%
- Managing resources – 4%
- Managing yourself and your staff – 6%
- Marketing skills – 3%
- New ways of working – 7%
- On farm food production and processing – 4%
- Technical skills (agriculture and horticulture) – 26%
- Technical skills (forestry) – 1%
- Blank – 2%

References to data sources
To what extent are the assisted training courses in accordance with the needs and coherent with other measures of the programme?

Criteria
The training responds to the needs and potential adaption (conversion, re-orientation, improvement) at the level of individuals, sectors or regions (including gaps/weaknesses or potential/opportunities identified during programming or ex-ante evaluation).

Indicator
Share of assisted training accommodating [addressing] issues identified as gaps/weaknesses or potential/opportunities during programming/ex-ante evaluation (%) of which...(a) thanks to [as a result of] the type/mix of participants (e.g., young people, women...) (%)

Scheme
Vocational Training Scheme (VTS)

Answer
25% Female
14% under 30 years of age

Explanation of Sources and calculations
The best evidence remains that of the MTE. From the MTE evaluation, the gender breakdown of the 4626 training provider recipients shows:
70% are Male
25% are Female
5% not stated
On the same database in the MTE evaluation, age data was only available for 53% of trainees. Of those that gave an estimate of 14% were under age 30.

References to data sources
Chapter III. Training

To what extent are the assisted training courses in accordance with the needs and coherent with other measures of the programme?

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The training responds to the needs and potential adaptation (conversion, re-orientation, improvement) at the level of individuals, sectors or regions (including gaps/weaknesses or potential/opportunities identified during programming or ex-ante evaluation)

Indicator
Share of assisted training accommodating [addressing] issues identified as gaps/weaknesses or potential/opportunities during programming/ex-ante evaluation (%), of which... (b) thanks to [as a result of] the topic/contents of the course (%) 

Scheme
Vocational Training Scheme (VTS)

Answer
100%

Explanation of Sources and calculations
The best evidence remains the Mid Term Evaluation. The following topics were identified as gaps/weaknesses during the programming of the scheme and all training funded by VTS is required to address one of these. The monitoring data records which gap/weakness the funded training addresses and this is recorded in the monitoring data. Percentages below are based on records in the monitoring data (note rounding area so total adds to 99%).

- Business Skills – 10%
- Conservation and environment skills – 4%
- Diversification opportunities – 3%
- ICT – 29%
- Managing resources – 4%
- Managing yourself and your staff – 6%
- Marketing skills – 3%
- New ways of working – 7%
- On farm food production and processing – 4%
- Technical skills (agriculture and horticulture) – 26%
- Technical skills (forestry) – 1%
- Blank – 2%

References to data sources
### Chapter III. Training

**Indicator ref. III.1-1.1 (c)**

To what extent are the assisted training courses in accordance with the needs and coherent with other measures of the programme?

**Criteria**  
The training responds to the needs and potential adaption (conversion, re-orientation, improvement) at the level of individuals, sectors or regions (including gaps/weaknesses or potential/opportunities identified during programming or ex-ante evaluation)

**Indicator**  
Share of assisted training accommodating [addressing] issues identified as gaps/weaknesses or potential/opportunities during programming/ex-ante evaluation (% of which...(c) related to co-financed actions of other chapters of the programme (%)

**Scheme**  
Vocational Training Scheme (VTS)

**Answer**  
3%

**Explanation of Sources and calculations**  
The best evidence remains that from the MTE. In the MTE, Defra monitoring data identifies this as a clear objective of the training (objective of training worksheet). According to the mid-term evaluation, this percentage relates to 115 of the 4626 beneficiaries.

**References to data sources**  
Chapter III. Training

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

Criteria

The skills/competence acquired by the trainees help improve their employment conditions

Indicator

Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%)

Scheme

Vocational Training Scheme (VTS)

Answer

85%

Explanation of Sources and calculations

The best evidence remains that collected at the MTE. Monitoring data did not have any information on the effect of training on the recipients’ employment. However, at the midterm evaluation, a range of attitude statements were presented to trainees as part of the VTS trainee telephone survey, seven of these statements related to improvements in employment as a result of training. 85% of respondents agreed with at least one of these statements.

References to data sources

<table>
<thead>
<tr>
<th><strong>Chapter III. Training</strong></th>
<th><strong>Indicator ref. III.2.1.1 (a)</strong></th>
</tr>
</thead>
</table>

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

**Criteria**  
The skills/competence acquired by the trainees help improve their employment conditions

**Indicator**  
Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%) (a) of which farm/forest holders (%)

**Scheme**  
Vocational Training Scheme (VTS)

**Answer**  
85%

**Explanation of Sources and calculations**
The best evidence remains that from the MTE. Using the VTS survey data, making the assumption that employer trainers are ‘holders’ 57 out of 67 (85%) felt that their jobs had improved as a result of training.

**References to data sources**
Chapter III. Training

Indicator ref. III.2-1.1 (b)

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

Criteria

The skills/competence acquired by the trainees help improve their employment conditions

Indicator

Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%) (b) of which employees (%)

Scheme

Vocational Training Scheme (VTS)

Answer

85%

Explanation of Sources and calculations

The best evidence is that from the MTE. Using the VTS survey data 28 out of 33 (85%) employee respondents felt that their jobs had improved as a result of training.

References to data sources

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

**Criteria**
The skills/competence acquired by the trainees help improve their employment conditions.

**Indicator**
Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%) (c) of which thanks to/as a result of better remuneration (%)

**Scheme**
Vocational Training Scheme (VTS)

**Answer**
21%

**Explanation of Sources and calculations**
The best evidence remains that from the MTE. Using the data from the VTS survey of 100 beneficiaries, 18 of the 85 (21%) who experienced job improvements indicated that their income had increased.

**References to data sources**
Chapter III. Training

Indication ref. III.2-1.1 (d)

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

Criteria
The skills/competence acquired by the trainees help improve their employment conditions.

Indicator
Share of assisted trainees (both holders and employees) experiencing job improvements related to the training (%) (d) of which thanks to [as a result of] non-pecuniary job quality (e.g., seasonal/contractual work security, exposure to risk and adverse conditions, job-variation/enrichment…) (%)

Scheme
Vocational Training Scheme (VTS)

Answer
98%

Explanation of Sources and calculations
The best evidence remains that from the MTE. A number of questions were asked in the VTS survey of 100 beneficiaries which related to non-pecuniary job quality.
Greater enjoyment – 61%
Involved in wider range of work – 47%
Work better suited to qualifications – 40%
Not reliant on seasonal work – 15%
Confident about the future – 39%
83 of the 85 experiencing job improvements agreed with at least one of these statements.

References to data sources
## Chapter III. Training

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>III.2-2.1</th>
</tr>
</thead>
</table>

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

**Criteria**
The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)

**Indicator**
Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%)

**Scheme**
Vocational Training Scheme (VTS)

**Answer**
29%

### Explanation of Sources and calculations
In the mid-term evaluation, 1360 of the trainees out of 4,626 (29%) received training with objectives relating to conversion/reorientation/improvement which comprised of: adding value (245), conversion (62), diversification (246), improve quality (679), preparation of reorientation of production (93), improving hygiene skills (35).

### References to data sources
To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (a) of which new/additional activities (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Vocational Training Scheme (VTS)</td>
</tr>
<tr>
<td>Answer</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

In the mid-term evaluation, 401 out of 1360 training projects relating to conversion/reorientation/improvement have been identified with these objectives and include conversion of farm or forest activity (62), diversification (246) and preparation of reorientation of production (93).

**References to data sources**

### Chapter III. Training

Indicator ref. III.2-2.1 (b)

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

#### Criteria
- The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)

#### Indicator
- Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (b) of which improved quality/hygiene/added value concerning existing activities (%)

#### Scheme
- Vocational Training Scheme (VTS)

#### Answer
- 71%

#### Explanation of Sources and calculations
In the mid-term evaluation, 959 of the 1360 training projects relating to conversion/reorientation/improvement have been identified with these objectives, consisting of: added value (245), improving hygiene skills (35), improving quality (679).

#### References to data sources
Chapter III. Training

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

Criteria
The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)

Indicator
Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (c) of which management related (%)

Scheme
Vocational Training Scheme (VTS)

Answer
15%

Explanation of Sources and calculations
In the mid-term evaluation, 200 out of 1360 training projects relating to conversion/reorientation/improvement were training courses relating to improvement of management skills, these were: Business skills (166), managing resources (6) and managing yourself and your staff (28)

References to data sources
## Chapter III. Training

### Indicator ref. III.2-2.1 (d)

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

<table>
<thead>
<tr>
<th><strong>Criteria</strong></th>
<th>The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator</strong></td>
<td>Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (d) of which environmental benign methods/practices (%)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>Vocational Training Scheme (VTS)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>5%</td>
</tr>
</tbody>
</table>

### Explanation of Sources and calculations

In the mid-term evaluation, 66 out of 1360 training projects relating to conversion/reorientation/improvement were training courses relating to environmentally benign methods/practices, these were: conservation and environment skills (60), managing resources (6)

### References to data sources

### Chapter III. Training

#### Indicator ref. III.2-2.1 (e)

**To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?**

**Criteria**

The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)

**Indicator**

Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (e) of which farming (%)

**Scheme**

Vocational Training Scheme (VTS)

**Answer**

% - Not available.

**Explanation of Sources and calculations**

In the mid-term evaluation, 482 out of 1360 training projects relating to conversion/reorientation/improvement were training courses were related to farming/horticulture. However, the proportion of holdings with an assisted trainee which initiated conversion/reorientation/improvement were farming holdings is not available. Many were probably mixed farming and forestry holdings.

**References to data sources**

### Chapter III. Training

#### Indicator ref. III.2-2.1 (f)

To what extent have the acquired skills/competence helped improve the situation of the trainees and of the agricultural/forestry sector?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The skills/competence acquired by the trainee facilitates the adaption of agriculture and forestry (conversion/re-orientation/improvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of holdings with an assisted trainee, initiating conversion/reorientation/improvement related to the assisted training (%) (f) of which forestry (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Vocational Training Scheme (VTS)</td>
</tr>
<tr>
<td>Answer</td>
<td>% - Not available.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

In the mid-term evaluation, 37 out of 1360 training projects relating to conversion/reorientation/improvement were training courses were related to forestry. However the proportion of holdings with an assisted trainee initiating conversion/reorientation/improvement related to the assisted training – which were forestry holdings is not available. Many were probably mixed forestry and farming holdings.

**References to data sources**

Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

To what extent has the scheme contributed to: (i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential (ii) compensating for costs incurred and income forgone in areas with environmental restrictions? (LFA & AER)

Criteria
The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments

Indicator
Ratio of (premium) to (higher production costs + reduction in value of farm output)

Scheme
Hill Farm Allowance (HFA)

Answer
Cannot be calculated

Explanation of Sources and calculations
As most farms in the LFA, claim HFA, it is difficult to find a control group to provide the counterfactual argument. If it is then necessary to compare outside the LFA, there arises a problem of comparability for example with environmental conditions and enterprise mix even though there may be lowland farms with natural limitations such as water meadows. There are other interactions that can also overcomplicate the issues based on socio economic or historical factors as well as environmental. In addition the lowland group may include farms in transition; these are farms whereby they may have moved out of dairy and into beef and sheep as part of a managed strategy for retirement.

References to data sources
Farm Business Survey, Census, RPA monitoring data.
To what extent has the scheme contributed to: (i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential (ii) compensating for costs incurred and income forgone in areas with environmental restrictions? (LFA & AER)

Criteria

The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments

Indicator

Ratio of (premium) to (higher production costs + reduction in value of farm output)

Scheme

Continuation of Hill Livestock Compensatory Allowance (HLCA)

Answer

Not relevant

Explanation of Sources and calculations

Not now relevant as this scheme has closed.

References to data sources
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.1-1.2 (a)

To what extent has the scheme contributed to: (i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential (ii) compensating for costs incurred and income forgone in areas with environmental restrictions? (LFA & AER)

Criteria
The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments

Indicator
Share of holdings where premium is: (a) <50% (higher production costs + decreasing value of farm output) (%)

Scheme
Hill Farm Allowance (HFA)

Answer
Cannot be calculated

Explanation of Sources and calculations
See answer to question V.1-1.1.

References to data sources
Farm Business Survey, Census, RPA monitoring data.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.1-1.2 (b)

To what extent has the scheme contributed to: (i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential (ii) compensating for costs incurred and income forgone in areas with environmental restrictions? (LFA & AER)

Criteria
The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments

Indicator
Share of holdings where premium is: (b) Between 50 – 90% of (higher production costs + decreasing value of farm output) (%)

Scheme
Hill Farm Allowance (HFA)

Answer
Cannot be calculated

Explanation of Sources and calculations
See answer to question V.1-1.1.

References to data sources
Farm Business Survey, Census, RPA monitoring data.
To what extent has the scheme contributed to: (i) offsetting the natural handicaps in LFAs in terms of high production costs and low production potential (ii) compensating for costs incurred and income forgone in areas with environmental restrictions? (LFA & AER)

Criteria
The income deficit due to natural handicaps or environmental restrictions is offset by compensatory allowances or payments

Indicator
Share of holdings where premium is: (c) >90% of (higher production costs + decreasing value of farm output) (%)

Scheme
Hill Farm Allowance (HFA)

Answer
Cannot be calculated

Explanation of Sources and calculations
See answer to question V.1-1.1.

References to data sources
Farm Business Survey, Census, RPA monitoring data.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.2-1.1

To what extent have compensatory allowances helped in ensuring continued agricultural land use? LFA ONLY

Criteria
- Agricultural land use continued

Indicator
- Change in Utilised Agricultural Area (UAA) in LFAs (hectares and %)

Scheme
- Hill Farm Allowance (HFA)

Answer
- There is no evidence of land abandonment in the LFA.

Explanation of Sources and calculations

Land abandonment is not perceived to be a problem in England. At the MTE it was reported that there had been anecdotal evidence that there has been some land abandonment in an area of North Yorkshire but further evidence indicated that this was a landlord/tenant issue and not true abandonment.

The best source of information comes from the Farm Business Survey and is published in Farm Account. If land abandonment were a problem one might expect LFA farms to be becoming larger and for the proportion of rough grazing to be growing. The following table shows that neither of these two possible trends is supported by the evidence.

FBS – Number of LFA Farms in survey, Utilised Agricultural Area and % Rough Grazing.

<table>
<thead>
<tr>
<th>Years:</th>
<th>1999/00</th>
<th>2000/01</th>
<th>2001/02</th>
<th>2002/03</th>
<th>2003/04</th>
<th>2004/05</th>
<th>2005/06</th>
<th>2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms</td>
<td>235</td>
<td>235</td>
<td>184</td>
<td>213</td>
<td>253</td>
<td>227</td>
<td>234</td>
<td>245</td>
</tr>
<tr>
<td>UAA</td>
<td>181.5</td>
<td>184.5</td>
<td>174.5</td>
<td>180.9</td>
<td>160.2</td>
<td>151.1</td>
<td>153.6</td>
<td>133.7</td>
</tr>
<tr>
<td>Rough Grazing</td>
<td>97.7</td>
<td>98.8</td>
<td>83.7</td>
<td>85.4</td>
<td>79.4</td>
<td>75.9</td>
<td>79.1</td>
<td>55.8</td>
</tr>
<tr>
<td>% Rough Grazing</td>
<td>53.8</td>
<td>53.6</td>
<td>48.0</td>
<td>47.2</td>
<td>49.6</td>
<td>50.2</td>
<td>51.5</td>
<td>41.7</td>
</tr>
</tbody>
</table>

References to data sources

Farm Accounts in England (annual) Defra web site.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.3-1.1

To what extent have compensatory allowances contributed to the maintenance of a viable rural community? LFA ONLY

Criteria
Continued agricultural land use is critical for the maintenance of a viable rural community

Indicator
Evidence of continued agricultural land-use as critical for maintenance of viable rural communities (description)

Scheme
Hill Farm Allowance (HFA)

Answer
The HFA does help support rural communities by sustaining farming systems, supporting families dependent on farms, and through the local upstream and downstream economic activity associated with farming. However, the contribution is modest because of the limited proportion of the population in the LFA’s associated with farming.

Explanation of Sources and calculations
On the basis of the respondents to the ERDP survey in the mid-term evaluation, for every beneficiary of HFA, there were 4.11 dependents. Assuming a total number of beneficiaries of 9,670 for 2003, then number of dependents is 39,744. With the population of the LFA regions being 1,927,111, then the percentage of total population that HFA may benefit directly is 2%. In addition, this calculation does not take account of staff who may be employed on these farms and their families as well as businesses based in the LFA, who may trade with the LFA farms as well.

References to data sources
ERDP mid-term evaluation.
To what extent have compensatory allowances contributed to the maintenance of a viable rural community? LFA ONLY

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fair standard of living for farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Ratio of (“family farm income” + off-farm income of holder and/or spouse) to (average family income in NUTS 2)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Hill Farm Allowance (HFA)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available, obtaining data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Data on total farm family income is not available.

**References to data sources**
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Criteria: Maintenance/promotion of sustainable farming
Indicator: Share under environmentally benign farming systems (hectares and %)
Scheme: Hill Farm Allowance (HFA)
Answer: 1.2 million hectares, 67%

Explanation of Sources and calculations
The LFA area covers 1.8 million hectares of agricultural land and 1.2 million (data for 2005) is currently within the HFA scheme (based on monitoring data on area paid). As a requirement of the scheme is to meet good agricultural practice by default, all land in the HFA scheme must be under environmentally benign farming systems.

References to data sources
HFA monitoring data from RPA.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.4.A-1.1 (a)

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Criteria
Maintenance/promotion of sustainable farming

Indicator
Share under environmentally benign farming systems (hectares and %) (a) used for organic farming (hectares & %)

Scheme
Hill Farm Allowance (HFA)

Answer
Very small, less than 0.4%

Explanation of Sources and calculations
According to the HFA monitoring data, the land used for organic farming is listed as follows:
2002 – 0% 413 Hectares (area claimed), area paid is 365 Hectares
2003 – 0% 0 Hectares
2004 -- 29 Hectares
2005-- 754 Hectares

References to data sources
HFA monitoring data from RPA.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Criteria

Maintenance/promotion of sustainable farming

Indicator

Share under environmentally benign farming systems (hectares and %) (b) for integrated farming or integrated pest management (hectares & %)

Scheme

Hill Farm Allowance (HFA)

Answer

N/A

Explanation of Sources and calculations

N/A Defra baseline study

References to data sources

2003 Defra baseline study
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.4.A-1.1 (c)

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Criteria
- Maintenance/promotion of sustainable farming

Indicator
Share under environmentally benign farming systems (hectares and %) (c) used as pasture with less than 2 LU/ha (hectares and %)

Scheme
Hill Farm Allowance (HFA)

Answer
99.85%

Explanation of Sources and calculations
In the year of 2005, there are 8 claimants having stocking rates of more than 2 LU/ha with a total area of 1890 hectares, which accounts for 0.15% of the total area under HFA agreement. Therefore, share of land used as pasture with less than 2LU/ha is 99.85%.

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. land with stocking rate &gt; 2LU/ha</td>
<td>97</td>
<td>74</td>
<td>55</td>
<td>75</td>
<td>89</td>
</tr>
<tr>
<td>Area of land with stocking rate &gt; 2LU/ha</td>
<td>2100.41</td>
<td>1846.19</td>
<td>1318.28</td>
<td>1749.7</td>
<td>1889.99</td>
</tr>
<tr>
<td>% of total</td>
<td>0.19%</td>
<td>0.15%</td>
<td>0.11%</td>
<td>0.14%</td>
<td>0.15%</td>
</tr>
</tbody>
</table>

References to data sources
HFA monitoring data from RPA.
Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

Indicator ref. V.4.A-1.2

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

Criteria
Maintenance/promotion of sustainable farming

Indicator
Share of UAA used for arable farming where the quantity of nitrogen applied (farm manure + synthetic) is less than 170 kg/ha per year (hectares and %)

Scheme
Hill Farm Allowance (HFA)

Answer
N/A

Explanation of Sources and calculations

N/A Defra baseline study

References to data sources
Defra baseline study 2003
### Chapter V. Less Favoured Areas and Areas with Environmental Restrictions

**Indicator** ref. V.4.A-1.3

To what extent has the scheme contributed to the protection of the environment: by maintaining or promoting sustainable farming that takes account of environmental protection requirements in LFAs?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Maintenance/promotion of sustainable farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of UAA used for arable farming where the quantity of pesticides applied is less than a specified threshold (hectares and %)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Hill Farm Allowance (HFA)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**

Defra baseline study 2003
**Chapter V. Less Favoured Areas and Areas with Environmental Restrictions**

Indicator ref. **V.4.B-1.1**

To what extent has the scheme contributed to the protection of the environment: by increasing the implementation and respect of environmental restrictions based on Community environmental protection rules?

**Criteria**
Increased implementation and respect of targeted environmental protection restrictions limiting agricultural use

**Indicator**
Share of UAA (within the region covered by the programme) covered by Environmental Restrictions that allow farmers to draw payments (hectares and %)

**Scheme**
Hill Farm Allowance (HFA)

**Answer**
N/A

**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**
Defra baseline study 2003
**Chapter V. Less Favoured Areas and Areas with Environmental Restrictions**

To what extent has the scheme contributed to the protection of the environment: by increasing the implementation and respect of environmental restrictions based on Community environmental protection rules?

**Criteria**  
Increased implementation and respect of targeted environmental protection restrictions limiting agricultural use

**Indicator**  
Share of eligible holdings taking up payments for environmental restrictions (number and %)

**Scheme**  
Hill Farm Allowance (HFA)

**Answer**  
N/A

**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**

Defra baseline study 2003
To what extent has the scheme contributed to the protection of the environment: by increasing the implementation and respect of environmental restrictions based on Community environmental protection rules?

**Criteria**

Increased implementation and respect of targeted environmental protection restrictions limiting agricultural use.

**Indicator**

Ratio of (% of beneficiary holdings having faced action for non-compliance with restrictions) to (% of holdings not claiming payments having faced actions for non-compliance)

**Scheme**

Hill Farm Allowance (HFA)

**Answer**

N/A

**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**

Defra baseline study 2003
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria Soil erosion has been reduced

Indicator Farmland under agreements preventing/reducing soil loss (number and hectares)

Scheme OFS, CSS, ESA, ELS, OELS, HLS

Answer 4,988 agreements, 225,901 hectares

Explanation of Sources and calculations

References to data sources
See answer sheets for individual schemes for explanation
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria: Soil erosion has been reduced
Indicator: Farmland under agreements preventing/reducing soil loss (number and hectares)
Scheme: Countryside Stewardship Scheme (CSS)

Answer: Around 1,845 agreements covering around 25,901 ha.

Explanation of Sources and calculations

The CSS scheme does not have any objectives or agri-environment measures specifically to prevent or reduce soil erosion. However it does include measures on agreement land that may contribute to the prevention of soil erosion and the reduction of the risk of soil erosion. These include the creation of habitats that require permanent or increased ground cover and the creation of new barriers to soil movement (e.g. hedges). Other measures may also have some influence but are more difficult to quantify. These include the maintenance of permanent cover, encouragement of low intensity farming systems, reduction of stock numbers and increased moorland management.

Bracken control and arable reversion in CSS may carry a temporary short term risk of soil erosion if implemented at inappropriate times of year or on unsuitable land.

A digital map has been created at 1 x 1 km to show a general overview of areas that are susceptible to soil erosion. The methodology followed MAFF (1999), amended to include risks of wind erosion in discussion with ADAS soil scientists. The methodology is derived mainly from work on lowland sandy or peaty soils under arable cultivation. No methodology was available to calculate erosion risk for upland peat soils, which are excluded from the analysis.

The method, although developed for a field-scale analysis, may be applied at a larger scale to derive relative risks of soil erosion across England. The classification is shown in the table below. The following input data were used to calculate soil erosion risk:

- Texture class of the topsoil of the dominant soil @ 1 x 1 km from Natmap (NSRI)
- Mean slope in each 1 x 1 km estimated from a Digital Terrain Model @ 50 x 50 m published by the Centre for Ecology and Hydrology
- Annual rainfall at a resolution of 1 x 1 km developed by the Met. Office and ADAS under MAFF project NT1701 (MAGPIE)
Risk Classes for Water Erosion

<table>
<thead>
<tr>
<th>Soil Textures</th>
<th>Steep slopes &gt; 7</th>
<th>Moderate slopes 3° - 7°</th>
<th>Gentle slopes 2° - 3°</th>
<th>Level ground &lt; 2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand, Loamy sand, sandy loam, sandy silt loam, silt loam</td>
<td>Very high (High)*</td>
<td>High (Moderate)*</td>
<td>Moderate (Lower)*</td>
<td>Slight</td>
</tr>
<tr>
<td>Peat, peaty (wind erosion)</td>
<td>Not at risk (At risk)*</td>
<td>Not at risk (At risk)*</td>
<td>Not at risk (At risk)*</td>
<td>Not at risk (At risk)*</td>
</tr>
<tr>
<td>Silty clay loam</td>
<td>High (Moderate)*</td>
<td>Moderate</td>
<td>Lower</td>
<td>Slight</td>
</tr>
<tr>
<td>Other mineral soils</td>
<td>Lower</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
</tr>
</tbody>
</table>

* Where average annual rainfall is less than 800 mm, the risk class in brackets applies.

An overlay was then made between this erosion risk map and the centres of fields under agreement as determined by their IACS reference. Measures which are supplementary payments and which would lead to double counting of areas were excluded.

**Caveats**

The erosion risk mapping has been derived from data at a scale of 1:250,000, and thus is locally inaccurate. The data was generated at a 1 x 1 km resolution (100 ha cells). There are a small number of errors in the AESIS database with respect to the referencing of IACS fields (borne out by the 0.2% of fields that were located outside of the country boundary). A similar percentage of fields within the country boundary could be expected to be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

In addition to ERDP agreements there are substantial numbers of active pre-ERDP ESA agreements on the areas susceptible to erosion. These are not taken account of in the answer provided.

**References to data sources**

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (‘domsoil’)

Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (‘slp_mean’)

Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (‘AAR’)

(all these are column names held in the shapefile ‘erosionindex.shp’)

AESIS database (‘CSS.mdb’)

ADAS Land cover database (‘adaslandcover2000.shp’)

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria Soil erosion has been reduced

Indicator Farmland under agreements preventing/reducing soil loss (number and hectares)

Scheme Environmentally Sensitive Area (ESA)

Answer Around 568 agreements covering around 4,100 ha.

Explanation of Sources and calculations

The ESA scheme does not have any objectives or agri-environment measures specifically to prevent or reduce soil erosion. However it does include measures on agreement land that may contribute to the prevention of soil erosion and the reduction of the risk of soil erosion. These include the creation of habitats that require permanent or increased ground cover and the creation of new barriers to soil movement (e.g. hedges). Other measures may also have some influence but are more difficult to quantify. These include the maintenance of permanent cover, encouragement of low intensity farming systems, reduction of stock numbers and increased moorland management.

Bracken control and arable reversion in ESAs may carry a temporary short term risk of soil erosion if implemented at inappropriate times of year or on unsuitable land.

A digital map has been created at 1 x 1 km to show a general overview of areas that are susceptible to soil erosion. The methodology follows MAFF (1999), amended to include risks of wind erosion in discussion with ADAS soil scientists. The methodology is derived mainly from work on lowland sandy or peaty soils under arable cultivation. No methodology was available to calculate erosion risk for upland peat soils, which are excluded from the analysis.

The method, although developed for a field-scale analysis, may be applied at a larger scale to derive relative risks of soil erosion across England. The classification is shown in the table below. The following input data were used to calculate soil erosion risk:

- Texture class of the topsoil of the dominant soil @ 1 x 1 km from Natmap (NSRI)
- Mean slope in each 1 x 1 km estimated from a Digital Terrain Model @ 50 x 50 m published by the Centre for Ecology and Hydrology
- Annual rainfall at a resolution of 1 x 1 km developed by the Met. Office and ADAS under MAFF project NT1701 (MAGPIE)

Risk Classes for Water Erosion

<table>
<thead>
<tr>
<th>Soil Textures</th>
<th>Steep slopes &gt; 7</th>
<th>Moderate slopes 3° - 7°</th>
<th>Gentle slopes 2° - 3°</th>
<th>Level ground &lt; 2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand, Loamy sand, sandy loam, sandy silt loam, silt loam</td>
<td>Very high (High)*</td>
<td>High (Moderate)*</td>
<td>Moderate (Lower)*</td>
<td>Slight</td>
</tr>
<tr>
<td>Peat, peaty (wind erosion)</td>
<td>Not at risk (At risk)*</td>
<td>Not at risk (At risk)*</td>
<td>Not at risk (At risk)*</td>
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</tr>
<tr>
<td>Silty clay loam</td>
<td>High (Moderate)*</td>
<td>Moderate</td>
<td>Lower</td>
<td>Slight</td>
</tr>
<tr>
<td>Other mineral soils</td>
<td>Lower</td>
<td>Slight</td>
<td>Slight</td>
<td>Slight</td>
</tr>
</tbody>
</table>

* Where average annual rainfall is less than 800 mm, the risk class in brackets applies.
An overlay was then made between this erosion risk map and the centres of fields under agreement as determined by their IACS reference. Measures which are supplementary payments and which would lead to double counting of areas were excluded.

**Caveats**
The erosion risk mapping has been derived from data at a scale of 1:250,000, and thus is locally inaccurate. The data was generated at a 1 x 1 km resolution (100 ha cells). There are a small number of errors in the AESIS database with respect to the referencing of IACS fields (borne out by the 5.3% of fields that were located outside of the ESA boundaries). A similar percentage of fields within the ESA boundaries could be expected to be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

In addition to ERDP agreements there are substantial numbers of active pre-ERDP ESA agreements on the areas susceptible to erosion. These are not taken account of in the answer provided.

**References to data sources**
Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (summarised in erosionindex.shp)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (summarised in erosionindex.shp)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (summarised in erosionindex.shp)
AESIS database (ESA.mdb)

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>660 agreements, 179,903 hectares</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The following conclusions are drawn by Shepherd et al (2003):

- *Research which compared adjacent organic and conventional farms showed the difference in erosion rates was attributed to different crop rotation systems and different tillage practices.*

- *It can be argued that organic farming employs as standard the main erosion control methods (grass, cover crops/undersowing and regular manure additions) as well as some practices that might encourage erosion (frequent tillage and wider rows for weed control, slower developing cover because of N shortage). They argue that the positive control measures outweigh the risk factors, although no evidence is provided.*

- *Recent work in the uplands of England and Wales has demonstrated that a major factor in upland erosion is animal stocking density ... we can surmise that grazing pressure in the uplands will be less under organic, as stocking densities are generally less.*

Erosion risk calculations were made using the following data layers:

- CEH digital terrain model @ 50 x 50 m resolution. Average slopes were estimated for each 1 x 1 km
- NSRI Natmap soil layer @ 1 x 1 km resolution. Texture of the dominant soil in each 1 x 1 km square was used
- Surface of Average Annual Rainfall (1961 - 1990) @ 1 x 1 km resolution developed by the Met. Office and ADAS under MAFF project NT1701.
- Avenue script (within ArcView 3.2a) was written to perform the calculation at a resolution of 1 x 1 km.
- All fields under agreement were georeferenced and an overlay produced with the erosion risk.
- Areas ‘at risk’ were defined as those areas with a moderate erosion risk or worse.
Soil Textures | Steep slopes > 7 | Moderate slopes 3° - 7° | Gentle slopes 2° - 3° | Level ground < 2°
---|---|---|---|---
Sand, Loamy sand, sandy loam, sandy silt loam, silt loam | Very high (High)* | High (Moderate)* | Moderate (Lower)* | Slight
Peat, peaty (wind erosion) | No risk (At risk)* | No risk (At risk)* | No risk (At risk)* | No risk (At risk)*
Silty clay loam | High (Moderate)* | Moderate | Lower | Slight
Other mineral soils | Lower | Slight | Slight | Slight

* Where average annual rainfall is less than 800 mm, the risk class in brackets applies.

Caveats
The erosion risk mapping has been derived from data at a 1:250,000 scale, and thus is locally inaccurate.

In addition, there are a small number of errors in the AESIS database with respect to the referencing of IACS fields (borne out by the 0.2% of fields that were located outside of the English border, both within the sea and within Wales and Scotland).

A similar percentage of fields within the coastline could be expected to be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

On the basis of this, the following assumptions have been made:
1. The area of cropped land has been used as a measure of the reduction of soil erosion due to tillage.
2. The area of temporary pasture has been used as a measure of the reduction in soil erosion due to water.

The overlap in these areas and areas susceptible to erosion from the soil map are used to answer the question.

References to data sources
MAFF publication PB4092, with classes for peat soils added in discussion with Gillian Goodlass, Sheila Royle and Selwyn Richardson, ADAS soil scientists.
Defra OFS prescription database
AESIS database (OFS.mdb)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria Soil erosion has been reduced
Indicator Farmland under agreements preventing/reducing soil loss (number and hectares)
Scheme Entry Level Stewardship (ELS)
Answer 1714 agreements covering 13,923 ha

Explanation of Sources and calculations

The ELS scheme has two options specifically to protect soil – EJ1: Management of high erosion risk cultivated land and EJ2: Management of maize crops to reduce soil erosion. It also includes other measures on agreement land that may contribute to the prevention of soil erosion and the reduction of the risk of soil erosion. These include the creation of habitats that require permanent or increased ground cover, the maintenance of permanent cover and encouragement of low intensity farming systems. The soil management plan option should also reduce soil erosion, providing the measures are implemented; and an estimation of the impacts of ELS (CSL, 2008) suggested that implementation of the soil management plan would reduce the loss of phosphate, and hence soil.

Only land under options that may contribute to the prevention of soil erosion was used to calculate this indicator.

A digital map has been created at 1 x 1 km to show a general overview of areas that are susceptible to soil erosion. The methodology followed MAFF (1999), amended to include risks of wind erosion in discussion with ADAS soil scientists. The methodology is derived mainly from work on lowland sandy or peaty soils under arable cultivation. No methodology was available to calculate erosion risk for upland peat soils, which are excluded from the analysis.

The method, although developed for a field-scale analysis, may be applied at a larger scale to derive relative risks of soil erosion across England. The classification is shown in the table below. The following input data were used to calculate soil erosion risk:

- Texture class of the topsoil of the dominant soil @ 1 x 1 km from Natmap (NSRI)
- Mean slope in each 1 x 1 km estimated from a Digital Terrain Model @ 50 x 50 m published by the Centre for Ecology and Hydrology
- Annual rainfall at a resolution of 1 x 1 km developed by the Met. Office and ADAS under MAFF project NT1701 (MAGPIE)

Risk Classes for Water Erosion
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<tr>
<th>Soil Textures</th>
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</tr>
</tbody>
</table>

- Where average annual rainfall is less than 800 mm, the risk class in brackets applies.

An overlay was then made between this erosion risk map and the centres of fields under agreement as determined by their IACS reference. Measures which are supplementary payments and which would lead to double counting of areas were excluded.

**Caveats**

The erosion risk mapping has been derived from data at a scale of 1:250,000, and thus is locally inaccurate. The data was generated at a 1 x 1 km resolution (100 ha cells). There are a very small number of errors in the GENESIS database with respect to the referencing of IACS fields (borne out by the 0.02% of fields that were located outside of the country boundary). A similar percentage of fields within the country boundary could potentially be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

**References to data sources**

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (`domsoil`)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (`slp_mean`)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (`AAR`)
(all these are column names held in the shapefile `erosionindex.shp`)

GENESIS database (`ELS.mdb`)
ADAS Land cover database (`adaslandcover2000.shp`)


Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced) ... in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Soil erosion has been reduced

Indicator
Farmland under agreements preventing/reducing soil loss (number and hectares)

Scheme
Higher Level Stewardship (HLS)

Answer
150 agreements covering 1,913 ha

Explanation of Sources and calculations

The HLS scheme has several options designed to protect watercourses by reducing diffuse pollution through reducing the risk of soil erosion, nitrate leaching and phosphorous transport. In addition, ELS/OELS options for the management of high erosion risk cultivated land and management of maize crops to reduce soil erosion can be selected as higher level options. HLS also includes other measures on agreement land that may contribute to the prevention of soil erosion and the reduction of the risk of soil erosion. These include the creation of habitats that require permanent or increased ground cover, the maintenance of permanent cover, encouragement of low intensity farming systems, reduction of stock numbers and appropriate moorland management. The ELS/OELS soil management plan option should also reduce soil erosion, providing the measures are implemented; and an estimation of the impacts of ELS (CSL, 2008) suggested that implementation of the soil management plan would reduce the loss of phosphate, and hence soil.

Only land under options that may contribute to the prevention of soil erosion was used to calculate this indicator.

A digital map has been created at 1 x 1 km to show a general overview of areas that are susceptible to soil erosion. The methodology followed MAFF (1999), amended to include risks of wind erosion in discussion with ADAS soil scientists. The methodology is derived mainly from work on lowland sandy or peaty soils under arable cultivation. No methodology was available to calculate erosion risk for upland peat soils, which are excluded from the analysis.

The method, although developed for a field-scale analysis, may be applied at a larger scale to derive relative risks of soil erosion across England. The classification is shown in the table below. The following input data were used to calculate soil erosion risk:

- Texture class of the topsoil of the dominant soil @ 1 x 1 km from Natmap (NSRI)
- Mean slope in each 1 x 1 km estimated from a Digital Terrain Model @ 50 x 50 m published by the Centre for Ecology and Hydrology
- Annual rainfall at a resolution of 1 x 1 km developed by the Met. Office and ADAS under MAFF project NT1701 (MAGPIE)

Risk Classes for Water Erosion
An overlay was then made between this erosion risk map and the centres of fields under agreement as determined by their IACS reference. Measures which are supplementary payments and which would lead to double counting of areas were excluded.

**Caveats**

The erosion risk mapping has been derived from data at a scale of 1:250,000, and thus is locally inaccurate. The data was generated at a 1 x 1 km resolution (100 ha cells). There are a very small number of errors in the GENESIS database with respect to the referencing of IACS fields (borne out by the 0.02% of fields that were located outside of the country boundary). A similar percentage of fields within the country boundary could be expected to be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

**References to data sources**

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (‘domsoil’)

Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (‘slp_mean’)

Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (‘AAR’)

(all these are column names held in the shapefile ‘erosionindex.shp’)

GENESIS database (‘HLS.mdb’)

ADAS Land cover database (‘adaslandcover2000.shp’)


Chapter VI. Agri-Environment Schemes Indicator ref. VI.1.A-1.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria     Soil erosion has been reduced
Indicator    Farmland under agreements preventing/reducing soil loss (number and hectares)
Scheme       Organic Entry Level Stewardship (OELS)
Answer       51 agreements covering 161 ha

Explanation of Sources and calculations

The OELS scheme has two options specifically to protect soil – OJ1: Management of high erosion risk cultivated land and OJ2: Management of maize crops to reduce soil erosion. It also includes other measures on agreement land that may contribute to the prevention of soil erosion and the reduction of the risk of soil erosion. These include the creation of habitats that require permanent or increased ground cover, the maintenance of permanent cover, and encouragement of low intensity farming systems. The soil management plan option should also reduce soil erosion, providing the measures are implemented; and an estimation of the impacts of ELS (CSL, 2008) suggested that implementation of the soil management plan would reduce the loss of phosphate, and hence soil.

Only organically managed land under options that may contribute to the prevention of soil erosion was used to calculate this indicator.

A digital map has been created at 1 x 1 km to show a general overview of areas that are susceptible to soil erosion. The methodology followed MAFF (1999), amended to include risks of wind erosion in discussion with ADAS soil scientists. The methodology is derived mainly from work on lowland sandy or peaty soils under arable cultivation. No methodology was available to calculate erosion risk for upland peat soils, which are excluded from the analysis.

The method, although developed for a field-scale analysis, may be applied at a larger scale to derive relative risks of soil erosion across England. The classification is shown in the table below. The following input data were used to calculate soil erosion risk:

- Texture class of the topsoil of the dominant soil @ 1 x 1 km from Natmap (NSRI)
- Mean slope in each 1 x 1 km estimated from a Digital Terrain Model @ 50 x 50 m published by the Centre for Ecology and Hydrology
- Annual rainfall at a resolution of 1 x 1 km developed by the Met. Office and ADAS under MAFF project NT1701 (MAGPIE)

Risk Classes for Water Erosion
Soil Textures | Steep slopes > 7° | Moderate slopes 3° - 7° | Gentle slopes 2° - 3° | Level ground < 2°
---|---|---|---|---
Sand, Loamy sand, sandy loam, sandy silt loam, silt loam | Very high (High)* | High (Moderate)* | Moderate (Lower)* | Slight
Peat, peaty (wind erosion) | Not at risk (At risk)* | Not at risk (At risk)* | Not at risk (At risk)* | Not at risk (At risk)*
Silty clay loam | High (Moderate)* | Moderate | Lower | Slight
Other mineral soils | Lower | Slight | Slight | Slight

- Where average annual rainfall is less than 800 mm, the risk class in brackets applies.

An overlay was then made between this erosion risk map and the centres of fields under agreement as determined by their IACS reference. Measures which are supplementary payments and which would lead to double counting of areas were excluded.

**Caveats**
The erosion risk mapping has been derived from data at a scale of 1:250,000, and thus is locally inaccurate. The data was generated at a 1 x 1 km resolution (100 ha cells). There are a very small number of errors in the GENESIS database with respect to the referencing of IACS fields (borne out by the 0.02% of fields that were located outside of the country boundary). A similar percentage of fields within the country boundary could potentially be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

**References to data sources**
Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (‘domsoil’)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (‘slp_mean’)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell (‘AAR’)
(all these are column names held in the shapefile ‘erosionindex.shp’)

GENESIS database (‘OELS.mdb’)
ADAS Land cover database (‘adaslandcover2000.shp’)


Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Soil erosion has been reduced

Indicator
Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%)

Scheme
OFS, CSS, ESA, ELA, OELS, HLS

Answer
Water, 77% of agreements and 91% of area (204,600 ha)
Wind, 11% of agreements and 9% of area (21,300 ha)
Tillage 16% of agreements and 5% of area (can only calculate for OFS)

Explanation of Sources and calculations
Note: cannot quantify tillage effect for schemes other than OFS

References to data sources
See answer sheets for individual schemes for explanation
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria

Soil erosion has been reduced

Indicator

Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%)

Scheme

Countryside Stewardship Scheme (CSS)

Answer

From water: 58% of the measures within those agreements preventing/ reducing soil loss and 83% of the area preventing/reducing soil loss.

From wind: 8% of the measures within those agreements preventing/ reducing soil loss and 17% of the area preventing/reducing soil loss.

Tillage: No methodology available to calculate this.

Explanation of Sources and calculations

See VI.1.A-1.1 and See VI.1.A-1.1(b)

Water: Of the 25901 ha of land identified in VI.1.A-1.1 as having a reduced risk of erosion, it is estimated that 21418 ha of that land has a reduced risk of erosion by water and 4483 ha has a reduced risk of erosion by wind. No methodology is available to calculate the amount of this land that has a reduced risk of erosion by tillage.

Tillage erosion is a much localised phenomenon that is defined by field shape and the direction, timing and depth of ploughing. No national-level data are available to assess the risk of tillage erosion in England. However, many of the soils included in the wind or water categories are also likely to be at risk from tillage erosion and will have received some protection under CSS.

Caveats

See VI.1.A-1.1

The area quoted as being susceptible to wind erosion does not include land which is susceptible to both water and wind erosion. This is included under the ‘water’ category.

References to data sources

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (‘domsoil’)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (‘slp_mean’)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (‘AAR’)
(all these are column names held in the shapefile ‘erosionindex.shp’)

AESIS database (‘CSS.mdb’)
ADAS Land cover database (‘adaslandcover2000.shp’)

Good Farming Practice document
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Soil erosion has been reduced

Indicator
Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
From water: 74% of the measures of those agreements preventing/reducing soil loss and 79% of the area preventing/reducing soil loss.

From wind: 26% of the measures of those agreements preventing/reducing soil loss and 21% of the area preventing/reducing soil loss.

Tillage: No methodology available to calculate this.

Explanation of Sources and calculations
See VI.1.A-1.1 and See VI.1.A-1.1(b)

Water: Of the 4100 ha of land identified in VI.1.A-1.1 as having a reduced risk of erosion, it is estimated that 3254 ha of that land has a reduced risk of erosion by water and 846 ha has a reduced risk of erosion by wind. No methodology is available to calculate the amount of this land that has a reduced risk of erosion by tillage.

Tillage erosion is a very localised phenomenon that is defined by field shape and the direction, timing and depth of ploughing. No national-level data are available to assess the risk of tillage erosion in England. However, many of the soils included in the wind or water categories are also likely to be at risk from tillage erosion and will have received some protection under ESAs.

Caveats
See VI.1.A-1.1
The area quoted as being susceptible to wind erosion does not include land that is susceptible to both water and wind erosion. This is included under the ‘water’ category.

References to data sources
Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (summarised in erosionindex.shp)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (summarised in erosionindex.shp)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (summarised in erosionindex.shp)

AESIS database (ESA.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria

Soil erosion has been reduced

Indicator

Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%)

Scheme

Organic Farming Scheme (OFS)

Answer

179,903 hectares, of which 165,111 ha (92%) within 620 agreements is located in areas susceptible to water erosion, and 14,793 ha (8%) within 40 agreements is located in areas susceptible to wind erosion.

Explanation of Sources and calculations

The following conclusions are drawn by Shepherd et al. (2003):

- Research which compared adjacent organic and conventional farms showed a difference in erosion rates was attributed to different crop rotation systems and different tillage practices.

- It can be argued that organic farming employs as standard the main erosion control methods (grass, cover crops/undersowing and regular manure additions) as well as some practices that might encourage erosion (frequent tillage and wider rows for weed control, slower developing cover because of N shortage). They argue that the positive control measures outweigh the risk factors, although no evidence is provided.

- Recent work in the uplands of England and Wales has demonstrated that a major factor in upland erosion is animal stocking density ... we can surmise that grazing pressure in the uplands will be less under organic, as stocking densities are generally less.

On the basis of this, the following assumptions have been made:

1. The area of cropped land has been used as a measure of the reduction of soil erosion due to tillage.

2. The area of temporary pasture has been used as a measure of the reduction in soil erosion due to water.

The overlap in these areas and areas susceptible to erosion from the soil map are used to answer the question.

References to data sources


MAFF publication PB4092, with classes for peat soils added in discussion with Gillian Goodlass, Sheila Royle and Selwyn Richardson, ADAS soil scientists.

Defra OFS prescription database

AESIS database (OFS.mdb)

Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Soil erosion has been reduced

Indicator
Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%)

Scheme
Entry Level Stewardship (ELS)

Answer
From water: 89% of the agreements preventing/reducing soil loss and 93% of the area preventing/reducing soil loss.

From wind: 11% of the agreements preventing/reducing soil loss and 7% of the area preventing/reducing soil loss.

Tillage: No methodology available to calculate this.

Explanation of Sources and calculations
See VI.1.A-1.1 and VI.1.A-1.1(b)

Water: Of the 13,923 ha of land identified in VI.1.A-1.1 as having a reduced risk of erosion, it is estimated that 12,938 ha of that land has a reduced risk of erosion by water and 985 ha has a reduced risk of erosion by wind. No methodology is available to calculate the amount of this land that has a reduced risk of erosion by tillage.

Tillage erosion is a much localised phenomenon that is defined by field shape and the direction, timing and depth of ploughing. No national-level data are available to assess the risk of tillage erosion in England. However, many of the soils included in the wind or water categories are also likely to be at risk from tillage erosion and will have received some protection under ELS.

Caveats
See VI.1.A-1.1
The area quoted as being susceptible to wind erosion does not include land that is susceptible to both water and wind erosion. This is included under the ‘water’ category.

References to data sources
Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (summarised in erosionindex.shp)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (summarised in erosionindex.shp)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (summarised in erosionindex.shp)
GENESIS database (ELS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

| Criteria | Soil erosion has been reduced |
| Indicator | Farmland under agreements preventing/reducing soil loss (number and hectares) (a) from water/wind/tillage respectively (%) |
| Scheme | Higher Level Stewardship (HLS) |
| Answer | From water: 89% of the agreements preventing/reducing soil loss and 90% of the area preventing/reducing soil loss. |
| | From wind: 13% of the agreements preventing/reducing soil loss and 10% of the area preventing/reducing soil loss. |
| | Tillage: No methodology available to calculate this. |

Explanation of Sources and calculations

See VI.1.A-1.1 and VI.1.A-1.1(b)

Water: Of the 1913 ha of land identified in VI.1.A-1.1 as having a reduced risk of erosion, it is estimated that 1723 ha of that land has a reduced risk of erosion by water and 189 ha has a reduced risk of erosion by wind. No methodology is available to calculate the amount of this land that has a reduced risk of erosion by tillage.

Tillage erosion is a much localised phenomenon that is defined by field shape and the direction, timing and depth of ploughing. No national-level data are available to assess the risk of tillage erosion in England. However, many of the soils included in the wind or water categories are also likely to be at risk from tillage erosion and will have received some protection under HLS.

Caveats

See VI.1.A-1.1

The area quoted as being susceptible to wind erosion does not include land that is susceptible to both water and wind erosion. This is included under the ‘water’ category.

References to data sources

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (summarised in erosionindex.shp)
Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (summarised in erosionindex.shp)
Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (summarised in erosionindex.shp)

GENESIS database (HLS.mdb)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.A-1.1 (a)

To what extent have natural resources been protected (or enhanced) ... in terms of soil quality, as influenced by agri-environmental measures?

Criteria  
Soil erosion has been reduced

Indicator  
Farmland under agreements preventing/reducing soil loss (number and hectares)  
(a) from water/wind/tillage respectively (%)

Scheme  
Organic Entry Level Stewardship (OELS)

Answer  
From water: 92% of the agreements preventing/reducing soil loss and 97% of the area preventing/reducing soil loss.

From wind: 8% of the agreements preventing/reducing soil loss and 3% of the area preventing/reducing soil loss.

Tillage: No methodology available to calculate this.

Explanation of Sources and calculations

See VI.1.A-1.1 and VI.1.A-1.1(b)

Water: Of the 161 ha of land identified in VI.1.A-1.1 as having a reduced risk of erosion, it is estimated that 156 ha of that land has a reduced risk of erosion by water and 4 ha has a reduced risk of erosion by wind. No methodology is available to calculate the amount of this land that has a reduced risk of erosion by tillage.

Tillage erosion is a much localised phenomenon that is defined by field shape and the direction, timing and depth of ploughing. No national-level data are available to assess the risk of tillage erosion in England. However, many of the soils included in the wind or water categories are also likely to be at risk from tillage erosion and will have received some protection under OELS.

Caveats

See VI.1.A-1.1

The area quoted as being susceptible to wind erosion does not include land that is susceptible to both water and wind erosion. This is included under the ‘water’ category.

References to data sources

Natmap published by the National Soil Resource Institute, Cranfield University, 2002 (summarised in erosionindex.shp)

Digital Terrain Model published by the Centre for Ecology and Hydrology, Wallingford (summarised in erosionindex.shp)

Surface of Average Annual Rainfall published by the Met. Office, Bracknell. (summarised in erosionindex.shp)

GENESIS database (OELS.mdb)

Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  Soil erosion has been reduced

Indicator  Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)

Scheme  OFS/ESA/CSS/ELS/OELS/HLS

Answer  Land use – 45% of agreements and 86% of land
          Barriers use – 69% of agreements and 81% of land
          Agricultural Practices – 39% of agreements and 94% of land
          Stocking Density – 13% of agreements and 80% of land (OFS Only)

Explanation of Sources and calculations

Note:
1. all OFS in susceptible areas contributes to these figures
2. only OFS contributes for stocking density figures as the contribution of ESA and CSS cannot be calculated

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria

Soil erosion has been reduced

Indicator

Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)

Scheme

Countryside Stewardship Scheme (CSS)

Answer

Those measures listed below are those considered most likely to lead to a reduction in soil erosion (actual impact will be site dependent). Only those options for which there is actual uptake within areas with moderate or higher erosion risk are listed.

Table 1: Due to land use

<table>
<thead>
<tr>
<th>Measure to prevent/reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area)</td>
</tr>
<tr>
<td>Arable reversion to grassland and heathland (once established).</td>
<td>683 (13,089 ha)</td>
</tr>
<tr>
<td>Wildflower seed mix, pollen and nectar mix</td>
<td>442 (854 ha)</td>
</tr>
<tr>
<td><strong>Total (land use)</strong></td>
<td><strong>1125 (13,943 ha)</strong></td>
</tr>
</tbody>
</table>

Table 2: Due to barriers

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area)</td>
</tr>
<tr>
<td>Hedge planting, gapping up.</td>
<td>Cannot be calculated</td>
</tr>
<tr>
<td>Grass margins, beetle banks, wildlife strips</td>
<td>1328 (7,060 km)</td>
</tr>
<tr>
<td><strong>Total (barriers)</strong></td>
<td><strong>1328 (7,060 km)</strong></td>
</tr>
</tbody>
</table>

Table 3: Due to agricultural practices

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area)</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>456 (10,312 ha)</td>
</tr>
<tr>
<td>Conservation headlands</td>
<td>183 (1513 ha)</td>
</tr>
<tr>
<td><strong>Total (agricultural practices)</strong></td>
<td><strong>639 (11,825)</strong></td>
</tr>
</tbody>
</table>
**Table 4: Due to stocking density**
The impact of a reduction in stocking density cannot be calculated with the methodology used.

**Explanation of Sources and calculations**
All figures are for RDR compliant agreements that lie within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1). Measures which are supplementary payments and which would lead to double counting of areas are excluded.

The calculation of the % of agreements is out of 1845 agreements — some options occur on the same agreement therefore the total does not add up to 100%.

**Table 1.** Arable reversion will lead to reduced soil erosion once permanent cover established. In the short term arable reversion options can temporarily increase the risk of soil erosion if establishment of the new cover is poor.

**Table 2.** Only includes those options that clearly provide a new barrier preventing surface and wind erosion. Restoration of existing linear features (hedges, walls, earthbanks) is excluded as benefits to soil erosion reduction are less clear (there is often a feature already present at ground level and forming a barrier to erosion but that requires management – e.g. coppicing & laying hedges, rebuilding walls).

**Caveats**
see VI.1.A-1.1

Overwintered stubbles can generally be considered to reduce erosion risk in that they are less susceptible than bare ploughed/cultivated land or late established winter cereals. However overwintered stubbles would be more at risk than a well established crop e.g. early drilled winter cereals or oilseed rape.

The effectiveness of barriers such as hedges, grass strips and beetle banks in reducing erosion risks is dependent on their location and orientation in relation to the slope. Only a proportion of these will be suitably sited as effective barriers for erosion control. Their effectiveness is also very dependent on good establishment e.g. a newly planted hedge initially presents little resistance to soil loss.

**References to data sources**
- Soil erosion mapping: see VI.1.A-1.1(a).
- AESIS database and descriptions of CSS prescriptions (CSS.mdb).
Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  
Soil erosion has been reduced

Indicator  
Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)

Scheme  
Environmentally Sensitive Area (ESA)

Answer  
Those measures listed below are those considered most likely to lead to a reduction in soil erosion (actual impact will be site dependent). Only those options for which there is actual uptake within areas with moderate or higher erosion risk are listed.

Table 1: Due to land use

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area)</td>
</tr>
<tr>
<td></td>
<td>% of agreements (&amp; of area)</td>
</tr>
<tr>
<td>Arable reversion to grassland and heathland (once established).</td>
<td>59 (1016 ha)</td>
</tr>
<tr>
<td>Total</td>
<td>59 (1016 ha)</td>
</tr>
<tr>
<td></td>
<td>10% (25%)</td>
</tr>
</tbody>
</table>

Table 2: Due to barriers

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area/length)</td>
</tr>
<tr>
<td></td>
<td>% of agreements (&amp; of area)</td>
</tr>
<tr>
<td>Hedge planting, gapping up.</td>
<td>cannot be calculated</td>
</tr>
<tr>
<td>Arable margin buffer strips, grass margins</td>
<td>255 (1555 ha)</td>
</tr>
<tr>
<td>Total (barriers)</td>
<td>255 (1555 ha)</td>
</tr>
<tr>
<td></td>
<td>45% (38%)</td>
</tr>
</tbody>
</table>

Table 3: Due to agricultural practices

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (and area)</td>
</tr>
<tr>
<td></td>
<td>% of agreements (&amp; of area)</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>36 (1152 ha)</td>
</tr>
<tr>
<td>Conservation headlands, Uncropped wildlife strips</td>
<td>7 (35 ha)</td>
</tr>
<tr>
<td>Total (agricultural practices)</td>
<td>43 (1187 ha)</td>
</tr>
<tr>
<td></td>
<td>8% (29%)</td>
</tr>
</tbody>
</table>

Table 4: Due to stocking density

The impact of a reduction in stocking density cannot be calculated with the methodology used.
Explanation of Sources and calculations

All figures are for RDR compliant agreements that lie within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1). Measures which are supplementary payments and which would lead to double counting of areas are excluded.

The calculation of the % of agreements is of out of 568 agreements – as some options occur on the same agreement therefore the total does not add up to 100%.

Table 1. Arable reversion will lead to reduced soil erosion once permanent cover is established. In the short term arable reversion options can temporarily increase the risk of soil erosion if establishment of the new cover is poor.

Table 2. Only includes those options that clearly provide a new barrier preventing surface and wind erosion. Restoration of existing linear features (hedges, walls, earthbanks) is excluded as benefits to soil erosion reduction are less clear (there is often a feature already present at ground level and forming a barrier to erosion but that requires management – e.g. coppicing & laying hedges, rebuilding walls).

Caveats

see VI.1.A-1.1

Overwintered stubbles can generally be considered to reduce erosion risk in that they are less susceptible than bare ploughed/cultivated land or late established winter cereals. However overwintered stubbles would be more at risk than a well established crop e.g. early drilled winter cereals or oilseed rape.

The effectiveness of barriers such as hedges, grass strips and beetle banks in reducing erosion risks is dependent on their location and orientation in relation to the slope. Only a proportion of these will be suitably sited as effective barriers for erosion control. Their effectiveness is also very dependent on good establishment e.g. a newly planted hedge initially presents little resistance to soil loss.

References to data sources

- Soil erosion mapping: see VI.1.A-1.1.
- AESIS database and descriptions of ESA prescriptions (ESA.mdb).
Chapter VI. Agri-Environment Schemes Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100% of agreements/area in susceptible areas</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

OFS prescriptions include compliance with Good Agricultural Practice. Prescriptions relevant to this Indicator include:

- Protection of existing field boundaries

The following conclusions are drawn by Shepherd et al. (2003):

- Uncropped areas (sown grass strips or ‘beetle banks’, grass margins, uncropped wildlife and flower strips, hedges, ditch and bank habitats) are intrinsic in organic regimes where their management is central to the philosophy (Stockdale et al., 2001).
- Relative to conventional farming, all land under annual cropping in OFS agreements which is susceptible to soil erosion may benefit from additional protection of field boundaries and features such as beetle banks.
- Stocking densities are limited by productive capacity underpinned by the Organic Standards and so tend to be lower in organic systems. The lower density can be an advantage when grazing sensitive habitats.

On the basis of this, it is assumed that all the organic land under agreement which in susceptible areas, as defined by the map may benefit from reduced soil loss due to land use, barriers or diversions, agricultural practices, stocking density of grazing animals.

**References to data sources**


MAFF publication PB4092, with classes for peat soils added in discussion with Gillian Goodlass, Sheila Royle and Selwyn Richardson, ADAS soil scientists.

Defra OFS prescription database
Defra AESIS database

## Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.1.A-1.1 (b)**

To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
</tbody>
</table>
Those measures listed below are those considered most likely to lead to a reduction in soil erosion (actual impact will be site dependent). Only those options for which there is actual uptake within areas with moderate or higher erosion risk are listed.

**Table 1: Due to land use**

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Wildflower seed mix, pollen and nectar mix, take archaeological features out of cultivation</td>
<td>343 (338 ha)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>343 (338 ha)</td>
</tr>
</tbody>
</table>

**Table 2: Due to barriers**

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Buffer strips, beetle banks</td>
<td>1084 (1155 ha)</td>
</tr>
<tr>
<td><strong>Total (barriers)</strong></td>
<td>1084 (1155 ha)</td>
</tr>
</tbody>
</table>

**Table 3: Due to agricultural practices**

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>0 (0 ha)</td>
</tr>
<tr>
<td>Uncropped field corners</td>
<td>568 (582 ha)</td>
</tr>
<tr>
<td><strong>Total (agricultural practices)</strong></td>
<td>568 (582 ha)</td>
</tr>
</tbody>
</table>

**Table 4: Due to stocking density**

The impact of a reduction in stocking density cannot be calculated with the methodology used.

**Explanation of Sources and calculations**

All figures are for RDR compliant agreements that lie within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The calculation of the % of agreements is of out of 1714 agreements – some options occur on the same agreement therefore the total does not add up to 100%.

**Table 1.** Taking land out of cultivation will lead to reduced soil erosion once permanent cover is established. In the short term, such options can temporarily increase the risk of soil erosion if establishment of the new cover is poor.

**Table 2.** Only includes those options that clearly provide a new barrier preventing surface and wind erosion. Management of existing linear features (hedges, walls) is excluded.

**Caveats**

see VI.1.A-1.1

Overwintered stubbles can generally be considered to reduce erosion risk in that they are less susceptible than bare ploughed/cultivated land or late established winter cereals. However overwintered stubbles would be more at risk than a well established crop e.g. early drilled winter cereals or oilseed rape.

The effectiveness of barriers such as grass strips and beetle banks in reducing erosion risks is dependent on their location and orientation in relation to the slope. Only a proportion of these will be
suitably sited as effective barriers for erosion control. Their effectiveness is also very dependent on good establishment.

References to data sources
- Soil erosion mapping: see VI.1.A-1.1.
- GENESIS database and descriptions of ELS prescriptions (ELS.mdb).
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
</tbody>
</table>
Those measures listed below are those considered most likely to lead to a **reduction** in soil erosion (actual impact will be site dependent). Only those options for which there is actual uptake within areas with moderate or higher erosion risk are listed.

### Table 1: Due to land use

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Arable reversion to grassland and heathland (once established)</td>
<td>23 (205 ha)</td>
</tr>
<tr>
<td>Wildflower seed mix, pollen and nectar mix</td>
<td>29 (33 ha)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47 (238 ha)</strong></td>
</tr>
</tbody>
</table>

### Table 2: Due to barriers

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Buffer strips, beetle banks</td>
<td>65 (128 ha)</td>
</tr>
<tr>
<td><strong>Total (barriers)</strong></td>
<td><strong>65 (128 ha)</strong></td>
</tr>
</tbody>
</table>

### Table 3: Due to agricultural practices

<table>
<thead>
<tr>
<th>Measure to reduce erosion</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>0 (0 ha)</td>
</tr>
<tr>
<td>Unharvested conservation headlands, Uncropped field corners</td>
<td>38 (42 ha)</td>
</tr>
<tr>
<td><strong>Total (agricultural practices)</strong></td>
<td><strong>38 (42 ha)</strong></td>
</tr>
</tbody>
</table>

### Table 4: Due to stocking density

The impact of a reduction in stocking density cannot be calculated with the methodology used.

**Explanation of Sources and calculations**

All figures are for RDR compliant agreements that lie within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The calculation of the % of agreements is of out of 150 agreements – some options occur on the same agreement therefore the total does not add up to 100%.

**Table 1.** Arable reversion will lead to reduced soil erosion once permanent cover is established. In the short term arable reversion options can temporarily increase the risk of soil erosion if establishment of the new cover is poor.

**Table 2.** Only includes those options that clearly provide a new barrier preventing surface and wind erosion. Restoration of existing linear features (hedges, walls, earthbanks) is excluded as benefits to soil erosion reduction are less clear (there is often a feature already present at ground level and forming a barrier to erosion but that requires management.

**Caveats**

see VI.1.A-1.1

Overwintered stubbles can generally be considered to reduce erosion risk in that they are less susceptible than bare ploughed/cultivated land or late established winter cereals. However overwintered stubbles would be more at risk than a well established crop e.g. early drilled winter cereals or oilseed rape.
The effectiveness of barriers such as hedges, grass strips and beetle banks in reducing erosion risks is dependent on their location and orientation in relation to the slope. Only a proportion of these will be suitably sited as effective barriers for erosion control. Their effectiveness is also very dependent on good establishment e.g. a newly planted hedge initially presents little resistance to soil loss.

References to data sources
- Soil erosion mapping: see VI.1.A-1.1.
- GENESIS database and descriptions of HLS prescriptions (HLS.mdb).
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.A-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  Soil erosion has been reduced

Indicator  Farmland under agreements preventing/reducing soil loss (number and hectares) (b) due to: land use, barriers or diversions, agricultural practices, stocking density of grazing animals (%)

Scheme  Organic Entry Level Stewardship (OELS)

Answer  Those measures listed below are those considered most likely to lead to a reduction in soil erosion (actual impact will be site dependent). Only those options for which there is actual uptake on organically managed land within areas with moderate or higher erosion risk are listed.

<table>
<thead>
<tr>
<th>Table 1: Due to land use</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure to reduce erosion</td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Wildflower seed mix, pollen and nectar mix, take archaeological features out of cultivation</td>
<td>9 (5 ha)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9 (5 ha)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2: Due to barriers</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure to reduce erosion</td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Buffer strips, beetle banks</td>
<td>42 (38 ha)</td>
</tr>
<tr>
<td><strong>Total (barriers)</strong></td>
<td><strong>42 (38 ha)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3: Due to agricultural practices</th>
<th>Uptake in areas susceptible to erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure to reduce erosion</td>
<td>Number of agreements (area)</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>0 (0 ha)</td>
</tr>
<tr>
<td>Uncropped field corners</td>
<td>11 (14 ha)</td>
</tr>
<tr>
<td><strong>Total (agricultural practices)</strong></td>
<td><strong>11 (14 ha)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4: Due to stocking density</th>
</tr>
</thead>
<tbody>
<tr>
<td>The impact of a reduction in stocking density cannot be calculated with the methodology used.</td>
</tr>
</tbody>
</table>
Explanation of Sources and calculations

All figures are for RDR compliant agreements that lie within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The calculation of the % of agreements is out of 51 agreements – some options occur on the same agreement therefore the total does not add up to 100%.

Table 1. Taking land out of cultivation will lead to reduced soil erosion once permanent cover is established. In the short term, such options can temporarily increase the risk of soil erosion if establishment of the new cover is poor.

Table 2. Only includes those options that clearly provide a new barrier preventing surface and wind erosion. Management of existing linear features (hedges, walls) is excluded.

Caveats
see VI.1.A-1.1

Overwintered stubbles can generally be considered to reduce erosion risk in that they are less susceptible than bare ploughed/cultivated land or late established winter cereals. However overwintered stubbles would be more at risk than a well established crop e.g. early drilled winter cereals or oilseed rape.

The effectiveness of barriers such as grass strips and beetle banks in reducing erosion risks is dependent on their location and orientation in relation to the slope. Only a proportion of these will be suitably sited as effective barriers for erosion control. Their effectiveness is also very dependent on good establishment.

References to data sources
- Soil erosion mapping: see VI.1.A-1.1.
- GENESIS database and descriptions of OELS prescriptions (OELS.mdb).
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**  
Soil erosion has been reduced

**Indicator**  
Farmland under agreements preventing/reducing soil loss (number and hectares)  
(c) mainly/exclusively targeting erosion control (%)

**Scheme**  
OFS/ESA/CSS/ELS/OELS/HLS

**Answer**  
2% of agreements and 1% of area

**Explanation of Sources and calculations**

The answer was calculated using ELS, HLS and OELS only, as OFS/CSS/ESA do not have specific measures to prevent or reduce soil erosion.

**References to data sources**

See answer sheets for individual scheme for explanation
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
The CSS scheme does not have any specific measures to prevent or reduce soil erosion.

**References to data sources**
Scheme guidelines and prescriptions
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (c)

To what extent have natural resources been protected (or enhanced)... in terms of soil quality, as influenced by agri-environmental measures?

Criteria Soil erosion has been reduced

Indicator Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)

Scheme Environmentally Sensitive Area (ESA)

Answer 0%

Explanation of Sources and calculations
The ESA scheme does not have any specific measures to prevent or reduce soil erosion.

References to data sources
Scheme guidelines and prescriptions
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.A-1.1 (c)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  Soil erosion has been reduced
Indicator  Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)
Scheme  Organic Farming Scheme (OFS)
Answer  0%

Explanation of Sources and calculations
The OFS scheme does not have any specific measures to prevent or reduce soil erosion.

References to data sources
Scheme guidelines and prescriptions
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>3.2% of agreements and 7.6% of area</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
ELS has two options that specifically protect soils – EJ1: Management of high erosion risk cultivated land and EJ2: Management of maize crops to reduce soil erosion. 54 agreements have taken up one or both of these options on 1057 ha of land that lies within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The soil management plan option should also reduce soil erosion, providing the measures are implemented.

References to data sources
- Soil erosion mapping: see VI.1.A-1.1.
- Defra: GENESIS database and descriptions of ELS prescriptions (ELS.mdb).
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.1.A-1.1 (c)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Soil erosion has been reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>18% of agreements and 23% of area</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The HLS scheme has several options designed to protect watercourses by reducing diffuse pollution through reducing the risk of soil erosion, nitrate leaching and phosphorous transport. In addition, ELS/OELS options for the management of high erosion risk cultivated land and management of maize crops to reduce soil erosion can be selected as higher level options. 27 agreements have taken up one or more of these options on 434 ha of land that lies within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The ELS/OELS soil management plan option should also reduce soil erosion, providing the measures are implemented.

**References to data sources**

- Soil erosion mapping: see VI.1.A-1.1.
- GENESIS database and descriptions of HLS prescriptions (HLS.mdb).
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-1.1 (c)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Soil erosion has been reduced

Indicator
Farmland under agreements preventing/reducing soil loss (number and hectares) (c) mainly/exclusively targeting erosion control (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
7.8% of agreements and 65% of area

Explanation of Sources and calculations
OELS has two options that specifically protect soils – OJ1: Management of high erosion risk cultivated land and OJ2: Management of maize crops to reduce soil erosion. 4 agreements have taken up one or both of these options on 104 ha of organically managed land that lies within areas known to be susceptible to soil erosion (see Indicator ref: VI.1.A-1.1).

The soil management plan option should also reduce soil erosion, providing the measures are implemented.

References to data sources
- Soil erosion mapping: see VI.1.A-1.1.
- GENESIS database and descriptions of OELS prescriptions (OELS.mdb).
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.A-2.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria: Chemical contamination of soils has been prevented or reduced

Indicator: Farmland under agreements reducing soil contamination (number and hectares)

Scheme: CSS, ESA, OFS, ELS, HLS, OELS

Answer: There are 42,047 agreements covering 2,119,753 ha that are reducing soil contamination

Explanation of Sources and calculations

Note that some beneficiaries may have agreements in more than one scheme

References to data sources

See answer sheets for individual scheme for explanation
To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Chemical contamination of soils has been prevented or reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements reducing soil contamination (number and hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>There are 11,595 agreements covering 418,696 ha that are reducing soil contamination</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This question was answered using income foregone figures specifically for plant protection products and income foregone data for reduction in nutrient inputs. Bracken control through the use of chemicals (mechanical control is also available) will bring an increase in use of plant protection substances in some circumstances. Levels of use are not available but the area to which there is a committed expenditure to apply it is given in VI.1.A-2.1(a).

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587). This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone for plant protection products.

**Caveats**

Income foregone data was not available for some management options - see VI.1.A-2.1(a) and VI.1.A-2.1(b).

**References to data sources**

AESIS database (CSS.mdb)
Scheme guidelines for farmers
Defra Income foregone data/ data analysis file (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-2.1

To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Chemical contamination of soils has been prevented or reduced

Indicator
Farmland under agreements reducing soil contamination (number and hectares)

Scheme
Environmentally Sensitive Areas (ESA)

Answer
There are 7907 agreements covering 340,847 ha that are reducing soil contamination

Explanation of Sources and calculations
This question was answered using income foregone figures specifically for plant protection products and income foregone data for reduction in nutrient inputs. Bracken control through the use of chemicals (mechanical control is also available) will bring an increase in use of plant protection substances in some circumstances. Levels of use are not available but the area to which there is a committed expenditure to apply it is given in VI.1.A-2.1(a).

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587). This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone for plant protection products.

Caveats
Income foregone data was not available for some management options - see VI.1.A-2.1(a) and VI.1.A-2.1(b).

References to data sources
AESIS database (ESA.mdb)
Scheme guidelines for farmers
Defra Income foregone data/ data analysis file (Income foregone.xls)
To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

Criteria: Chemical contamination of soils has been prevented or reduced

Indicator: Farmland under agreements reducing soil contamination (number and hectares)

Scheme: Organic Farming Scheme (OFS)

Answer: 2,377 agreements and 919,864 hectares

Explanation of Sources and calculations
OFS prescriptions include compliance with Good Farming Practice (GFP). Organic standards place additional requirements on:
- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered by totaling the areas of land under agreement that lie outside of the LFA boundary. An overlay was made between a digital map of land designated as LFA and the centers of land parcels under agreement as determined by their IACS reference.

Caveats
This analysis is limited in that some LFA-classified land will have received fertiliser and/or pesticide prior to conversion while some non-LFA land will not. Another approach would be to assume that unimproved land – based on the tiers for payment under the OFS – had not received inputs prior to conversion. However, this includes lowland permanent pasture and gives a less reliable answer.

There are a small number of errors in the AESIS database with respect to the referencing of IACS fields, therefore the figures quoted above should be interpreted as being indicative of the total protected area rather than being definitive.

References to data sources
Defra OFS prescription database
Defra AESIS database
MAGIC – LFA shapefile
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**
Chemical contamination of soils has been prevented or reduced

**Indicator**
Farmland under agreements reducing soil contamination (number and hectares)

**Scheme**
Entry Level Stewardship (ELS)

**Answer**
18,441 agreements and 304,693 ha

**Explanation of Sources and calculations**
This question was answered using the management requirements for ELS options, as detailed in the prescriptions in the ELS handbook; specifically those options that require or maintain a reduced use of plant protection products and/or fertiliser. A reduction in inputs and thus soil contamination is assumed only for these options.

The nutrient, manure and crop protection management plan options may reduce use of plant protection products and/or fertiliser, providing the measures are implemented.

**References to data sources**
GENESIS database (ELS.mdb)
ELS scheme handbook
Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.1.A-2.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Chemical contamination of soils has been prevented or reduced

Indicator
Farmland under agreements reducing soil contamination (number and hectares)

Scheme
Higher Level Stewardship (HLS)

Answer
722 agreements and 36,301 ha

Explanation of Sources and calculations

This question was answered using the management requirements for HLS options, as detailed in the prescriptions in the HLS handbook; specifically those options that require or maintain a reduced use of plant protection products and/or fertiliser. A reduction in inputs and thus soil contamination is assumed only for these options.

The ELS nutrient, manure and crop protection management plan options may reduce use of plant protection products and/or fertiliser, providing the measures are implemented.

References to data sources

GENESIS database (HLS.mdb)
HLS scheme handbook
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**
Chemical contamination of soils has been prevented or reduced

**Indicator**
Farmland under agreements reducing soil contamination (number and hectares)

**Scheme**
Organic Entry Level Stewardship (OELS)

**Answer**
1,005 agreements and 99,352 ha

**Explanation of Sources and calculations**
OELS prescriptions include compliance with Good Farming Practice (GFP). Organic standards place additional requirements on:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered in part by totaling the organically managed areas of land under agreement that lie outside the LFA boundary. This was done using the LFA flag in the GENESIS database. Non-LFA OELS land parcels total 929 agreements on 97,234 ha.

In addition, options specifically for LFA land that have management prescriptions for reduced use of organic fertilizer are also included. These total 76 agreements on 2118 ha.

**References to data sources**
Defra OELS handbook

Natural England GENESIS database (OELS.mdb)

Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.1.A-2.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  

Chemical contamination of soils has been prevented or reduced

Indicator  

Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%) 

Scheme  

CSS/ESA/ELS/HLS

Answer  

71% of agreements and 58% of area under agreement reducing soil contamination have a reduced use of plant protection substances.

Explanation of Sources and calculations

Note that some beneficiaries may have agreements in more than one scheme.
This answer was calculated using data for CSS, ESA, ELS and HLS only.

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Chemical contamination of soils has been prevented or reduced

Indicator
Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
61% of agreements and 72% of the area under agreement reducing soil contamination have a reduced use of plant protection substances.

Explanation of Sources and calculations
Based upon income foregone data, supplied by Defra, which is available for those measures where it is known that on average the level of plant protection use will decrease as a result of the agreement.

Farmland under agreements reducing soil contamination (number of agreements and hectares) (a) of which reduced use of plant protection substances (%) between April 1999 and December 2006.

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland under agreement reducing soil contamination (nutrient/manure + plant protection substances)</td>
<td>11595</td>
<td>418696 ha</td>
<td>n/a</td>
</tr>
<tr>
<td>Farmland under agreement reducing soil contamination through plant protection substances</td>
<td>7060</td>
<td>299523 ha</td>
<td>61% (agreements) 72% (area)</td>
</tr>
</tbody>
</table>

Bracken control through the use of chemicals (mechanical control is also available) will bring an increase in use of plant protection substances in some circumstances. Levels of use are not available but the area to which there is a committed expenditure to apply it is given below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracken control chemical –agreements with a commitment to carry out bracken control</td>
<td>4079 ha</td>
<td>317</td>
</tr>
</tbody>
</table>

Derogations for the use of plant protection substances are given under the scheme where weed infestation has occurred. Complete information on the total number of derogations for plant protection substances is only available through paper records and has not been obtained for the Ex-Post Evaluation.

CSS guidelines for all agreements specify the limited circumstances in which plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) can be used (with prior approval), often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied.

It should be noted that some high nature value habitats will never have received plant protection substances and this is taken account of in the available income foregone data.
Caveats
This question was answered using income foregone data. This data was not available for all management options. Out of a total of 185 scheme measures, 25 scheme measures had no data.

References to data sources
Natural England AESIS database (CSS.mdb)
Scheme guidelines for farmers
Defra Income foregone data/ data analysis file (Income foregone.xls)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.A-2.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**  
Chemical contamination of soils has been prevented or reduced

**Indicator**  
Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%)

**Scheme**  
Environmentally Sensitive Area (ESA)

**Answer**  
24% of agreements and 19% of the area under agreement reducing soil contamination have a reduced use of plant protection substances.

**Explanation of Sources and calculations**

Based upon income foregone data for plant protection substances, supplied by Defra, which is available for those measures where it is known that on average the level of plant protection use will decrease as a result of the agreement.

**Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%) between April 1999 and December 2006.**

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland under agreement reducing soil contamination (nutrient/manure + plant protection substances)</td>
<td>7907</td>
<td>340,847 ha</td>
<td>n/a</td>
</tr>
<tr>
<td>Farmland under agreement reducing soil contamination through plant protection substances</td>
<td>1921</td>
<td>64,457 ha</td>
<td>24% (agreements) 19% (area)</td>
</tr>
</tbody>
</table>

Bracken control through the use of chemicals (mechanical control is also available) will bring an increase in use of plant protection substances in some circumstances. Levels of use are not available but the area to which there is a committed expenditure to apply it is given below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracken control chemical –agreements with a commitment to carry out bracken control</td>
<td>2021 ha</td>
<td>85</td>
</tr>
</tbody>
</table>

Derogations for the use of plant protection substances are given under the scheme where weed infestation has occurred. Complete information on the total number of derogations for plant protection substances is only available through paper records and has not been obtained for the Ex-Post Evaluation.

There are a variety of ESA management prescriptions relating to plant protection substances. Measures specify cases where plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) are prohibited, situations in which substances can be used (with prior approval), often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied.

It should be noted that some high nature value habitats will never have received plant protection substances and this is taken account of in the available income foregone data.
**Caveats**
This question was answered using income foregone data. This data was not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data.

**References to data sources**
AESIS database (ESA.mdb)
Defra Income foregone data (Income foregone.xls)
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.1.A-2.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Chemical contamination of soils has been prevented or reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Cannot be answered. Dependent on farm type.</td>
</tr>
</tbody>
</table>
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-2.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Chemical contamination of soils has been prevented or reduced

Indicator
Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%)

Scheme
Entry Level Stewardship (ELS)

Answer
96% of agreements and 84% of the area under agreement reducing soil contamination have a reduced use of plant protection substances.

Explanation of Sources and calculations
Based upon management prescriptions that require or maintain a reduced use of plant protection substances. These total 17,774 agreements and 256,292 ha.

There are a variety of ELS management prescriptions relating to plant protection substances. Measures specify cases where plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) are prohibited, situations in which substances can be used, often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied. The crop protection management plan option may reduce use of plant protection products, providing the measures are implemented.

References to data sources
Natural England GENESIS database (ELS.mdb)
ELS scheme handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.A-2.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  Chemical contamination of soils has been prevented or reduced
Indicator  Farmland under agreements reducing soil contamination (number and hectares) (a)  of which reduced use of plant protection substances (%)

Scheme  Higher Level Stewardship (HLS)

Answer  95% of agreements and 59% of the area under agreement reducing soil contamination have a reduced use of plant protection substances.

Explanation of Sources and calculations
Based upon management prescriptions that require or maintain a reduced use of plant protection substances. These total 689 agreements and 21,423 ha.

There are a variety of HLS management prescriptions relating to plant protection substances. Measures specify cases where plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) are prohibited, situations in which substances can be used (with prior approval), often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied. The ELS crop protection management plan option may reduce use of plant protection products, providing the measures are implemented.

Bracken control through the use of chemicals (mechanical control is also available) will bring an increase in use of plant protection substances in some circumstances. Levels of use are not available but the area to which there is a committed expenditure to apply it is 197 ha in 21 agreements.

References to data sources
Natural England GENESIS database (HLS.mdb)
HLS scheme handbook
To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Chemical contamination of soils has been prevented or reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements reducing soil contamination (number and hectares) (a) of which reduced use of plant protection substances (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Cannot answer - dependent on farm type.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
**Chapter VI. Agri-Environment Schemes**  
Indicator ref. VI.1.A-2.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Chemical contamination of soils has been prevented or reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>CSS/ ESA/ OFS/ ELS/ HLS/ OELS</td>
</tr>
<tr>
<td>Answer</td>
<td>99% of agreements and 99.7% of the area under agreement reducing soil contamination have a reduced use of plant nutrient/manure.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.A-2.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
Chemical contamination of soils has been prevented or reduced

Indicator
Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
98% of agreements and 99% of the area under agreement reducing soil contamination have a reduced use of plant nutrient/manure.

Explanation of Sources and calculations
Based upon income foregone data, supplied by Defra, which is available for those measures where it is known that on average the level of nutrient input will decrease as a result of the agreement. There are a few measures where nutrient input is likely to increase and these have been accounted for in the figures provided.

Farmland under agreements reducing soil contamination (number and hectares)
of which reduced use of plant nutrient/manure (%) between April 1999 and December 2006

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland under agreement reducing soil contamination (nutrient/manure + plant protection substances)</td>
<td>11595</td>
<td>418696 ha</td>
<td>n/a</td>
</tr>
<tr>
<td>Farmland under agreement reducing soil contamination through plant nutrient/manure</td>
<td>11391</td>
<td>415417 ha</td>
<td>98% (agreements) 99% (area)</td>
</tr>
</tbody>
</table>

For nearly all management options in CSS there is a general requirement not to apply organic or inorganic fertilisers.

It should be noted that some high nature value habitats will never have received nutrient inputs and this is taken account of in the available income foregone data.

Caveats
This question was answered using income foregone data. These data were not available for all management options. Out of a total of 185 scheme measures, 8 scheme measures had no data.

References to data sources
Natural England AESIS database (CSS.mdb)  
Scheme guidelines for farmers  
Defra Income foregone data/ data analysis file (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria: Chemical contamination of soils has been prevented or reduced

Indicator: Farmland under agreements reducing soil contamination (number and hectares) (b)

of which reduced use of plant nutrient/manure (%)

Scheme: Environmentally Sensitive Area (ESA)

Answer: 99% of agreements and 99% of the area under agreement reducing soil contamination have a reduced use of plant nutrient/manure.

Explanation of Sources and calculations

Based upon income foregone data, specifically for nutrient reduction, supplied by Defra, which is available for those measures where it is known that on average the level of nutrient input will decrease as a result of the agreement. There are a few measures where nutrient input is likely to increase and these have been accounted for in the figures provided.

Farmland under agreements reducing soil contamination (number of agreements and hectares) of which reduced use of plant nutrient/manure (%) between April 1999 and December 2006.

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland under agreement reducing soil contamination (nutrient/manure + plant protection substances)</td>
<td>7907</td>
<td>340,847 ha</td>
<td>n/a</td>
</tr>
<tr>
<td>Farmland under agreement reducing soil contamination through plant nutrient/manure</td>
<td>7848</td>
<td>337,972 ha</td>
<td>99% (agreements) 99% (area)</td>
</tr>
</tbody>
</table>

There are a wide range of management prescriptions relating to nutrient input. Measures specify cases where nutrient input is prohibited, as well as specifying upper limits (kg/ha), restrictions on the timings of applications, restrictions on the type of nutrient input (e.g. farmyard manures only) and method of application.

It should be noted that some high nature value habitats will never have received nutrient inputs and this is taken account of in the available income foregone data.

Caveats

This question was answered using income foregone data. These data were not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data.

References to data sources

AESIS database (ESA.mdb)

Defra Income foregone data (Income foregone.xls)
To what extent have natural resources been protected (or enhanced) ... in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**
Chemical contamination of soils has been prevented or reduced

**Indicator**
Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%)

**Scheme**
Organic Farming Scheme (OFS)

**Answer**
100% Farmland under agreements reducing soil contamination.

**Explanation of Sources and calculations**
OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:
- Use of synthetic fertiliser prohibited or much restricted

It has been assumed that all land which would receive inorganic nutrients under conventional management would be at reduced risk of contamination. On this basis the question has been answered by totaling the areas of land under agreement on all farmland except for that in LFA. This is equivalent to 100% of the Farmland under agreements reducing soil contamination.

**References to data sources**
Defra OFS Prescription database
Defra AESIS database
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.A-2.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Chemical contamination of soils has been prevented or reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>99.7% of agreements and 99.6% of area under agreement reducing soil contamination have a reduced use of plant nutrient/manure.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Based upon management prescriptions that require or maintain a reduced use of fertiliser. These total 18,394 agreements and 303,578 ha.

For many management options in ELS, there is a general requirement to restrict the use of organic or inorganic fertilisers. The nutrient and manure management plan options may reduce use of nutrients and manures, providing the measures are implemented.

It should be noted that some land may have received low or nil plant nutrient/manure use prior to entering the scheme.

**References to data sources**

Natural England GENESIS database (ELS.mdb)
ELS scheme handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.A-2.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  Chemical contamination of soils has been prevented or reduced

Indicator  Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%)

Scheme  Higher Level Stewardship (HLS)

Answer  100% of agreements and 99.5% of area under agreement reducing soil contamination have a reduced use of plant nutrient/manure.

Explanation of Sources and calculations
Based upon management prescriptions that require or maintain a reduced use of fertiliser. These total 722 agreements and 36,114 ha.

There are a wide range of management prescriptions relating to nutrient input. Measures specify cases where nutrient input is prohibited, as well as specifying upper limits (kg/ha), restrictions on the timings of applications, restrictions on the type of nutrient input (e.g. farmyard manures only) and method of application. The ELS nutrient and manure management plan options may reduce use of nutrients and manures, providing the measures are implemented. It should be noted that some land may have received low or nil plant nutrient/manure use prior to entering the scheme.

References to data sources
Natural England GENESIS database (HLS.mdb)
HLS scheme handbook
Chapter VI.  Agri-Environment Schemes

Indicator ref. VI.1.A-2.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures? Chemical contamination of soils has been prevented or reduced

Indicator

Farmland under agreements reducing soil contamination (number and hectares) (b) of which reduced use of plant nutrient/manure (%) Farmland under agreements reducing soil contamination (number and hectares) (b)

Scheme

Organic Entry Level Stewardship (OELS)

Answer

100% of farmland under agreement reducing soil contamination have a reduced use of plant nutrient/manure. 100% of farmland under agreement reducing soil contamination have a reduced use of plant nutrient/manure.

Explanation of Sources and calculations

OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted

It has been assumed that all land which would receive inorganic nutrients under conventional management would be at reduced risk of contamination. On this basis the question has been answered by totaling the areas of land under agreement on all land except LFA, and all LFA land that have management prescriptions for reduced use of organic fertiliser. This is equivalent to 100% of the farmland under agreement reducing soil contamination.

References to data sources

Natural England GENESIS database (OELS.mdb)
OELS scheme handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-2.1 (c)

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria

Chemical contamination of soils has been prevented or reduced

Indicator

Farmland under agreements reducing soil contamination (number and hectares) (b)
of which with avoidance of specific inputs at critical periods of the year (%) 

Scheme

OFS, CSS, ESA, ELS, OELS, HLS 

Answer

N/A Defra baseline study

Explanation of Sources and calculations

References to data sources

Defra baseline study 2003
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)....in terms of soil quality, as influenced by agri-environmental measures?

Criteria
The protected soil gives rise to further benefits at farm or societal level

Indicator
Farm and/or off-farm indirect impacts resulting from farmland under agreements (description)

Scheme
OFS, CSS, ESA, ELS, HLS, OELS

Answer
Flessa et al. (2002), in a study that integrated the evaluation of greenhouse gas emissions from two farming systems (conventional and organic) in southern Germany, concluded that converting from a conventional farming system to organic production methods led to a reduction in greenhouse gas emissions per hectare.

Under ESA agreements, inorganic nutrient and pesticide inputs are reduced, grassland is managed in a less intensive manner and arable land can be reverted to grassland. Any permanent vegetation, without tillage operations, will stabilise the soil and make it far less prone to wind or water erosion. Soil organic matter content will tend to increase over time, thereby increasing available water capacity and shear strength. Biomass levels in the soil will also increase.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

There is no firm evidence of on- or off-farm indirect impacts resulting specifically from farmland under agreement in Countryside Stewardship Scheme, ELS, HLS or OELS as no research has been targeted at this. The dispersed nature of the CSS and HLS agreements mean that effects are likely to have only local significance at or just beyond farm level.

Similar benefits to those reported in ESAs are likely. Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

Explanation of Sources and calculations
See answer sheets for individual scheme for explanation

References to data sources


Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria
The protected soil gives rise to further benefits at farm or societal level

Indicator
Farm and/or off-farm indirect impacts resulting from farmland under agreements
(description)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
Less intensive management, arable reversion, permanent vegetation, reduced nutrient and pesticide inputs will help to:
- stabilise soil and reduce the risk of soil erosion
- improve soil characteristics (e.g. structure, water holding capacity, biomass)

Explanation of Sources and calculations

Literature review
There is no firm evidence of on- or off-farm indirect impacts resulting specifically from farmland under agreement in Countryside Stewardship Scheme as no research has been targeted at this. The dispersed nature of the agreements mean that effects are likely to have only local significance at or just beyond farm level.

Similar benefits to those reported in ESAs are likely. Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

References to data sources


Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.1.A-3.1

To what extent have natural resources been protected (or enhanced) in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**  
The protected soil gives rise to further benefits at farm or societal level

**Indicator**  
Farm and/or off-farm indirect impacts resulting from farmland under agreements (description)

**Scheme**  
Environmentally Sensitive Area (ESA)

**Answer**  
Under ESA agreements, inorganic nutrient and pesticide inputs are reduced, grassland is managed in a less intensive manner and arable land can be reverted to grassland. Any permanent vegetation, without tillage operations, will stabilise the soil and make it far less prone to wind or water erosion. Soil organic matter content will tend to increase over time, thereby increasing available water capacity and shear strength. Biomass levels in the soil will also increase. 

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

**Explanation of Sources and calculations**

**Literature review**

There is no firm evidence of on- or off-farm indirect impacts resulting specifically from farmland under agreement in ESAs as no research has been targeted at this.

**References to data sources**


Chapter VI. Agri-Environment Schemes  

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>VI.1.A-3.1</th>
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</thead>
</table>

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**
The protected soil gives rise to further benefits at farm or societal level

**Indicator**
Farm and/or off-farm indirect impacts resulting from farmland under agreements (description)

**Scheme**
Organic Farming Scheme (OFS)

**Answer**
Indirect benefits from organic farming in terms of reduced greenhouse gases. This is not quantifiable across all the farming systems.

**Explanation of Sources and calculations**
Flessa et al. (2002), in a study that integrated the evaluation of greenhouse gas emissions from two farming systems (conventional and organic) in southern Germany, concluded that converting from a conventional farming system to organic production methods led to a reduction in greenhouse gas emissions per hectare.

**References to data sources**
Defra OFS Prescription database

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.A-3.1

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

**Criteria**
The protected soil gives rise to further benefits at farm or societal level

**Indicator**
Farm and/or off-farm indirect impacts resulting from farmland under agreements (description)

**Scheme**
Enter Level Stewardship (ELS)

**Answer**
Less intensive management, permanent vegetation, reduced nutrient and pesticide inputs will help to:
- stabilise soil and reduce the risk of soil erosion
- improve soil characteristics (e.g. structure, water holding capacity, biomass)

**Explanation of Sources and calculations**

Literature review

There is no firm evidence of on- or off-farm indirect impacts resulting specifically from farmland under agreement in ELS as no research has been targeted at this.

**References to data sources**
Chapter VI. Agri-Environment Schemes  

To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

Criteria  
The protected soil gives rise to further benefits at farm or societal level

Indicator  
Farm and/or off-farm indirect impacts resulting from farmland under agreements (description)

Scheme  
Higher Level Stewardship (HLS)

Answer  
Less intensive management, arable reversion, permanent vegetation, reduced nutrient and pesticide inputs will help to:

- stabilise soil and reduce the risk of soil erosion
- improve soil characteristics (e.g. structure, water holding capacity, biomass)

Explanation of Sources and calculations

Literature review

There is no firm evidence of on- or off-farm indirect impacts resulting specifically from farmland under agreement in HLS as no research has been targeted at this. The dispersed nature of the agreements mean that effects are likely to have only local significance at or just beyond farm level.

Similar benefits to those reported in ESAs are likely. Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

References to data sources


To what extent have natural resources been protected (or enhanced)...in terms of soil quality, as influenced by agri-environmental measures?

| Criteria | The protected soil gives rise to further benefits at farm or societal level |
| Indicator | Farm and/or off-farm indirect impacts resulting from farmland under agreements (description) |
| Scheme | Organic Entry Level Stewardship (OELS) |
| Answer | Indirect benefits from organic farming in terms of reduced greenhouse gases. This is not quantifiable across all the farming systems. Less intensive management, permanent vegetation, will help to:  
  • stabilise soil and reduce the risk of soil erosion  
  • improve soil characteristics (e.g. structure, water holding capacity, biomass) |

**Explanation of Sources and calculations**
Flessa *et al*. (2002), in a study that integrated the evaluation of greenhouse gas emissions from two farming systems (conventional and organic) in southern Germany, concluded that converting from a conventional farming system to organic production methods led to a reduction in greenhouse gas emissions per hectare.

**References to data sources**
To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**
Reduction of agricultural inputs potentially contaminating water

**Indicator**
Area subject to input-reducing actions thanks to agreement (hectares)

**Scheme**
OFS, ESA, CSS, ELS, OELS, HLS

**Answer**
2,717,902 ha are subject to input reduction (from plant protection products, livestock or fertilisers).

**Explanation of Sources and calculations**

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
713,436 ha are subject to input reduction (from plant protection products, livestock or fertilisers).

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of agreements</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area subject to input reduction</td>
<td>11932</td>
<td>713,436 ha</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

This question was answered using income foregone specifically data for plant protection products, fertilisers and livestock. This is available for those measures where it is known that on average the level of use will decrease as a result of the agreement.

It should be noted that some high nature value habitats have received inputs and this is taken account of in the available income foregone data.

Using income foregone the total estimated amount of nitrogen input reduction is 41,907 tons. The overall estimated reduction in livestock numbers is 157442 GLUs (average of 0.28 GLU/ha).

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587). This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone.

Caveats

This question was answered using income foregone data for fertiliser, livestock and pesticides. This data was not available for all management options (see breakdown for parts (a), (b) and (d)).

References to data sources

Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**
Reduction of agricultural inputs potentially contaminating water

**Indicator**
Area subject to input-reducing actions thanks to agreement (hectares)

**Scheme**
Environmentally Sensitive Area (ESA)

**Answer**
641,549 ha are subject to input reduction (from plant protection products, livestock or fertilisers).

**Explanation of Sources and calculations**

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of agreements</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area subject to input reduction</td>
<td>8504</td>
<td>641,549 ha</td>
</tr>
</tbody>
</table>

This question was answered using income foregone specifically data for plant protection products, fertilisers and livestock. This is available for those measures where it is known that on average the level of use will decrease as a result of the agreement.

It should be noted that some high nature value habitats will never have received inputs and this is taken account of in the available income foregone data.

Using income foregone the total estimated amount of nitrogen input reduction is 27,621 tons. The overall estimated reduction in livestock numbers is 218,127 GLUs (average of 0.34 glu/ha).

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587). This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone.

**Caveats**

This question was answered using income foregone data for fertiliser, livestock and pesticides. This data was not available for all management options (see breakdown for parts (a), (b) and (d)).

**References to data sources**

- Natural England AESIS database (ESA.mdb)
- Defra Income foregone data (Income foregone.xls)
- Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  Reduction of agricultural inputs potentially contaminating water
Indicator  Area subject to input-reducing actions thanks to agreement (hectares)
Scheme  Organic Farming Scheme (OFS)
Answer  919,864 hectares

Explanation of Sources and calculations

OFS prescriptions include compliance with Good Farming Practice (GFP). Organic standards place additional requirements on:
- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered by totaling the areas of land under agreement that lie outside of the LFA boundary. An overlay was made between a digital map of land designated as LFA and the centers of land parcels under agreement as determined by their IACS reference.

Caveats

This analysis is limited in that some LFA-classified land will have received fertiliser and/or pesticide prior to conversion while some non-LFA land will not. Another approach would be to assume that unimproved land – based on the tiers for payment under the OFS – had not received inputs prior to conversion. However, this includes lowland permanent pasture and gives a less reliable answer.

There are a small number of errors in the AESIS database with respect to the referencing of IACS fields, therefore the figures quoted above should be interpreted as being indicative of the total protected area rather than being definitive.

References to data sources

Defra OFS prescription database
Natural England AESIS database

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares)

Scheme
Entry Level Stewardship (ELS)

Answer
304,693 ha are subject to input reduction (from plant protection products, livestock or fertilisers).

Explanation of Sources and calculations
This question was answered using the management requirements for ELS options, as detailed in the prescriptions in the ELS handbook; specifically those options that require or maintain a reduced use of plant protection products and/or fertiliser or a reduction in GLU density. A reduction in inputs and thus water contamination is assumed only for these options.

The management plan options may reduce use of plant protection products and fertilisers, providing the measures are implemented.

It should be noted that some land may have received low or nil plant protection products or fertiliser use prior to entering the scheme.

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1

To what extent have natural resources been protected (or enhanced)... in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares)

Scheme
Higher Level Stewardship (HLS)

Answer
39,008 ha are subject to input reduction (from plant protection products, livestock or fertilisers).

Explanation of Sources and calculations
This question was answered using the management requirements for HLS options, as detailed in the prescriptions in the HLS handbook; specifically those options that require or maintain a reduced use of plant protection products and/or fertiliser or a reduction in GLU density. A reduction in inputs and thus water contamination is assumed only for these options.

The ELS management plan options may reduce use of plant protection products and fertiliser, providing the measures are implemented.

It should be noted that some land may have received low or nil plant protection products or fertiliser use prior to entering the scheme.

References to data sources
Natural England GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
99,352 ha

Explanation of Sources and calculations
OELS prescriptions include compliance with Good Farming Practice (GFP). Organic standards place additional requirements on:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered in part by totaling the organically managed areas of land under agreement that lie outside the LFA boundary. This was done using the LFA flag in the GENESIS database. Non-LFA OELS land parcels total 929 agreements on 97,234 ha.

In addition, options specifically for LFA land that have management prescriptions for reduced use of organic fertiliser or reduced livestock density are also included. These total 76 agreements on 2118 ha.

References to data sources
Defra OELS handbook

Natural England GENESIS database (OELS.mdb)

### Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.B-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS, ESA, CSS, ELS, HLS, OELS</td>
</tr>
<tr>
<td>Answer</td>
<td>Of the area subject to input-reducing actions thanks to agreements, 77% has a reduced application of chemical fertiliser.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
Of the area subject to input-reducing actions thanks to agreements, 57% has a reduced application of chemical fertiliser.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of chemical fertiliser</td>
<td>404,659 ha</td>
<td>57</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land with measures restricting or limiting the use of inorganic fertiliser which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) supplied by Defra is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement.

It should be noted that some high nature value habitats will never have received chemical fertilisers and this is taken account of in the available income foregone data.

Caveats
This question was answered using income foregone data for fertiliser and inorganic fertiliser prescriptions. This data was not available for all management options. Out of a total of 185 options, 8 scheme measures had no data.

References to data sources
Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.1 (a)

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
Of the area subject to input-reducing actions thanks to agreements, 53% has a reduced application of chemical fertiliser.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of chemical fertiliser</td>
<td>337,972 ha</td>
<td>53</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) supplied by Defra is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement.

It should be noted that some high nature value habitats will never have received chemical fertilisers and this is taken account of in the available income foregone data.

Caveats
This question was answered using income foregone data for fertiliser and inorganic fertiliser prescriptions. This data was not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data. It should be noted that all measures that had restrictions for inorganic fertiliser also had restrictions for the use of organic fertiliser.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes  

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

Scheme
Organic Farming Scheme (OFS)

Answer
100% area subject to input-reducing actions

Explanation of Sources and calculations
OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted

Shepherd et al. (2003) concluded that:

- The body of evidence suggests that leaching losses are generally less from organic systems – though this is not always guaranteed. Losses after ploughing the fertility building leys are one area where losses can be especially large

On this basis the question has been answered by totaling the areas of land under agreement on non-LFA land, since chemical fertiliser input is low or absent in conventional systems on LFA land. This is equivalent to 100% of the area subject to input-reducing actions.

Caveat
- Some conventionally managed land may receive no application of chemical fertiliser
- Some areas included in Cattle and Sheep (LFA) farms do receive chemical fertiliser.

References to data sources
Defra OFS prescription database
Natural England AESIS database
Chapter VI. Agri-Environment Schemes   Indicator ref. VI.1.B-1.1 (a)

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

Scheme
Entry Level Stewardship (ELS)

Answer
Of the area subject to input-reducing actions thanks to agreement, 99% has a reduced application of chemical fertiliser.

Explanation of Sources and calculations
Based upon management prescriptions that require or maintained a reduced use of inorganic fertiliser. These total 301,841 ha.

For many management options in ELS, there is a general requirement to restrict the use of inorganic fertilisers. The nutrient and manure management plan options may reduce use of inorganic fertiliser, providing the measures are implemented.

It should be noted that some land may have received low or nil inorganic fertiliser use prior to entering the scheme.

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (a)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

Scheme
Higher Level Stewardship (HLS)

Answer
Of the area subject to input-reducing actions thanks to agreement 92% has a reduced application of chemical fertiliser.

Explanation of Sources and calculations

Based upon management prescriptions that require or maintain a reduced use of inorganic fertiliser. These total 35,975 ha.

For many management options in HLS, there is a general requirement to restrict the use of inorganic fertilisers.

The ELS nutrient and manure management plan options may reduce use of inorganic fertiliser, providing the measures are implemented.

It should be noted that some land may have received low or nil inorganic fertiliser use prior to entering the scheme.

References to data sources

Natural England GENESIS database (HLS.mdb)
Defra HLS handbook
To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**  
Reduction of agricultural inputs potentially contaminating water

**Indicator**  
Area subject to input-reducing actions thanks to agreement (hectares) (a) reduced application of chemical fertiliser (%)

**Scheme**  
Organic Entry Level Stewardship (OELS)

**Answer**  
98% of area subject to input-reducing actions

**Explanation of Sources and calculations**

OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted

It has been assumed that all land which would receive inorganic nutrients under conventional management would be at reduced risk of contamination. On this basis the question has been answered by totaling the areas of land under agreement on all land except LFA. This is equivalent to 98% of the farmland under agreement reducing soil contamination (97,234 ha).

**References to data sources**

Natural England GENESIS database (OELS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme
ESA, CSS, ELS, HLS, OELS

Answer
94% of area subject to input-reducing actions

Explanation of Sources and calculations
This answer was calculated using data from ESA, CSS, ELS, HLS and OELS but not OFS.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
Of the area subject to input-reducing actions thanks to agreements 98% has a reduced application of manure or reduced livestock density.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of manure</td>
<td>699397 ha</td>
<td>98</td>
</tr>
<tr>
<td>Reduced livestock numbers</td>
<td>562293 ha</td>
<td>77</td>
</tr>
<tr>
<td>Total (livestock or manure)</td>
<td>699397 ha</td>
<td>98</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) was supplied by Defra and is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement. It should be noted that some high nature value habitats will never have received organic nutrient inputs (other than perhaps low levels of manure) and this is taken account of in the available income foregone data.

For livestock reduction the area was calculated for all measures with an income foregone showing a reduction in livestock numbers. For the area with income foregone data for livestock reduction it is estimated (using income foregone data) that there has been an overall reduction of 157,442 GLUs (average of 0.28 GLU/ha).

Caveats
This question was answered using income foregone data for reduced nitrogen inputs (which cover both inorganic and organic fertiliser prescriptions. This data was not available for all management options. Out of a total of 185 options, 8 options had no data. It should be noted that all measures that had restrictions for inorganic fertiliser also had restrictions for the use of organic fertiliser.

References to data sources
Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
Of the area subject to input-reducing actions thanks to agreements 99.9% has a reduced application of manure or reduced livestock density.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of manure</td>
<td>337882 ha</td>
<td>53</td>
</tr>
<tr>
<td>Reduced livestock numbers</td>
<td>596456 ha</td>
<td>93</td>
</tr>
<tr>
<td>Total (livestock or manure)</td>
<td>641,140 ha</td>
<td>99.9</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) was supplied by Defra and is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement. It should be noted that some high nature value habitats will never have received organic nutrient inputs (other then perhaps low levels of manure) and this is taken account of in the available income foregone data.

For livestock reduction the area was calculated for all measures with an income foregone for livestock numbers. For the area with income foregone data for livestock reduction it is estimated (using income foregone data) that there has been an overall reduction of 69533 GLUs (average of 0.34 glu/ha).

Caveats
This question was answered using income foregone data for reduced nitrogen inputs, which cover both inorganic and organic fertiliser prescriptions. This data was not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data. It should be noted that all measures that had restrictions for inorganic fertiliser also had restrictions for the use of organic fertiliser.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone data (Income foregone.xls)
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not answered – dependent on farm type.</td>
</tr>
</tbody>
</table>
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
- Reduction of agricultural inputs potentially contaminating water

Indicator
- Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme
- Entry Level Stewardship (ELS)

Answer
- Of the area subject to input-reducing actions thanks to agreement, 99% has a reduced application of manure.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of manure</td>
<td>301841 ha</td>
<td>99</td>
</tr>
<tr>
<td>Reduced livestock numbers</td>
<td>221102 ha</td>
<td>73</td>
</tr>
<tr>
<td>Total (livestock or manure)</td>
<td>301841 ha</td>
<td>99</td>
</tr>
</tbody>
</table>

Based upon management prescriptions that require or maintain a reduced use of organic fertiliser or reduced stocking density.

For many management options in ELS, there is a general requirement to restrict the use of organic fertilisers.

The ELS nutrient and manure management plan options may reduce use of manures, providing the measures are implemented.

It should be noted that some land may have received low or nil manure use prior to entering the scheme.

References to data sources
- Natural England GENESIS database (ELS.mdb)
- DEFRA ELS scheme handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme
Higher Level Stewardship (HLS)

Answer
Of the area subject to input-reducing actions thanks to agreement, 99% has a reduced application of manure or reduced livestock density.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of manure</td>
<td>35910 ha</td>
<td>92</td>
</tr>
<tr>
<td>Reduced livestock numbers</td>
<td>17529 ha</td>
<td>45</td>
</tr>
<tr>
<td>Total (livestock or manure)</td>
<td>38618 ha</td>
<td>99</td>
</tr>
</tbody>
</table>

Based upon management prescriptions that require or result in a reduced use of organic fertiliser or reduced stocking density.

For many management options in HLS, there is a general requirement to restrict the use of organic fertilisers.

The ELS nutrient and manure management plan options may reduce use of manures, providing the measures are implemented.

It should be noted that some land may have received low or nil manure use prior to entering the scheme.

References to data sources
Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.1 (b)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Reduction of agricultural inputs potentially contaminating water

Indicator  
Area subject to input-reducing actions thanks to agreement (hectares) (b) reduced application per hectare of manure or reduced livestock density (%)

Scheme  
Organic Entry Level Stewardship (OELS)

Answer  
Of the area subject to input-reducing actions thanks to agreement, 15% has a reduced application of manure.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of manure</td>
<td>15017 ha</td>
<td>15</td>
</tr>
</tbody>
</table>

Based upon OELS management prescriptions that require or result in a reduced use of organic fertiliser

References to data sources

Natural England GENESIS database (OELS.mdb)  
Defra OELS scheme handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.B-1.1 (c)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (c) of which with crops and/or rotations associated with low inputs or low nitrogen surplus (in case of fertiliser) (%)

Scheme
OFS, OELS

Answer
Cannot be answered – dependent on farm type

Explanation of Sources and calculations
Only OFS or OELS contribute to this indicator.

References to data sources
Defra Baseline study 2003
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Reduction of agricultural inputs potentially contaminating water

Indicator  
Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)  

Scheme  
CSS, ESA, ELS, HLS

Answer  
38% of area subject to input-reducing actions.

Explanation of Sources and calculations
This calculation does not include OFS or OELS.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
Of the area subject to input-reducing actions thanks to agreements 42% has a reduced application per hectare of plant protection products.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of plant protection products</td>
<td>299523 ha</td>
<td>42</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land which had income foregone data for the reduction of pesticides. Income foregone (£/ha) was supplied by Defra and is available for those measures where it is known that on average the level of pesticide use will decrease as a result of the agreement. It should be noted that some high nature value habitats will never have received plant protection products and this is taken account of in the available income foregone data.

Caveats
This question was answered using income foregone data for pesticides. These data were not available for all management options. Out of a total of 185 scheme measures, 25 scheme measures had no data.

References to data sources
Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Area subject to input-reducing actions thanks to agreement (hares) (d) of which with reduced application per hectare of plant protection products (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
Of the area subject to input-reducing actions thanks to agreements 10% has a reduced application per hectare of plant protection products

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Area subject to input-reducing actions thanks to agreement</th>
<th>Hectares</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced application of plant protection products</td>
<td>64,457 ha</td>
<td>10</td>
</tr>
</tbody>
</table>

This question was answered by calculating the area of land which had income foregone data for the reduction of pesticides. Income foregone (£/ha) was supplied by Defra and is available for those measures where it is known that on average the level of pesticide use will decrease as a result of the agreement. It should be noted that some high nature value habitats will never have received plant protection products and this is taken account of in the available income foregone data.

Caveats
This question was answered using income foregone data for pesticides. These data were not available for all management options. Out of a total of 262 scheme measures, 11 scheme measures had no data.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced)... in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Reduction of agricultural inputs potentially contaminating water

Indicator  
Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)

Scheme  
Organic Farming Scheme (OFS)

Answer  
Not answered – dependent on farm type
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria Reduction of agricultural inputs potentially contaminating water
Indicator Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)
Scheme Entry Level Stewardship (ELS)
Answer Of the area subject to input-reducing actions thanks to agreement 84% has a reduced application per hectare of plant protection products

Explanation of Sources and calculations
Based upon management prescriptions that require or maintain a reduced use of plant protection substances. These total 256,292 ha.

There are a variety of ELS management prescriptions relating to plant protection substances. Measures specify cases where plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) are prohibited, situations in which substances can be used, often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied.

The crop protection management plan options may reduce use of plant protection products, providing the measures are implemented.

It should be noted that some land may have received low or nil plant protection products prior to entering the scheme

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS scheme handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.B-1.1 (d)

To what extent have natural resources been protected (or enhanced)... in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Reduction of agricultural inputs potentially contaminating water

Indicator  
Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)

Scheme  
Higher Level Stewardship (HLS)

Answer  
Of the area subject to input-reducing actions thanks to agreement 55% has a reduced application per hectare of plant protection products

Explanation of Sources and calculations

Based upon management prescriptions that require or maintain a reduced use of plant protection substances. These total 21,423 ha.

There are a variety of HLS management prescriptions relating to plant protection substances. Measures specify cases where plant protection substances (pesticides including herbicides, insecticides, fungicides etc.) are prohibited, situations in which substances can be used (with prior approval), often specifying the type and the means of applying them (e.g. spot treatment) and the plants to which they can be applied.

The ELS crop protection management plan option may reduce use of plant protection products, providing the measures are implemented.

It should be noted that some land may have received low or nil plant protection products prior to entering the scheme

References to data sources

Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
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<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area subject to input-reducing actions thanks to agreement (hectares) (d) of which with reduced application per hectare of plant protection products (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not answered – dependent on farm type</td>
</tr>
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</table>

**Explanation of Sources and calculations**
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria              Reduction of agricultural inputs potentially contaminating water
Indicator            Reduction of agricultural inputs per hectare thanks to agreements (%)
Scheme               OFS/OELS
Answer               74% reduction in agricultural inputs per hectare on Organic Agreements

Explanation of Sources and calculations
Information for ESA, CSS, ELS & HLS agreements not available and collecting data would result in disproportionate costs

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Reduction of agricultural inputs per hectare thanks to agreements (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not known. Collecting data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Reduction of agricultural inputs per hectare thanks to agreements (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Environmentally Sensitive Area (ESA)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not known. Collecting data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>VI.1.B-1.2</th>
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<tr>
<td><strong>To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Criteria**  
Reduction of agricultural inputs potentially contaminating water

**Indicator**  
Reduction of agricultural inputs per hectare thanks to agreements (%)

**Scheme**  
Organic Farming Scheme (OFS)

**Answer**  
73% reduction in agricultural inputs per hectare

**Explanation of Sources and calculations**

OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered by assuming that some element of synthetic input is applied to conventional land for all except LFA land and that none is applied to the latter. The answer is the aggregate reduction for all the land under agreement.

<table>
<thead>
<tr>
<th>Area (ha)</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>919,864</td>
<td>100% reduction</td>
</tr>
<tr>
<td>348,149</td>
<td>0% reduction</td>
</tr>
</tbody>
</table>

This is then expressed as a percentage of the total area (1,268,013 ha) = 73%.

**Caveat**

This does not allow for application of manures.

**References to data sources**

Defra OFS prescription database  
Defra AESIS database  
### Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs potentially contaminating water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Reduction of agricultural inputs per hectare thanks to agreements (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not known. Collecting data would result in disproportionate costs</td>
</tr>
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</table>

**Explanation of Sources and calculations**

**References to data sources**
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
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<tr>
<th>Criteria</th>
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</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Reduction of agricultural inputs per hectare thanks to agreements (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not known. Collecting data would result in disproportionate costs</td>
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</table>

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes Indicator ref. VI.1.B-1.2

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Reduction of agricultural inputs potentially contaminating water

Indicator
Reduction of agricultural inputs per hectare thanks to agreements (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
93% reduction in agricultural inputs per hectare

Explanation of Sources and calculations
OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

On this basis the question has been answered by assuming that some element of synthetic input is applied to conventional land for all except LFA land and that none is applied to the latter. The answer is the aggregate reduction for all the land under agreement.

97,234 ha @ 100% reduction
7,092 ha @ 0% reduction

This is then expressed as a percentage of the total area (104,326 ha) = 93%.

Caveat
This does not allow for application of manures.

References to data sources
Natural England GENESIS database (OELS.mdb)
Defra OELS scheme handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-1.3

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Reduction of agricultural inputs potentially contaminating water

Indicator  
Nitrogen balance (kg/ha/year)

Scheme  
OFS/ESA/CSS/ELS/OELS/HLS

Answer  
Not answered – collecting data would result in disproportionate costs

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The transport mechanisms for chemicals have been impeded

Indicator
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme
OFS, ESA, CSS, ELS, HLS, OELS

Answer
393,164 hectares

Explanation of Sources and calculations
Note: Information not available to answer part (a) or (b) of this question.

References to data sources
See answer sheets for individual scheme for explanation
To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**  
The transport mechanisms for chemicals have been impeded

**Indicator**  
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

**Scheme**  
Countryside Stewardship Scheme (CSS)

**Answer**  
71,262 ha overlying aquifers have a reduced input of pesticides, livestock manures, and/or fertilisers.

**Explanation of Sources and calculations**

A total of 87,503 ha under CSS agreement (within 1762 agreements) overlie aquifers. Of this area, 58,340 ha (within 1428 agreements) has reduced livestock options in place, 70,731 ha (within 1697 agreements) has reduced fertiliser inputs and 61,069 ha (within 1263 agreements) has reduced inputs of plant protection products. However, because of the considerable overlap in the prescriptions, the net effect is that 71,262 ha (1714 agreements) have a reduced input of pesticides, livestock manures, and/or fertilisers or a combination of the three.

Of this total, 13,846 ha (within 463 agreements) are estimated to have a moderate erosion risk or worse. Any benefits would need to be assessed in relation to the particular measures in place for the agreements and the context of the sites.

- Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.
- All fields under agreement were georeferenced and an overlay produced with the aquifer information. Fields that fell outside of CSS boundaries were ignored in the analysis on the assumption that their georeferencing was in error.
- Erosion risk and prescriptions relevant to its prevention were estimated as detailed in question VI/1.A/1.1 (a).
- Income foregone data were used to identify the fields with prescriptions resulting in reduced livestock densities and fertiliser and plant protection product inputs.

**Caveats**

The aquifer information is at a scale of 1:250,000, and as such may be inaccurate at a local scale. The erosion risk mapping has been derived from data at a similar scale, and thus carries the same caveat. In addition, there are a number of errors in the AESIS database with respect to the referencing of IACS fields (borne out by the 4.6% of fields that were located outside of the English border, both within the sea and within Wales and Scotland). A similar percentage of fields within the coastline could be expected to be incorrectly located. Therefore, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

Note: Information not available to answer part (a) or (b) of this question.
References to data sources
British Geological Survey: Solid geology @ 1:250,000 scale
Natural England: AESIS database / Income foregone estimates (CSS.mdb)
NSRI: Natmap soil map of England and Wales @ 1 x 1 km resolution (summarised in erosionindex.shp)
CEH: Digital terrain model @ 50 x 50 m resolution (summarised in erosionindex.shp)
Met. Office / ADAS: Surface of average annual rainfall 1961 – 1990 @ 1 x 1 km resolution (summarised in erosionindex.shp).
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The transport mechanisms for chemicals have been impeded

Indicator
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme
Environmentally Sensitive Area (ESA)

Answer
62,457 ha (within 900 agreements) overlying aquifers have a reduced input of pesticides, livestock manures, and/or fertilisers.

Explanation of Sources and calculations
A total of 80,960 ha (within 912 agreements) under ESA agreement have overlie aquifers. Of this area, 59,981 ha (within 859 agreements) have reduced livestock options in place, 59,271 ha (within 872 agreements) have reduced fertiliser inputs and 41,806 ha (within 412 agreements) have reduced inputs of plant protection products. However, because of the considerable overlap in the prescriptions, the net effect is that 62,457 ha (within 900 agreements) have a reduced input of pesticides, livestock manures, and/or fertilisers.

Of this total, 7,966 ha (within 209 agreements) are estimated to have a moderate erosion risk or worse. Any benefits would need to be assessed in relation to the particular measures of the agreements and the context of the sites.

Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.

- All fields under agreement were georeferenced and an overlay produced with the aquifer information. Fields that fell outside of ESA boundaries were ignored in the analysis on the assumption that their georeferencing was in error.
- Erosion risk and prescriptions relevant to its prevention was estimated as detailed in question VI/1.A/1.1 (a).
- Income foregone data were used to identify the fields with prescriptions resulting in reduced livestock densities and fertiliser and plant protection product inputs.

Caveats
The aquifer information is at a scale of 1:250,000, and as such may be inaccurate at a local scale. The erosion risk mapping has been derived from data at a similar scale, and thus carries the same caveat. In addition, there are a number of errors in the AESIS database with respect to the referencing of IACS fields (borne out by the 5.3% of fields that were located outside of the ESA boundaries). A similar percentage of fields within the ESA boundaries could be expected to be incorrectly located. Therefore, and especially noting the small sample sizes on the erosion risk assessment, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

Note: Information not available to answer part (a) or (b) of this question.
References to data sources

British Geological Survey: Solid geology @ 1:250,000 scale (summarised in ESAIACSFIELDS.shp)

Natural England: AESIS database / Income foregone estimates (ESA.mdb)

NSRI: Natmap soil map of England and Wales @ 1 x 1 km resolution (summarised in erosionindex.shp)

CEH: Digital terrain model @ 50 x 50 m resolution (summarised in erosionindex.shp)

Met. Office / ADAS: Surface of average annual rainfall 1961 – 1990 @ 1 x 1 km resolution. (summarised in erosionindex.shp)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
The transport mechanisms for chemicals have been impeded

Indicator  
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme  
Organic Farming Scheme (OFS)

Answer  
213,033 hectares

Explanation of Sources and calculations

OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

In addition to the reduction in inputs on most organic land, all organic land will benefit from measures to reduce nutrient loss due to GFP. It is assumed that all organic land is therefore subject to supported actions. If this is mapped against aquifers, the area of overlap represents the answer to the question.

References to data sources

Defra OFS prescription database

Defra AESIS database

Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
The transport mechanisms for chemicals have been impeded

Indicator  
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme  
Enter Level Stewardship (ELS)

Answer  
27,143 ha (within 2624 agreements) overlying aquifers have a reduced input of pesticides, livestock manures, and/or fertilisers.

Explanation of Sources and calculations

A total of 40,779 ha (within 2706 agreements) under ELS agreement overlie aquifers. Of this area, 19,554 ha (within 1598 agreements) have options in place that indirectly result in reduced livestock density, 27,143 ha (within 2624 agreements) have reduced fertiliser inputs and 27,143 ha (within 2624 agreements) have reduced inputs of plant protection products. However, because of the considerable overlap in the prescriptions, the net effect is that 27,143 ha (within 2624 agreements) have a reduced input of pesticides, livestock manures, and/or fertilisers.

Of this total, 3,894 ha (within 502 agreements) are estimated to have a moderate erosion risk or worse. Any benefits would need to be assessed in relation to the particular measures of the agreements and the context of the sites.

- Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.
- All fields under agreement were georeferenced and an overlay produced with the aquifer information.
- Erosion risk and prescriptions relevant to its prevention was estimated as detailed in question VI/1.A/1.1 (a).
- Management requirements were used to identify the fields with prescriptions resulting in reduced livestock densities, fertiliser and plant protection product inputs.

Caveats

The aquifer information is at a scale of 1:250,000, and as such may be inaccurate at a local scale. The erosion risk mapping has been derived from data at a similar scale, and thus carries the same caveat. In addition, there are a number of errors in the AESIS database with respect to the referencing of IACS fields. Therefore, and especially noting the small sample sizes on the erosion risk assessment, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

Note: Information not available to answer part (a) or (b) of this question.
References to data sources

British Geological Survey: Solid geology @ 1:250,000 scale

Natural England: GENESIS database (ELS.mdb)

Defra: ELS handbook

NSRI: Natmap soil map of England and Wales @ 1 x 1 km resolution (summarised in erosionindex.shp)

CEH: Digital terrain model @ 50 x 50 m resolution (summarised in erosionindex.shp)

Met. Office / ADAS: Surface of average annual rainfall 1961 – 1990 @ 1 x 1 km resolution. (summarised in erosionindex.shp)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The transport mechanisms for chemicals have been impeded

Indicator
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme
Higher Level Stewardship (HLS)

Answer
3,002 ha (within 77 agreements) overlying aquifers have a reduced input of pesticides, livestock manures, and/or fertilisers.

Explanation of Sources and calculations
A total of 7,672 ha (within 79 agreements) under HLS agreement overlie aquifers. Of this area, 418 ha (within 37 agreements) have options in place that indirectly result in reduced livestock density, 3,002 ha (within 77 agreements) have reduced fertiliser inputs and 2,675 ha (within 76 agreements) have reduced inputs of plant protection products. However, because of the considerable overlap in the prescriptions, the net effect is that 3,002 ha (within 77 agreements) have a reduced input of pesticides, livestock manures, and/or fertilisers.

Of this total, 378 ha (within 24 agreements) are estimated to have a moderate erosion risk or worse. Any benefits would need to be assessed in relation to the particular measures of the agreements and the context of the sites.

− Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.
− All fields under agreement were georeferenced and an overlay produced with the aquifer information.
− Erosion risk and prescriptions relevant to its prevention was estimated as detailed in question VI/1.A/1.1 (a).
− Management requirements were used to identify the fields with prescriptions resulting in reduced livestock densities, fertiliser and plant protection product inputs.

Caveats
The aquifer information is at a scale of 1:250,000, and as such may be inaccurate at a local scale. The erosion risk mapping has been derived from data at a similar scale, and thus carries the same caveat. In addition, there are a number of errors in the AESIS database with respect to the referencing of IACS fields. Therefore, and especially noting the small sample sizes on the erosion risk assessment, the figures quoted above should be interpreted as being indicative of the total protected area rather than as being definitive.

Note: Information not available to answer part (a) or (b) of this question.
References to data sources

British Geological Survey: Solid geology @ 1:250,000 scale
Natural England: GENESIS database (HLS.mdb)
Defra: HLS handbook
NSRI: Natmap soil map of England and Wales @ 1 x 1 km resolution (summarised in erosionindex.shp)
CEH: Digital terrain model @ 50 x 50 m resolution (summarised in erosionindex.shp)
Met. Office / ADAS: Surface of average annual rainfall 1961 – 1990 @ 1 x 1 km resolution.
(summarised in erosionindex.shp)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.1.B-2.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The transport mechanisms for chemicals have been impeded

Indicator
Area subject to supported actions reducing the transport of pollutants to aquifers (through run-off, leaching or erosion) (hectares)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
16,267 hectares

Explanation of Sources and calculations
OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticides prohibited or much restricted

In addition to the reduction in inputs on most organic land, all organic land will benefit from measures to reduce nutrient loss due to GFP. It is assumed that all organic land is therefore subject to supported actions. If this is mapped against aquifers, the area of overlap represents the answer to the question.

References to data sources
Natural England GENESIS database (OELS.mdb)

Aquifer information (chalk and sandstone layers) was taken from the British Geological Survey’s 1:250,000 dataset of solid geology.
### Chapter VI. Agri-Environment Schemes

#### Indicator ref. VI.1.B-3.1

<table>
<thead>
<tr>
<th><strong>To what extent have natural resources been protected (or enhanced)...</strong></th>
<th><strong>...in terms of the quality of ground and surface water, as influenced by agri-environment measures?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria</strong></td>
<td>Improved quality of surface water and/or groundwater</td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Concentration of (the relevant) pollutant in water flowing from areas under agreement</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>CSS, ESA, OFS, ELS, HLS, OELS</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>No evidence to answer question</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
Review of literature and monitoring data.

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-3.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  

Improved quality of surface water and/or groundwater

Indicator  

Concentration of (the relevant) pollutant in water flowing from areas under agreement

Scheme  

Countryside Stewardship Scheme (CSS)

Answer  

There is no evidence of on or off farm indirect impacts on the concentration of pollutants resulting specifically from farmland under agreement in the Countryside Stewardship Scheme.

Explanation of Sources and calculations

No research has been targeted at this aspect of the scheme. The dispersed nature of the agreements mean that effects are likely to have only local significance at or just beyond farm level.

Main benefits are to water quality in terms of both sediment content and content of pollutants such as phosphorus, nitrogen and pesticides. Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation (e.g. buffer strips or buffer zones) help to stabilise the soil and restrict pollutant transport.

References to data sources

Literature review/research papers


Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-3.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**
Improved quality of surface water and/or groundwater

**Indicator**
Concentration of (the relevant) pollutant in water flowing from areas under agreement

**Scheme**
Environmentally Sensitive Area (ESA)

**Answer**
There is no firm evidence of the impacts on pollutant levels resulting specifically from farmland under agreement in Environmentally Sensitive Areas.

**Explanation of Sources and calculations**

Literature review/research papers.

A Defra funded research project looked specifically at the benefits to water quality of the Suffolk River Valleys ESA. Project BD0331 established that there was a trend towards improvements in river water quality over the first five years of the ESA scheme in the Suffolk River Valleys, following major changes in land use from arable to permanent grassland. The project identified a possible link between changes in land cover and improvements in river water quality, however, the analysis was unable, on the whole, to confirm a strong direct statistical relationship between land cover changes and river water quality changes.

In Nitrate Sensitive Areas (1990-1998) and other contexts research has shown that:

- Changes in farming practices (with compensation payments) to reduce inputs of inorganic and organic nitrogen have reduced nitrate leaching losses

**Within ESAs**

- Main benefits are to water quality in terms of both sediment content, content of pollutants such as phosphorus, nitrogen and pesticides. Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport.

- Generally, reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity).

The effects of large numbers of closely located agreements across substantial areas suggests that positive effects could be significant.

**References to data sources**

Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-3.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria

Improved quality of surface water and/or groundwater

Indicator

Concentration of (the relevant) pollutant in water flowing from areas under agreement

Scheme

Organic Farming Scheme (OFS)

Answer

No evidence to answer

Explanation of Sources and calculations

References to data sources
### Chapter VI. Agri-Environment Schemes  
**Indicator ref. VI.1.B-3.1**

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Improved quality of surface water and/or groundwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Concentration of (the relevant) pollutant in water flowing from areas under agreement</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>No firm evidence to answer</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

An estimation of the impacts of ELS (CSL, 2008) suggested that greatest reductions in nitrogen losses would be achieved by options taking land out of cultivation e.g. field corner options, taking archaeological features out of cultivation. These options together with buffer strips on cultivated land, were estimated to provide the greatest reduction in phosphate losses.

**References to data sources**

Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-3.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
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<tr>
<th>Criteria</th>
<th>Improved quality of surface water and/or groundwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Concentration of (the relevant) pollutant in water flowing from areas under agreement</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>No evidence to answer</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Main benefits are to water quality in terms of both sediment content and content of pollutants such as phosphorus, nitrogen and pesticides. Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation (e.g. buffer strips or buffer zones) help to stabilise the soil and restrict pollutant transport.

An estimation of the impacts of ELS (CSL, 2008) suggested that greatest reductions in nitrogen and phosphate losses would be achieved by options taking land out of cultivation and buffer strips on cultivated land.

**References to data sources**

Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-3.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria

Improved quality of surface water and/or groundwater

Indicator

Concentration of (the relevant) pollutant in water flowing from areas under agreement

Scheme

Organic Entry Level Stewardship (OELS)

Answer

No evidence to answer

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Water protection gives benefits at farm or societal level

Indicator
Farm and/or off-farm impacts from farmland under agreements (description)

Scheme
CSS, ESA, OFS, ELS, HLS, OELS

Answer
Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport. Generally reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity) of the water body.

Explanation of Sources and calculations
Literature review.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

**Criteria**
Water protection gives benefits at farm or societal level

**Indicator**
Farm and/or off-farm impacts from farmland under agreements (description)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport. Generally, reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity) of the water body.

**Explanation of Sources and calculations**
Literature review

**References to data sources**
Various
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
Water protection gives benefits at farm or societal level

Indicator
Farm and/or off-farm impacts from farmland under agreements (description)

Scheme
Environmentally Sensitive Area (ESA)

Answer
Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport. Generally, reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity) of the water body.

Explanation of Sources and calculations
Literature review.

References to data sources
Various
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria  
Water protection gives benefits at farm or societal level

Indicator  
Farm and/or off-farm impacts from farmland under agreements (description)

Scheme  
Organic Farming Scheme (OFS)

Answer  
Benefits will accrue but are not quantifiable.

Explanation of Sources and calculations

The ERDP Evidence Assessment (2002) concluded that “while incorrect organic management practices could bear some potential risk of polluting ground and surface water, the negative effects from organic farming tend to be generally lower than those of conventional farming systems. However, with increasing implementation of water protection measures in conventional farming, these differences are becoming smaller.”

Data not available to map organic land against water drinking quality data but evidence suggests that any benefits accrue to the public at large through improved water quality or reduced cost of contamination.

References to data sources

Defra OFS prescription database

Natural England AESIS database


Centre for Rural Economics Research, CJC Consulting, Segal Quince Wicksteed (2002). ERDP Evidence Assessment. Final report to DEFRA
Chapter VI.  Agri-Environment Schemes  

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria: Water protection gives benefits at farm or societal level

Indicator: Farm and/or off-farm impacts from farmland under agreements (description)

Scheme: Entry Level Scheme (ELS)

Answer: Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport. Generally, reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity) of the water body.

Explanation of Sources and calculations

Literature Review

References to data sources

Various
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
- Water protection gives benefits at farm or societal level

Indicator
- Farm and/or off-farm impacts from farmland under agreements (description)

Scheme
- Higher Level Scheme (HLS)

Answer
- Reduced inputs of nutrients and pesticides, less soil tillage and permanent vegetation stabilise the soil and do not permit significant pollutant transport.

Generally, reduced nutrient, sediment and pesticide inputs to all watercourses will improve the overall ecological status (biodiversity) of the water body.

Explanation of Sources and calculations
- Literature Review

References to data sources
- Various
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.1.B-4.1

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria Water protection gives benefits at farm or societal level
Indicator Farm and/or off-farm impacts from farmland under agreements (description)
Scheme Organic Entry Level Scheme (OELS)

Answer The ERDP Evidence Assessment (2002) concluded that “while incorrect organic management practices could bear some potential risk of polluting ground and surface water, the negative effects from organic farming tend to be generally lower than those of conventional farming systems. However, with increasing implementation of water protection measures in conventional farming, these differences are becoming smaller.” Data not available to map organic land against water drinking quality data but evidence suggests that any benefits accrue to the public at large through improved water quality or reduced cost of contamination.

Explanation of Sources and calculations
Literature Review

References to data sources
Defra OFS prescription database
Natural England GENESIS database
Centre for Rural Economics Research, CJC Consulting, Segal Quince Wicksteed (2002). ERDP Evidence Assessment. Final report to DEFRA
Chapter VI. Agri-Environment Schemes

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The utilisation (abstraction) of water for irrigation has been reduced or increase avoided

Indicator
Farm and/or off-farm impacts from farmland under agreements (description)

Scheme
CSS, ESA, OFS, ELS, HLS, OELS

Answer
This criteria is N/A for England

Explanation of Sources and calculations
Defra Baseline study

References to data sources
To what extent have natural resources been protected (or enhanced)... in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The utilisation (abstraction) of water for irrigation has been reduced or increased avoided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farm and/or off-farm impacts from farmland under agreements (description)</td>
</tr>
<tr>
<td>Scheme</td>
<td>CSS, ESA, OFS, ELS, HLS, OELS</td>
</tr>
<tr>
<td>Answer</td>
<td>This criteria is N/A for England</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
Defra Baseline study

**References to data sources**
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.1.C-1.3

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria
The utilisation (abstraction) of water for irrigation has been reduced or increased avoided.

Indicator
Farm and/or off-farm impacts from farmland under agreements (description)

Scheme
CSS, ESA, OFS, ELS, HLS, OELS

Answer
This criteria is N/A for England

Explanation of Sources and calculations
Defra Baseline study

References to data sources
## Chapter VI. Agri-Environment Schemes

**Indicator ref.** VI.1.C-1.4

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The utilisation (abstraction) of water for irrigation has been reduced or increase avoided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farm and/or off-farm impacts from farmland under agreements (description)</td>
</tr>
<tr>
<td>Scheme</td>
<td>CSS, ESA, OFS, ELS, HLS, OELS</td>
</tr>
<tr>
<td>Answer</td>
<td>This criteria is N/A for England</td>
</tr>
</tbody>
</table>

### Explanation of Sources and calculations
Defra Baseline study

### References to data sources
To what extent have natural resources been protected (or enhanced) in terms of the quality of ground and surface water, as influenced by agri-environment measures?

Criteria: The utilisation (abstraction) of water for irrigation has been reduced or increased avoided

Indicator: Farm and/or off-farm impacts from farmland under agreements (description)

Scheme: CSS, ESA, OFS, ELS, HLS, OELS

Answer: This criteria is N/A for England

Explanation of Sources and calculations
Defra Baseline study

References to data sources
Chapter VI. Agri-Environment Schemes

| Indicator ref. | VI.1.C-3.1 |

To what extent have natural resources been protected (or enhanced)...in terms of the quality of ground and surface water, as influenced by agri-environment measures?

| Criteria | The utilisation (abstraction) of water for irrigation has been reduced or increased avoided |
| Indicator | Farm and/or off-farm impacts from farmland under agreements (description) |
| Scheme | CSS, ESA, OFS, ELS, HLS, OELS |
| Answer | This criteria is N/A for England |

**Explanation of Sources and calculations**
Defra Baseline study

**References to data sources**
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.2.A-1.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS, ESA, CSS, ELS, OELS, HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>1,884,895 hectares</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation.
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
410,927 ha of “ordinary farmland” has assisted input-reducing actions (inorganic and organic fertilisers & plant protection products)

Explanation of Sources and calculations
This question covers uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

Land within CSS cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in CSS have been categorised by Defra into two types (see below) which have been used to define “ordinary farmland”.

Higher tier land – includes all land subject to enhancement. In CSS, most management options are “higher tiers”. Some of this higher tier land is of ecological importance.

High value habitats. For some of this land there is only limited scope to upgrade this land.

For the purposes of this question “ordinary farmland” is confined to Higher tier land only and excludes “high value habitats”. Nearly all measures in CSS are categorised as Higher Tier Land.

Caveats
This question was answered using income foregone data for fertilisers and pesticides. This data was not available for all management options (see breakdown for parts (a), (b) and (c)). Some of the “higher tier land” is of ecological importance.

References to data sources
Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes  

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**
Area with assisted input-reducing actions (hectares)

**Scheme**
Environmentally Sensitive Area (ESA)

**Answer**
114,679 ha of “ordinary farmland” has assisted input-reducing actions (inorganic and organic fertilisers & plant protection products)

**Explanation of Sources and calculations**

This question covers uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

Land within ESAs cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in ESAs have been categorised by Defra into three types (see below) which have been used to define “ordinary farmland”.

**Higher tier land** covers land which has been subject to enhancement i.e. high value habitats that are enhanced eg meadows; supplements which enhance high tier habitats eg winter cattle removal supplement on Moorland; those habitats that are restored, created or reverted e.g. arable reversion. It should, however, be recognised that much of this restored or recreated landscape is of lesser ecological quality than the high value habitats being maintained.

**Other land** – remaining land in maintenance tiers.

High value habitats i.e. that relate to land for which the ESA was principally designated. The maintenance of this land is key to the success of the ESA. For some of this land there is only limited scope to upgrade this land.

Appendix 2 of ESA case study report shows which scheme measures are allocated into each the categories by Defra.

For the purposes of this question “ordinary farmland” includes “higher tier land” and “other” land, but excludes “high value habitats.”

ESAs have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”. The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587). This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone.
Caveats
This question was answered using income foregone data for fertilisers and pesticides. This data was not available for all management options (see breakdown for parts (a), (b) and (c)). Some of this higher tier land is of ecological importance.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone prescriptions (Income foregone.xls)
Standards of Good Farming Practice
Chapter VI.  Agri-Environment Schemes

Indicator ref.   VI.2.A-1.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria   Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator   Area with assisted input-reducing actions (hectares)

Scheme   Organic Farming Scheme (OFS)

Answer   919,864 hectares

Explanation of Sources and calculations

OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticide prohibited or much restricted

The ERDP Evidence Assessment concluded that “Organic farming practices have characteristics that are beneficial to the diversity of fauna and flora in terms of provision of habitat and abundance of food. The abundance and diversity of species found in organic systems, specifically the higher levels of endangered or declining species, suggests that by converting more land to organic management their decline may be to some extent reverted”

Shepherd et al. (2003) concluded that generally, pesticides affect the population of micro-organisms and that Nitrogen fertilisation, manure and tillage can all influence microbial activity. The general conclusion was that soil biological activity was greater in soil managed organically in the long-term.

On this basis the question has been answered by totaling the areas of land under agreement with the exception of LFA land, where fertiliser and pesticide input is low or absent in conventional systems.

This analysis is limited in that some LFA-classified land will have received fertiliser and/or pesticide prior to conversion while some non-LFA land will not. Another approach would be to assume that unimproved land – based on the tiers for payment under the OFS – had not received inputs prior to conversion. However, this includes lowland permanent pasture and gives a less reliable answer.

References to data sources

Defra OFS prescription database
Natural England AESIS database (OFS.mdb)
Defra 2002 June Agricultural Census
Centre for Rural Economics Research, CJC Consulting, Segal Quince Wicksteed (2002). ERDP Evidence Assessment. Final report to DEFRA
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator Area with assisted input-reducing actions (hectares)

Scheme Entry Level Stewardship (ELS)

Answer 304,693 ha of “ordinary farmland” has assisted input-reducing actions (inorganic and organic fertilisers & plant protection products)

Explanation of Sources and calculations
This question covers uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

Land within ELS cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in ELS have been categorised, broadly following the methodology employed by Defra to categorise CSS options into two types (see below) which have been used to define “ordinary farmland”.

Higher tier land – includes all land subject to enhancement. In ELS, all management options have been classed as “higher tiers”. Some of this higher tier land is of ecological importance.

High value habitats. For some of this land there is only limited scope to upgrade this land.

For the purposes of this question “ordinary farmland” is confined to Higher tier land only and excludes “high value habitats”. All measures in ELS are categorised as Higher Tier Land.

Caveats
Some of the “higher tier land” is of ecological importance.

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS scheme handbook
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

| Criteria | Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved |
| Indicator | Area with assisted input-reducing actions (hectares) |
| Scheme | Higher Level Stewardship (HLS) |
| Answer | 35,380 ha of “ordinary farmland” has assisted input-reducing actions (inorganic and organic fertilisers & plant protection products) |

Explanation of Sources and calculations

This question covers uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

Land within HLS cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in HLS have been categorised, broadly following the methodology employed by Defra to categorise CSS options into two types (see below) which have been used to define “ordinary farmland”.

**Higher tier land** includes all land subject to enhancement. In HLS, most management options are ‘higher tiers’. Some of this higher tier land is of ecological importance.

**High value habitats.** For some of this land there is only limited scope to upgrade this land.

For the purposes of this question “ordinary farmland” is confined to **Higher tier land only**, and excludes “**High value habitats**”. Nearly all measures in HLS are categorised as Higher Tier Land.

Caveats

Some of the “higher tier land” is of ecological importance.

References to data sources

Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**
Area with assisted input-reducing actions (hectares)

**Scheme**
Organic Entry Level Stewardship (OELS)

**Answer**
99,352 hectares

**Explanation of Sources and calculations**
OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:
- Use of synthetic fertiliser prohibited or much restricted
- Use of synthetic pesticide prohibited or much restricted

The ERDP Evidence Assessment concluded that “Organic farming practices have characteristics that are beneficial to the diversity of fauna and flora in terms of provision of habitat and abundance of food. The abundance and diversity of species found in organic systems, specifically the higher levels of endangered or declining species, suggests that by converting more land to organic management their decline may be to some extent reverted”

Shepherd et al. (2003) concluded that generally, pesticides affect the population of micro-organisms and that Nitrogen fertilisation, manure and tillage can all influence microbial activity. The general conclusion was that soil biological activity was greater in soil managed organically in the long-term.

On this basis the question has been answered in part by totaling the organically managed areas of land under agreement that lie outside the LFA boundary. This was done using the LFA flag in the GENESIS database. Non-LFA OELS land parcels total 929 agreements on 97,234 ha.

In addition, options specifically for LFA land that have management prescriptions for reduced use of organic fertiliser are also included. These total 76 agreements on 2118 ha.

**References to data sources**
Natural England GENESIS database (OELS.mdb)
Defra OELS scheme handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)

Scheme
ESA, CSS, ELS, HLS

Answer
59% of area

Explanation of Sources and calculations
This answer was calculated using data for ELS, CSS, ELS and HLS only. Not answered for OFS or OELS as dependent on farm type.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-1.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**  
Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)

**Scheme**  
Countryside Stewardship Scheme (CSS)

**Answer**  
44% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of plant protection products

**Explanation of Sources and calculations**

This analysis is based upon available income foregone data using the approach described in VI.2.A-1.1.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of plant protection products</td>
<td>181,171</td>
<td>44</td>
</tr>
</tbody>
</table>

Average income foregone is £88.7/ha over this area so a total of £16.1M no longer being spent on plant protection products on ordinary farmland.

**Caveats**

This question was answered using income foregone data for plant protection products. This data was not available for all management options. Out of a total of 185 scheme measures, 25 scheme measures had no data. Some of the “higher tier land” is of ecological importance.

**References to data sources**

Defra AESIS database (CSS.mdb)  
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
48% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of plant protection products

Explanation of Sources and calculations

This analysis is based upon available income foregone data as described using the approach described in VI.2.A-1.1.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>Area (ha) within “Other land” (ordinary farmland)</th>
<th>“H” + “O” tiers</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of plant protection products</td>
<td>54535 ha</td>
<td>0 ha</td>
<td>54535 ha</td>
<td>48</td>
</tr>
</tbody>
</table>

Average income foregone is £80/ha over this area so a total of £4.4M no longer being spent on plant protection products.

Caveats
This question was answered using income foregone data for plant protection products. This data was not available for all management options. Out of a total of 262 scheme measures, 11 scheme measures had no data.

ESAs management options have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”. Some of the “higher tier land” is of ecological importance.

References to data sources
Defra AESIS database (ESA.mdb)
Defra Income foregone prescriptions (Income foregone.xls)
Standards of Good Farming Practice
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.2.A-1.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not answered – dependent on farm type</td>
</tr>
</tbody>
</table>
Chapter VI.  Agri-Environment Schemes  

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

| Criteria | Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved |
| Indicator | Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%) |
| Scheme | Entry Level Stewardship (ELS) |
| Answer | 84% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of plant protection products |

**Explanation of Sources and calculations**

This analysis is based upon management prescriptions using the approach described in VI.2.A-1.1. The area affected by reduced application of plant protection products totals 256,292 ha.

**References to data sources**

Natural England GENESIS database (ELS.mdb)  
Defra ELS scheme handbook
Chapter VI. **Agri-Environment Schemes**  
Indicator ref. **VI.2.A-1.1 (a)**

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**  
Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)

**Scheme**  
Higher Level Stewardship (HLS)

**Answer**  
60% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of plant protection products

**Explanation of Sources and calculations**

This analysis is based upon management prescriptions using the approach described in VI.2.A-1.1. The area affected by reduced application of plant protection products totals 21,375 ha.

**References to data sources**

Natural England GENESIS database (HLS.mdb)  
Defra HLS scheme handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-1.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria: Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator: Area with assisted input-reducing actions (hectares) (a) of which with reduced application per hectare of plant protection products (%)

Scheme: Organic Entry Level Stewardship (OELS)

Answer: Cannot answer – dependent on farm type

Explanation of Sources and calculations

References to data sources
Chapter VI.  Agri-Environment Schemes  Indicator ref.  VI.2.A-1.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS/ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>99% area with assisted input-reducing actions.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-1.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
98% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of fertiliser.

Explanation of Sources and calculations

This analysis is based upon available income foregone data as described using the approach described in VI.2.A-1.1.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of inorganic and organic fertilisers</td>
<td>404,659 ha</td>
<td>98</td>
</tr>
</tbody>
</table>

The average reduction of Nitrogen is 103.6 kg/ha over an area of 404,659 ha (resulting in a total reduction of nitrogen of around 41,922 tons).

Caveats
This question was answered using income foregone data for inorganic and organic fertilisers. This data was not available for all management options. Out of a total of 185 scheme measures, 8 scheme measures had no data. Some of the “higher tier land” is of ecological importance.

References to data sources
Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
97% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of fertiliser.

Explanation of Sources and calculations

This analysis is based upon available income foregone data as described using the approach described in VI.2.A-1.1.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>Area (ha) within “Other land” (ordinary farmland)</th>
<th>“H” + “O” tiers</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of inorganic and organic fertilisers</td>
<td>103,210 ha</td>
<td>8,593 ha</td>
<td>111803 ha</td>
<td>97</td>
</tr>
</tbody>
</table>

The average reduction of Nitrogen is 107.5 kg/ha (111 kg/ha for “H” tiers and 13 kg/ha for “O” tiers) over an area of 111803 ha (resulting in a total reduction of nitrogen of around 11568 tons).

Caveats
This question was answered using income foregone data for fertilisers. This data was not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data.

ESAs management options have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”. Some of the “higher tier land” is of ecological importance.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone prescriptions (Income foregone.xls)
Standards of Good Farming Practice
**Chapter VI. Agri-Environment Schemes**

**Indicator ref. VI.2.A-1.1 (b)**

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100% area with assisted input-reducing actions.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to thisIndicator include:

- Use of synthetic fertiliser prohibited or much restricted

Shepherd et al. (2003) concluded that Nitrogen fertilisation, manure and tillage can all influence microbial activity. The general conclusion was that soil biological activity was greater in soil managed organically in the long-term.

On this basis the question has been answered by totaling the areas of land under agreement with the exception of LFA land, where fertiliser input is low in conventional systems. This is equivalent to 100% of the Farmland under agreements reducing soil contamination

**References to data sources**

Defra OFS prescription database
Natural England AESIS database

Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>99% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of fertiliser.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
This analysis is based upon management prescriptions using the approach described in VI.2.A-1.1. The area affected by reduced application of fertiliser totals 303,578 ha.

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS scheme handbook
**Chapter VI. Agri-Environment Schemes**

Indicator ref. VI.2.A-1.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>99% of the area of “ordinary farmland” with assisted input-reducing actions has a reduced application per hectare of fertiliser.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This analysis is based upon management prescriptions using the approach described in VI.2.A-1.1. The area affected by reduced application of fertiliser totals 35,193 ha.

**References to data sources**

Natural England GENESIS database (HLS.mdb)

defra HLS scheme handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria          Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator         Area with assisted input-reducing actions (hectares) (b) of which with reduced application per hectare of fertiliser (%)

Scheme            Organic Entry Level Stewardship (OELS)

Answer            98% of area with assisted input-reducing actions.

Explaination of Sources and calculations

OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic fertiliser prohibited or much restricted

Shepherd et al. (2003) concluded that Nitrogen fertilisation, manure and tillage can all influence microbial activity. The general conclusion was that soil biological activity was greater in soil managed organically in the long-term.

On this basis the question has been answered by totaling the areas of land under agreement with the exception of LFA land, where fertiliser input is low in conventional systems. This is equivalent to 98% of the Farmland under agreements reducing soil contamination.

References to data sources

Natural England GENESIS database (OELS.mdb)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS, ESA, CSS, ELS, OELS, HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>64%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Note if OFS and OELS land is excluded (as this is not a target but a consequence of organic farming), the figure is 22%.

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**
Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
22% of the area of “ordinary farmland” with assisted input-reducing actions has avoidance of specific inputs at critical periods of the year.

**Explanation of Sources and calculations**

This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser to specific periods of the year which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) supplied by Defra is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of fertilisers defined as time sensitive</td>
<td>92,449 ha</td>
<td>22</td>
</tr>
</tbody>
</table>

The average reduction of Nitrogen is 113.4 kg/ha over an area of 92,449 ha (resulting in a total reduction of nitrogen of around 10,484 tons)

**Caveats**
This question was answered using income foregone data for inorganic and organic fertilisers. This data was not available for all management options. Out of a total of 185 scheme measures, 8 scheme measures had no data. Some of the “higher tier land” is of ecological importance.

**References to data sources**

Natural England AESIS database (CSS.mdb)
Defra Income foregone data (Income foregone.xls)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
42% of the area of “ordinary farmland” with assisted input-reducing actions has avoidance of specific inputs at critical periods of the year.

Explanation of Sources and calculations
This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser to specific periods of the year which also had income foregone data for the reduction of nitrogen. Income foregone (estimated kg/N/ha) supplied by Defra is available for those measures where it is known that on average the level of nutrient use (organic or inorganic) will decrease as a result of the agreement.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area (ha) within “Higher Tiers” (ordinary farmland)</th>
<th>Area (ha) within “Other land” (ordinary farmland)</th>
<th>“H” + “O” tiers</th>
<th>% of ordinary farmland with assisted input reducing actions affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area affected by reduced application of fertilisers defined as time sensitive</td>
<td>47,621 ha</td>
<td>0</td>
<td>47,621 ha</td>
<td>42</td>
</tr>
</tbody>
</table>

The average reduction of Nitrogen is 99.7 kg/ha over an area of 47,621 ha (resulting in a total reduction of nitrogen of around 4,748 tons).

Caveats
This question was answered using income foregone data for fertilisers. This data was not available for all management options. Out of a total of 262 scheme measures, 2 scheme measures had no data. ESAs management options have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”. Some of the “higher tier land” is of ecological importance.

References to data sources
Natural England AESIS database (ESA.mdb)
Defra Income foregone prescriptions (Income foregone.xls)
Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)

Scheme
Organic Farming Scheme (OFS)

Answer
100%

Explanation of Sources and calculations
All OFS agreements undertake input-reducing actions and by default, inputs at critical periods of the year will be avoided on all land.

References to data sources
Defra OFS prescription database
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>14% of the area of “ordinary farmland” with assisted input-reducing actions has avoidance of specific inputs at critical periods of the year.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser to specific periods of the year, which totaled 42,416 ha.

**References to data sources**

Natural England GENESIS database (ELS.mdb)
Defra ELS scheme handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-
environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)

Scheme
Higher Level Stewardship (HLS)

Answer
25% of the area of “ordinary farmland” with assisted input-reducing actions has avoidance of specific inputs at critical periods of the year.

Explanation of Sources and calculations
This question was answered by calculating the area of land with measures restricting the use of inorganic fertiliser to specific periods of the year, which totaled 8,709 ha.

References to data sources
Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.2.A-1.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with assisted input-reducing actions (hectares) (c) of which with avoidance of specific inputs at critical periods of the year (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

All OELS agreements undertake input-reducing actions and by default, inputs at critical periods of the year will be avoided on all land.

**References to data sources**
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**
Reduction of agricultural input per hectare thanks to agreement (%)

**Scheme**
OFS/ESA/CSS/ELS/OELS/HLS

**Answer**
Cannot calculate an overall percentage. It is 100% for OFS and OELS agreements and the amount of reduction can be calculated for ESA and CSS, but the baseline data is not available to calculate the percentage. Cannot be calculated for ELS and HLS as the necessary income foregone estimates are not available.

**Explanation of Sources and calculations**
OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic pesticides prohibited or much restricted
- Use of synthetic fertiliser prohibited or much restricted

The use of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved on the entire assisted area due to the prescription. Answer 100%.

**References to data sources**
Defra OFS Prescription database
Chapter VI. **Agri-Environment Schemes**  
Indicator ref. VI.2.A-1.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**  
Reduction of agricultural input per hectare thanks to agreement (%)

**Scheme**  
Countryside Stewardship Scheme (CSS)

**Answer**  
Forecast reductions in agricultural input per hectare thanks to agreements are given below. These cannot be expressed as a percentage as the information on the level from which they were reduced for each measure was not available.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>Average reduction</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reduction in fertiliser input</td>
<td>404,659 ha</td>
<td>103.6 kg N/ha</td>
<td>41,923 tons N</td>
</tr>
<tr>
<td>Total reduction in plant protection products input</td>
<td>181,171 ha</td>
<td>£88.7/ha</td>
<td>£16.1M</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

This question uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone for plant protection products. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587).

**Caveats**

This question was answered using income foregone data for plant protection products and fertilisers. This data was not available for all management options (see breakdown in parts (a) and (b) of question VI.2.A-1.1).

**References to data sources**

Natural England AESIS database (CSS.mdb)  
Income foregone prescriptions  
Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria       Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator      Reduction of agricultural input per hectare thanks to agreement (%)

Scheme         Environmentally Sensitive Area (ESA)

Answer         Forecast reductions in agricultural input per hectare thanks to agreements are given below. These cannot be expressed as a percentage as the information on the level from which they were reduced for each measure was not available.

<table>
<thead>
<tr>
<th>Description</th>
<th>Area</th>
<th>Average reduction</th>
<th>Total for all agreements with input reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reduction in fertiliser input</td>
<td>111,803 ha</td>
<td>107.5 kg N/ha</td>
<td>12019 tons N</td>
</tr>
<tr>
<td>Total reduction in plant protection products input</td>
<td>54,535 ha</td>
<td>£80/ha</td>
<td>£4.4M</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

This question covers uses the methodology applied in VI.1.B-1.1 and associated parts, but applied only to those measures categorised as being associated with “ordinary farmland”.

The values for income foregone (plant protection products) ranged from a minimum of £4/ha in traditional haymeadows (e.g. South West Peak), to £100/ha under arable reversion (e.g. Test Valley and Avon Valley).

The standards of Good Farming Practice apply to all land on the holding under agreement. This includes obtaining authorisation for the disposal of Sheep dip and following environmental legislation including the Control of Pesticides Regulations, 1986, the Control of pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, Plant Protection Products Regulations 1995. This gives a general level of protection however, a reduction in inputs is only assumed for those measures where there is income foregone for plant protection products. In addition, farmers will also be encouraged to follow the Codes of Good Agricultural Practice for the Protection of Soil and Water (published by Defra: reference PB0617 and PB0587).

Caveats

This question was answered using income foregone data for plant protection products and fertilisers. This data was not available for all management options (see breakdown in parts (a) and (b) of question VI.2.A-1.1).

References to data sources

Natural England AESIS database (ESA.mdb)
Defra Income foregone prescriptions (Income foregone.xls)
Standards of Good Farming Practice
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.A-1.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator Reduction of agricultural input per hectare thanks to agreement (%)

Scheme Organic Farming Scheme (OFS)

Answer 100% on relevant area

Explanation of Sources and calculations
OFS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic pesticides prohibited or much restricted
- Use of synthetic fertiliser prohibited or much restricted

The use of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved on the entire assisted area due to the prescription.

References to data sources
Defra OFS Prescription database
Chapter VI.  Agri-Environment Schemes  

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**  
Reduction of agricultural input per hectare thanks to agreement (%)

**Scheme**  
Entry Level Stewardship (ELS)

**Answer**  
Cannot answer – income foregone estimates for reductions in fertiliser and pesticide use not available.

**Explanation of Sources and calculations**

**References to data sources**
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Reduction of agricultural input per hectare thanks to agreement (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Cannot answer – income foregone estimates for reductions in fertiliser and pesticide use not available.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria

Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator

Reduction of agricultural input per hectare thanks to agreement (%)

Scheme

Organic Entry Level Stewardship (OELS)

Answer

100% on relevant area

Explanation of Sources and calculations

OELS prescriptions include compliance with Good Farming Practice (GFP). Prescriptions relevant to this Indicator include:

- Use of synthetic pesticides prohibited or much restricted
- Use of synthetic fertiliser prohibited or much restricted

The use of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved on the entire assisted organically managed area due to the prescription.

References to data sources
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-1.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme
OFS/ESA/CSS/ELS/OELS/HLS

Answer
Some evidence of positive effect for OFS but no evidence available for ESA,CSS, ELS, OELS and HLS

Explanation of Sources and calculations
No monitoring of area under OFS agreement for species diversity

Shepherd et al. (2003) concluded that “Biodiversity: Comparative reviews of the evidence base have been conducted for MAFF, English Nature, The European Commission and the Soil Association. The general conclusion is that on average there is a positive benefit to wildlife conservation on organic farms. In most studies organic agriculture provides a conservation benefit, whereas there are few studies where a disbenefit is shown.

While some of these practices are used on some conventional farms it is only generally on organic farms where most of the relevant management is routinely and systematically carried out. Although, the evidence from several studies shows that birds do better on organic farms overall, there are some detrimental actions in organic farming, such as mechanical weeding or mulching operations taking place between April and July. If these practices were to intensify in the future they could reduce the overall benefits for ground-nesting birds. Both organic and conventional farms will perform better when under agri-environmental schemes.”

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-1.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme
Countryside Stewardship Scheme (CSS)

Answer
There is no direct evidence that reduced inputs have influenced species diversity in CSS agreements.

Explanation of Sources and calculations
The actual impacts of the CSS scheme on species diversity and any causes of change are difficult to quantify, particularly as direct monitoring of changes in habitat condition have not been carried out. Sample desk-based appraisals of scheme agreements suggest that about 70% are likely to maintain and enhance wildlife value and about 25% more likely to maintain wildlife value.

The Arable Stewardship Pilot Scheme monitoring established a richer plant community for all options (except winter stubbles followed by a spring crop). In terms of invertebrates there was a mixed response with increases in species richness for hemipterans (6/18 sites), carabids (3/18 sites) and sawflies (3/18 sites) over the three year monitoring period.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

This question relates to ordinary farmland. The vast majority of CSS agreement land is categorised as “ordinary farmland” for the purposes of this question. Results of monitoring relate to all land in CSS. Changes in land use as well as input reduction will be influencing species diversity.

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme
Environmentally Sensitive Area (ESA)

Answer
There is no direct evidence that reduced inputs have influenced species diversity in ESAs in ordinary farmland.

Explanation of Sources and calculations
The actual impacts of the ESA schemes on species diversity and any causes of change are difficult to quantify. There has been sufficient botanical monitoring to establish that ESAs have been successful in maintaining wildlife value on agreement land, however, much of this monitoring has taken place on land defined by Defra as being of “high nature value” (i.e. not ordinary farmland). Inadequate time for benefits to have become apparent were a limiting factor in the assessing the achievement of the scheme particularly for stage III & IV ESAs.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

This question relates to ordinary farmland. There has been little monitoring of non-agreement land to provide a counterfactual, particularly in ESAs with high uptake, where non-agreement sites subsequently came into agreement. Results of monitoring relate to all land in ESAs including “high nature value sites” which do not apply to this question.

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria

Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator

Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme

Organic Farming Scheme (OFS)

Answer

Evidence provided in a review of environmental impacts of organic farming for Defra but no ongoing monitoring as part of the OFS scheme.

Explanation of Sources and calculations

No monitoring of area under OFS agreement for species diversity.

Shepherd et al. (2003) concluded that “Biodiversity: Comparative reviews of the evidence base have been conducted for MAFF, English Nature, The European Commission and the Soil Association. The general conclusion is that on average there is a positive benefit to wildlife conservation on organic farms. In most studies organic agriculture provides a conservation benefit, whereas there are few studies where a disbenefit is shown.

While some of these practices are used on some conventional farms it is only generally on organic farms where most of the relevant management is routinely and systematically carried out. Although, the evidence from several studies shows that birds do better on organic farms overall, there are some detrimental actions in organic farming, such as mechanical weeding or mulching operations taking place between April and July. If these practices were to intensify in the future they could reduce the overall benefits for ground-nesting birds. Both organic and conventional farms will perform better when under agri-environmental schemes.”

References to data sources

Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme
Entry Level Stewardship (ELS)

Answer
There is no direct evidence that reduced inputs have influenced species diversity in ELS agreements.

Explanation of Sources and calculations
The actual impacts of the ELS scheme on species diversity and any causes of change are difficult to quantify.

Some ELS options are similar to those in the Arable Stewardship Pilot Scheme, where monitoring showed the establishment of a richer plant community for all options (except winter stubbles followed by a spring crop). In terms of invertebrates there was a mixed response with increases in species richness for hemipterans (6/18 sites), carabids (3/18 sites) and sawflies (3/18 sites) over the three year monitoring period.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

References to data sources
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-1.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

**Indicator**  
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

**Scheme**  
Higher Level Stewardship (HLS)

**Answer**  
There is no direct evidence that reduced inputs have influenced species diversity in HLS agreements.

**Explanation of Sources and calculations**

The actual impacts of the HLS scheme on species diversity and any causes of change are difficult to quantify, particularly as direct monitoring of changes in habitat condition have not been carried out. There is some evidence from similar management options in other schemes.

The Arable Stewardship Pilot Scheme monitoring showed the establishment of a richer plant community for all options (except winter stubbles followed by a spring crop). In terms of invertebrates there was a mixed response with increases in species richness for hemipterans (6/18 sites), carabids (3/18 sites) and sawflies (3/18 sites) over the three year monitoring period.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

**References to data sources**

Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.A-1.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Reduction of agricultural inputs (or avoided increase) benefiting flora and fauna has been achieved

Indicator
Evidence of a positive relationship between assisted input reduction measures on the targeted land and species diversity

Scheme
Organic Entry Level Stewardship (OELS)

Answer
There is no direct evidence that reduced inputs have influenced species diversity in OELS agreements.

Explanation of Sources and calculations
The actual impacts of the OELS scheme on species diversity and any causes of change are difficult to quantify.

Some OELS options are similar to those in the Arable Stewardship Pilot Scheme, where monitoring showed the establishment of a richer plant community for all options (except winter stubbles followed by a spring crop). In terms of invertebrates there was a mixed response with increases in species richness for hemipterans (6/18 sites), carabids (3/18 sites) and sawflies (3/18 sites) over the three year monitoring period.

Defra Project BD0321 investigated soil nutrient status and the botanical composition of grassland in ESAs. This showed that the most diverse communities with a high conservation value were associated with low soil nutrient status (esp. soil P). Soil pH also had an influence as calcareous and acidic plant communities have a high conservation value.

References to data sources
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria: Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator: Area with beneficial lay out of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme: OFS/ESA(+ECP)/CSS/ELS/OELS/HLS

Answer: 2,317,447 hectares

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Area with beneficial lay out of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
750,494 ha of land with a beneficial lay out of crops has been maintained or re-introduced thanks to assisted actions on ordinary farmland.

In addition, 70411 km of grass margins have been reintroduced.

Explanation of Sources and calculations

**Beneficial layout maintained**
Area of land under agreement with no change in land use: 570,552 ha. For ordinary farmland, this is all agreement land that does not involve a change in land use/ major change in crop management (defined below as re-introduction of beneficial layout).

**Beneficial layout re-introduced**
In terms of re-introducing a beneficial layout of crops, this analysis excludes restoration of features that are not crops – e.g. historic landscapes, moorland.

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable reversion to grassland and lowland heathland</td>
<td>76,890 ha</td>
</tr>
<tr>
<td>Overwintered stubbles, wildflower seed mixes and pollen and nectar mixes</td>
<td>100,941 ha</td>
</tr>
<tr>
<td>Grass margins</td>
<td>70,411 km</td>
</tr>
<tr>
<td>Orchard restoration</td>
<td>2,111 ha</td>
</tr>
<tr>
<td><strong>TOTAL AREA</strong></td>
<td><strong>179942 ha / 70,411 km</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital items</th>
<th>Uptake in area of ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrub control</td>
<td>0 ha</td>
</tr>
</tbody>
</table>

References to data sources
Natural England AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-2.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Area with beneficial layout of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme
Environmentally Sensitive Area (ESA) and ESA Conservation Plans (ECP)

Answer
263,489 ha of land with a beneficial layout of crops has been maintained or re-introduced thanks to assisted actions on ordinary farmland.

In addition, ESA Conservation Plans have been used to reintroduce 1172 ha of beneficial layout through scrub removal and creation of species-rich meadows.

Explanation of Sources and calculations

Beneficial layout maintained
For ordinary farmland, this is all agreement land that does not involve a change in land use/major change in crop management (defined below as re-introduction of beneficial layout).
Area of land under agreement with no change in land use: 207,184 ha.

Beneficial layout re-introduced
In terms of re-introducing a beneficial layout of crops, this analysis excludes restoration of features that are not crops – e.g. historic landscapes, moorland.

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable reversion to grassland and lowland heathland</td>
<td>41,820 ha</td>
</tr>
<tr>
<td>Overwintered stubbles</td>
<td>13,543 ha</td>
</tr>
<tr>
<td>Arable margin buffer strips, grass margins</td>
<td>942 ha</td>
</tr>
<tr>
<td>Total</td>
<td>56,305 ha</td>
</tr>
</tbody>
</table>

Capital items (ECP options)

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of scrub</td>
<td>1146 ha</td>
</tr>
<tr>
<td>Creation of flower/herb-rich meadows</td>
<td>26 ha</td>
</tr>
<tr>
<td>Total</td>
<td>1172 ha</td>
</tr>
</tbody>
</table>

References to data sources
AESIS database (ESA.mdb; ECP.mdb)
ESA prescriptions, ECP prescriptions.
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-2.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Area with beneficial lay out of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme
Organic Farming Scheme (OFS)

Answer
919,864 hectares

Explanation of Sources and calculations
Relies on use of secondary data to capture changes in cropping (OFS evaluation etc.) and the impact of this on indicators.

There is a requirement under organic management to protect and enhance biological processes and wildlife habitats. Some Organic Certification Bodies have worked with English Nature towards the development and inclusion of specific conservation objectives within the organic production standards. Shepherd et al. (2003) listed the many aspects of organic farming will favour increased biodiversity:

• Sympathetic management of wildlife-rich infrastructure features, such as hedges, and ditches.
• Higher proportion of organic lowland farms are in mixed farming.
• Greater variety of crop structure because of more spring cropping in more varied rotations.
• More undersowing, such as with stubble turnips with the land then used for autumn grazing. This can produce attractive over-winter habitat for seed eating birds and helps boost populations of some farmland invertebrates.
• Lower stocking density and a wider range of species of livestock maintain more structurally diverse swards.

On the basis of the above, all of the area of lowland organic farming can be claimed to contribute to improved flora and fauna. Accepting that inappropriate timing of cultivations and mechanical weeding may offset some benefits, the net impact is assumed to be beneficial. The answer is based on the total lowland area under assisted actions – all land outside LFAs.

References to data sources

ERDP Evidence Assessment, Cambridge University Centre for Rural Economics Research/CJC/Segal Quince Wicksteed. March 2002

Defra OFS prescription database

Defra AESIS database

Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria: Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator: Area with beneficial layout of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme: Entry Level Stewardship (ELS)

Answer: 309,992 ha of land with a beneficial layout of crops has been maintained or re-introduced thanks to assisted actions on ordinary farmland.

Explanation of Sources and calculations

**Beneficial layout maintained**
- Area of land under agreement with no change in land use: 228,786 ha.
- For ordinary farmland, this is all agreement land that does not involve a change in land use/ major change in crop management (defined below as re-introduction of beneficial layout).

**Beneficial layout re-introduced**
- In terms of re-introducing a beneficial layout of crops, this analysis excludes restoration of features that are not crops – e.g. historic landscapes, moorland.

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overwintered stubbles, wildflower seed mixes and pollen and nectar mixes</td>
<td>55,524 ha</td>
</tr>
<tr>
<td>Grass margins etc.</td>
<td>25,682 ha</td>
</tr>
<tr>
<td><strong>TOTAL AREA</strong></td>
<td><strong>81,206 ha</strong></td>
</tr>
</tbody>
</table>

References to data sources

Natural England GENESIS database (ELS.mdb)
Defra ELS scheme handbook
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria: Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator: Area with beneficial layout of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

Scheme: Higher Level Stewardship (HLS)

Answer: 55,928 ha of land with a beneficial layout of crops has been maintained or re-introduced thanks to assisted actions on ordinary farmland.

Explanation of Sources and calculations

Beneficial layout maintained
Area of land under agreement with no change in land use: 47,803 ha. For ordinary farmland, this is all agreement land that does not involve a change in land use/ major change in crop management (defined below as re-introduction of beneficial layout).

Beneficial layout re-introduced
In terms of re-introducing a beneficial layout of crops, this analysis excludes restoration of features that are not crops – e.g. historic landscapes, moorland.

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable reversion to grassland and lowland heathland.</td>
<td>3,643 ha</td>
</tr>
<tr>
<td>Overwintered stubbles, wildflower seed mixes and pollen and nectar mixes</td>
<td>3,010 ha</td>
</tr>
<tr>
<td>Grass margins etc.</td>
<td>1,419 ha</td>
</tr>
<tr>
<td>Orchard restoration</td>
<td>53 ha</td>
</tr>
<tr>
<td><strong>TOTAL AREA</strong></td>
<td><strong>8,125 ha</strong></td>
</tr>
</tbody>
</table>

References to data sources
Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Crop patterns benefiting flora and fauna have been maintained or re-introduced

**Indicator**
Area with beneficial layout of crops (types of crop, crop-combinations/livestock and size of uniform fields) maintained/reintroduced thanks to assisted actions (hectares)

**Scheme**
Organic Entry Level Stewardship (OELS)

**Answer**
16,508 ha

**Explanation of Sources and calculations**

**Beneficial layout maintained**
Area of land under agreement with no change in land use: 14,079 ha. For ordinary farmland, this is all agreement land that does not involve a change in land use/major change in crop management (defined below as re-introduction of beneficial layout).

**Beneficial layout re-introduced**
In terms of re-introducing a beneficial layout of crops, this analysis excludes restoration of features that are not crops – e.g. historic landscapes, moorland.

<table>
<thead>
<tr>
<th>Measure to re-introduce beneficial crop layout</th>
<th>Uptake in area of ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overwintered stubbles, wildflower seed mixes and pollen and nectar mixes</td>
<td>2,062 ha</td>
</tr>
<tr>
<td>Grass margins etc.</td>
<td>367 ha</td>
</tr>
<tr>
<td><strong>TOTAL AREA</strong></td>
<td>2,429 ha</td>
</tr>
</tbody>
</table>

**References to data sources**
Natural England GENESIS database (OELS.mdb)
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Crop patterns benefiting flora and fauna have been maintained or re-introduced

**Indicator**
Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

**Scheme**
ESA, CSS, ELS, HLS, OELS

**Answer**
800,491 hectares

**Explanation of Sources and calculations**
This answer was calculated using data for ESA, CSS, ELS, HLS and OELS only. Answer for OFS dependent on farm type.

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-2.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**  
Crop patterns benefiting flora and fauna have been maintained or re-introduced

**Indicator**  
Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

**Scheme**  
Countryside Stewardship Scheme (CSS)

**Answer**  
421,356 ha of ordinary farmland has beneficial vegetation/crop-residues at critical periods thanks to assisted actions as well as 68,563 km of grass margins and beetle banks.

**Explanation of Sources and calculations**

This question is answered by identifying all measures that have restrictions on timings of management operations, including grazing cutting, mechanical operations such as rolling or harrowing, and management of water levels during critical periods. It also includes options that have restricted times of grazing (e.g. hay meadows) or require grazing at specific periods to provide beneficial cover at critical periods. It excludes options for the enhancement of the ecological value of moorland, and includes supplements. Only measures operating defined as ordinary farmland (see VI 2A 1.1) are included.

**Area with beneficial vegetation/crop-residues at critical periods**

<table>
<thead>
<tr>
<th>Requirements of measures</th>
<th>Area (ha) under agreement within ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on cutting dates, stocking levels, restrictions on timing of rolling or chain harrowing to benefit ground nesting birds on enclosed grassland.</td>
<td>315,745 ha</td>
</tr>
<tr>
<td>Input restrictions and cultivation restrictions for conservation headlands to encourage rare arable plants, invertebrates and birds</td>
<td>13,162 ha</td>
</tr>
<tr>
<td>Retention of stubbles – overwintered stubbles</td>
<td>92,449 ha</td>
</tr>
<tr>
<td>Late cutting or no cutting of grass margins, wildlife strips, beetle banks</td>
<td>68,563 km</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>421,356 ha / 68563 km</strong></td>
</tr>
</tbody>
</table>

In additional, supplementary payments are available that will bring additional beneficial vegetation/crop-residues at critical periods. However, the area of these supplements that relate to particular measures in ordinary farmland cannot be readily identified and the land to which they apply within ordinary farmland may already be identified in the area figures given above. 19324 ha in CSS (including in high nature value habitats) have supplements that bring beneficial vegetation/crop-residues at critical periods.

**Supplementary payments:**

<table>
<thead>
<tr>
<th>Type of measure</th>
<th>Uptake for all CSS land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raised water level supplements/wet area supplements— providing wet habitat for birds at critical periods</td>
<td>14081 ha</td>
</tr>
<tr>
<td>Former set-aside land supplement</td>
<td>5243 ha</td>
</tr>
<tr>
<td><strong>Total (supplements)</strong></td>
<td><strong>19324 ha</strong></td>
</tr>
</tbody>
</table>
**Caveats**
This analysis excludes options for the enhancement of the ecological value of moorland and includes supplements. Supplements are additional payments for carrying out extra measures on land that is already receiving payment for another measure.

**References to data sources**
Natural England AESIS database (CSS.mdb)
CSS prescriptions
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-2.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria: Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator: Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

Scheme: Environmentally Sensitive Area (ESA)

Answer: 57,203 ha of ordinary farmland has beneficial vegetation/crop-residues at critical periods thanks to assisted actions

**Explanation of Sources and calculations**

This question is answered by identifying all measures that have restrictions on timings of management operations, including grazing cutting, mechanical operations such as rolling or harrowing, and management of water levels during critical periods. It also includes options that have restricted times of grazing (e.g. hay meadows) or require grazing at specific periods to provide beneficial cover at critical periods. It excludes options for the enhancement of the ecological value of moorland, and includes supplements. Only measures operating defined as ordinary farmland (see VI 2A 1.1) are included.

**Area with beneficial vegetation/crop-residues at critical periods**

<table>
<thead>
<tr>
<th>Type of measure</th>
<th>Uptake in area of ordinary farmland (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on cutting dates, stocking levels, restrictions on timing of rolling or chain harrowing on enclosed grassland to benefit ground nesting birds.</td>
<td>30164</td>
</tr>
<tr>
<td>Input restrictions and cultivation restrictions for conservation headlands &amp; uncropped wildlife strips to encourage rare arable plants, invertebrates and birds</td>
<td>747</td>
</tr>
<tr>
<td>Retention of stubbles – overwintered stubbles</td>
<td>13543</td>
</tr>
<tr>
<td>Raised water level tiers – providing wet habitat for birds at critical periods, Fen options (these require a management plan)</td>
<td>12749</td>
</tr>
<tr>
<td><strong>Total (non supplements)</strong></td>
<td><strong>57,203 ha</strong></td>
</tr>
</tbody>
</table>

In additional, supplementary payments are available that will bring additional beneficial vegetation/crop-residues at critical periods. However, the area of these supplements that relate to particular measures in ordinary farmland cannot be readily identified and the land to which they apply within ordinary farmland may already be identified in the area figures given above. 24032 ha in ESAs (including in high nature value habitats) have supplements that bring beneficial vegetation/crop-residues at critical periods.

**Supplements:**

<table>
<thead>
<tr>
<th>Supplements:</th>
<th>Uptake in ESA (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay meadow supplement – late cutting for the benefit of ground nesting birds</td>
<td>1676</td>
</tr>
<tr>
<td>Raised water level supplements/wet area supplements– providing wet habitat for birds at critical periods</td>
<td>4877</td>
</tr>
<tr>
<td>Stock exclusion and extensive grazing supplements on grassland at defined periods to provide appropriate sward, reduce damage to nests of ground nesting birds, or provide conditions for breeding birds</td>
<td>17479</td>
</tr>
<tr>
<td><strong>Total (supplements)</strong></td>
<td><strong>24032 ha</strong></td>
</tr>
</tbody>
</table>

Supplements may apply to high nature value land.
References to data sources
AESIS database (ESA.mdb)
ESA prescriptions
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-2.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Crop patterns benefiting flora and fauna have been maintained or re-introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not answered – dependent on farm type</td>
</tr>
</tbody>
</table>
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Crop patterns benefiting flora and fauna have been maintained or re-introduced

**Indicator**
Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

**Scheme**
Entry Level Stewardship (ELS)

**Answer**
282,113 ha of ordinary farmland has beneficial vegetation/crop-residues at critical periods thanks to assisted actions

### Explanation of Sources and calculations

**Area with beneficial vegetation/crop-residues at critical periods**

<table>
<thead>
<tr>
<th>Requirements of measures</th>
<th>Area (ha) under agreement within ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on cutting dates, stocking levels, restrictions on timing of rolling or chain harrowing to benefit ground nesting birds on enclosed grassland.</td>
<td>200,906 ha</td>
</tr>
<tr>
<td>Input restrictions and cultivation restrictions for conservation headlands to encourage rare arable plants, invertebrates and birds</td>
<td>881 ha</td>
</tr>
<tr>
<td>Retention of stubbles; beneficial crop cover or fallow to provide food and cover for birds</td>
<td>50,201 ha</td>
</tr>
<tr>
<td>Late cutting or no cutting of grass margins, wildlife strips, beetle banks, plus wildlife mixes</td>
<td>30,125 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>282,113 ha</strong></td>
</tr>
</tbody>
</table>

### References to data sources

- Natural England GENESIS database (ELS.mdb)
- Defra ELS scheme handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-2.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria  
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator  
Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

Scheme  
Higher Level Stewardship (HLS)

Answer  
23,908 ha of ordinary farmland has beneficial vegetation/crop-residues at critical periods thanks to assisted actions

Explanation of Sources and calculations

Area with beneficial vegetation/crop-residues at critical periods

<table>
<thead>
<tr>
<th>Requirements of measures</th>
<th>Area (ha) under agreement within ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on cutting dates, stocking levels, restrictions on timing of rolling or chain harrowing to benefit ground nesting birds on enclosed grassland.</td>
<td>18,742 ha</td>
</tr>
<tr>
<td>Input restrictions and cultivation restrictions for conservation headlands to encourage rare arable plants, invertebrates and birds</td>
<td>239 ha</td>
</tr>
<tr>
<td>Retention of stubbles; beneficial crop cover or fallow to provide food and cover for birds</td>
<td>2,881 ha</td>
</tr>
<tr>
<td>Late cutting or no cutting of grass margins, wildlife strips, beetle banks, plus wildlife mixes</td>
<td>2,046 ha</td>
</tr>
<tr>
<td>Total</td>
<td>23,908 ha</td>
</tr>
</tbody>
</table>

In addition, supplementary payments are available that will bring additional beneficial vegetation/crop-residues at critical periods. However, the area of these supplements that relate to particular measures in ordinary farmland cannot be readily identified and the land to which they apply within ordinary farmland may already be identified in the area figures given above.

Supplements:

<table>
<thead>
<tr>
<th>Uptake in HLS (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raised water level supplements/ wet area supplements – providing wet habitat for birds at critical periods</td>
</tr>
</tbody>
</table>

References to data sources

Natural England GENESIS database (HLS.mdb)
Defra HLS scheme handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-2.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Area with beneficial vegetation/crop-residues at critical periods thanks to assisted actions (hectares)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
15,911 ha of ordinary farmland has beneficial vegetation/crop-residues at critical periods thanks to assisted actions.

Explanation of Sources and calculations

Area with beneficial vegetation/crop-residues at critical periods

<table>
<thead>
<tr>
<th>Requirements of measures</th>
<th>Area (ha) under agreement within ordinary farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on cutting dates, stocking levels, restrictions on timing of rolling or chain harrowing to benefit ground nesting birds on enclosed grassland.</td>
<td>13,374 ha</td>
</tr>
<tr>
<td>Input restrictions and cultivation restrictions for conservation headlands to encourage rare arable plants, invertebrates and birds</td>
<td>0 ha</td>
</tr>
<tr>
<td>Retention of stubbles; beneficial crop cover or fallow to provide food and cover for birds</td>
<td>1,998 ha</td>
</tr>
<tr>
<td>Late cutting or no cutting of grass margins, wildlife strips, beetle banks, plus wildlife mixes</td>
<td>539 ha</td>
</tr>
<tr>
<td>Total</td>
<td>15,911 ha</td>
</tr>
</tbody>
</table>

References to data sources
Natural England GENESIS database (OELS.mdb)
Defra OELS scheme handbook
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Crop patterns benefiting flora and fauna have been maintained or re-introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS/ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>Evidence of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity relates to organic farming on mixed and arable farms. On arable land, environmental monitoring of Arable Stewardship measures has shown: • an increase in wintering birds, • an increase in breeding bird numbers on 20% of sites (no increase in species diversity) • an increase in plant species diversity • Invertebrates showed mixed responses, bumblebee numbers increased, hemipteran, carabid and sawfly numbers increased on some sites. The monitoring of the effectiveness of CSS for wildlife in other landscape types within CSS has been through a subjective appraisal of environmental effectiveness of agreements (i.e. a desk based study). It is not generally possible to evaluate CSS in terms of quantity or quality of environmental benefits the effectiveness of agreements in maintaining or enhancing wildlife value is given on the individual scheme answer sheet. It is difficult to quantify the effect of ESA agreements and there is no direct evidence of a positive relationship between the layout of crops or cover on ordinary farmland under agreement and the impact on species diversity. For ELS, OELS and HLS, many of the measures are similar to those within CSS, and the evidence from CSS will be applicable to them.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Crop patterns benefiting flora and fauna have been maintained or re-introduced

**Indicator**
Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
On arable land, environmental monitoring of Arable Stewardship measures has shown:
- an increase in wintering birds,
- an increase in breeding bird numbers on 20% of sites (no increase in species diversity)
- an increase in plant species diversity
- Invertebrates showed mixed responses, bumblebee numbers increased, hemipteran, carabid and sawfly numbers increased on some sites.

The monitoring of the effectiveness of CSS for wildlife in other landscape types within CSS has been through a subjective appraisal of environmental effectiveness of agreements (i.e. a desk based study). It is not generally possible to evaluate CSS in terms of quantity or quality of environmental benefits the effectiveness of agreements in maintaining or enhancing wildlife value is given below:

Work on the impacts of particular covers has shown that bumblebee abundance is significantly higher and richer on areas of pollen and nectar mix, which also enhanced the diversity of beetles and bugs.

In arable landscapes, agri-environment scheme management such as uncropped cultivated margins, spring fallow and conservation headlands without fertilisers have shown to be effective in conserving arable plants, including rare species.

**Explanation of Sources and calculations**

<table>
<thead>
<tr>
<th>Landscape Type</th>
<th>% of sites where agreement effective to both maintain and enhance wildlife value</th>
<th>% of sites where agreement effective only to maintain wildlife value</th>
<th>% of sites where agreement not effective to maintain wildlife value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcareous grassland</td>
<td>70</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Lowland Heath</td>
<td>83</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Waterside</td>
<td>79</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Coastal</td>
<td>82</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Upland</td>
<td>35</td>
<td>63</td>
<td>2</td>
</tr>
<tr>
<td>Historic</td>
<td>46</td>
<td>46</td>
<td>8</td>
</tr>
<tr>
<td>Old meadow and pasture</td>
<td>58</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td>Countryside around towns</td>
<td>53</td>
<td>44</td>
<td>3</td>
</tr>
<tr>
<td>Arable Margin</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Field Boundary</td>
<td>94</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Orchard</td>
<td>64</td>
<td>33</td>
<td>3</td>
</tr>
</tbody>
</table>
References to data sources


Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.2.A-2.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)

Scheme
Environmentally Sensitive Area (ESA)

Answer
There is no direct evidence of a positive relationship between the layout of crops or cover on ordinary farmland under agreement and the impact on species diversity.

Explanation of Sources and calculations
The actual impacts of the ESA schemes on species diversity and any causes of change are difficult to quantify. There has been sufficient botanical and bird monitoring to establish that ESAs have been successful in maintaining wildlife value on agreement land, however, much of this monitoring has taken place on land defined by Defra as being of “high nature value” (i.e. not ordinary farmland) and there no specific monitoring of species diversity on ordinary farmland. Inadequate time for benefits to have become apparent were a limiting factor in the assessing the achievement of the scheme particularly for stage III & IV ESAs.

The general conclusion of research into arable reversion are that effective arable reversion to diverse grassland is complex, needs ongoing management and may take time to achieve objectives and are likely to work best on sites that have not been under long-term arable production.
Whole farm schemes tend to include more “ordinary farmland” than part farm ESAs.

References to data sources
## Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Crop patterns benefiting flora and fauna have been maintained or re-introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Main evidence of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity relates to <strong>mixed farming and arable farming</strong>.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Much of the evidence on crop cover related to arable and mixed farming.

Shepherd *et al.* (2003) concluded that organic rotations are more diverse. On average, organic farms were growing 4.5 different crop types compared with 3.4 on integrated farms and organic farms are also likely to grow a greater number of perennial crops than their conventional counterparts. This observation is also supported by changes in cropping before and after conversion under Defra’s Organic Farming Scheme. These data show a move from winter to spring cereals, substantial decreases in the areas of rape, sugar beet and fodder maize, substantial increases in the areas of vegetables, legumes (market and forage, set-aside and temporary grassland).

**References to data sources**

Chapter VI. Agri-Environment Schemes  

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced.

Indicator
Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.).

Scheme
Entry Level Stewardship (ELS)

Answer
On arable land, environmental monitoring of Arable Stewardship measures has shown:
- an increase in wintering birds,
- an increase in breeding bird numbers on 20% of sites (no increase in species diversity)
- an increase in plant species diversity

Invertebrates showed mixed responses, bumblebee numbers increased, hemipteran, carabid and sawfly numbers increased on some sites.

Many of these measures are also available under ELS.

Work on the impacts of particular covers has shown that bumblebee abundance is significantly higher and richer on areas of pollen and nectar mix, which also enhanced the diversity of beetles and bugs.

In arable landscapes, agri-environment scheme management such as uncropped cultivated margins, spring fallow and conservation headlands without fertilisers have shown to be effective in conserving arable plants, including rare species.

Explanation of Sources and calculations

References to data sources


To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)

Scheme
Higher Level Stewardship (HLS)

Answer
On arable land, environmental monitoring of Arable Stewardship measures has shown:
- an increase in wintering birds,
- an increase in breeding bird numbers on 20% of sites (no increase in species diversity)
- an increase in plant species diversity

Invertebrates showed mixed responses, bumblebee numbers increased, hemipteran, carabid and sawfly numbers increased on some sites.

The monitoring of the effectiveness of CSS for wildlife in other landscape types within CSS has been through a subjective appraisal of environmental effectiveness of agreements (i.e. a desk based study). It is not generally possible to evaluate CSS in terms of quantity or quality of environmental benefits the effectiveness of agreements in maintaining or enhancing wildlife value is given below. Although these results relate to CSS, the majority of the measures available under CSS are also available under HLS.

Work on the impacts of particular covers has shown that bumblebee abundance is significantly higher and richer on areas of pollen and nectar mix, which also enhanced the diversity of beetles and bugs.

In arable landscapes, agri-environment scheme management such as uncropped cultivated margins, spring fallow and conservation headlands without fertilisers have shown to be effective in conserving arable plants, including rare species.
Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Landscape Type</th>
<th>% of sites where agreement effective to both maintain and enhance wildlife value</th>
<th>% of sites where agreement effective only to maintain wildlife value</th>
<th>% of sites where agreement not effective to maintain wildlife value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcareous grassland</td>
<td>70</td>
<td>30</td>
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<tr>
<td>Lowland Heath</td>
<td>83</td>
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<tr>
<td>Waterside</td>
<td>79</td>
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<td>82</td>
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<tr>
<td>Upland</td>
<td>35</td>
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<td>Old meadow and pasture</td>
<td>58</td>
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<td>Countryside around towns</td>
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<tr>
<td>Arable Margin</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Orchard</td>
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<td>33</td>
<td>3</td>
</tr>
</tbody>
</table>

References to data sources


Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-2.3

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Crop patterns benefiting flora and fauna have been maintained or re-introduced

Indicator
Evidence (by key type of farmland) of a positive relationship between the layout of crops or cover on the farmland under agreement and the impact on species diversity (description, etc.)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
On arable land, environmental monitoring of Arable Stewardship measures has shown
- an increase in wintering birds,
- an increase in breeding bird numbers on 20% of sites (no increase in species diversity)
- an increase in plant species diversity
- Invertebrates showed mixed responses, bumblebee numbers increased, hemipteran, carabid and sawfly numbers increased on some sites.

Many of these measures are also available under OELS.

Work on the impacts of particular covers has shown that bumblebee abundance is significantly higher and richer on areas of pollen and nectar mix, which also enhanced the diversity of beetles and bugs.

In arable landscapes, agri-environment scheme management such as uncropped cultivated margins, spring fallow and conservation headlands without fertilisers have shown to be effective in conserving arable plants, including rare species.

Explanation of Sources and calculations

References to data sources


Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-3.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

| Criteria | Species in need of protection have been successfully targeted by the supported actions |
| Indicator | Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) |
| Scheme | ESA/CSS/ELS/OELS/HLS |

**Answer**

It is not possible to quantify the area of ordinary farmland under agreement that is targeting particular wildlife species or groups of species within the scope of the evaluation. Doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect. For ELS, HLS and OELS, there are options targeting particular species, primarily through the creation of skylark plots. The total area over these schemes is 17,589 ha, of which 12,326 is for skylarks.

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species without incurring disproportionate costs. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations
Nearly all CSS agreement land is defined as ordinary farmland (97% of agreement land). Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring of habitats, bird numbers and butterflies (not specific to ordinary farmland) and other agri-environment research suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of widespread species, as well as specialist species and both those in decline and those that are stable or increasing in number will benefit from ordinary farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, invertebrates, brown hares, farmland birds, waders, wintering birds, upland birds, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora. particular wildlife species or groups of species.

References to data sources
Chapter VI. Agri-Environment Schemes  

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)

**Scheme**
Environmentally Sensitive Area (ESA)

**Answer**
It is not possible to quantify the area of ordinary farmland under agreement that is targeting particular wildlife species or groups of species without incurring disproportionate costs. However, there is some evidence available of a positive effect.

**Explanation of Sources and calculations**
About a third of ESA agreement land is defined as ordinary farmland (34% of agreement land). Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring of habitats, bird numbers and butterflies (not specific to ordinary farmland) and other agri-environment research suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of widespread species, as well as specialist species and both those in decline and those that are stable or increasing in number will benefit from ordinary farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, invertebrates, brown hares, farmland birds, waders, wintering birds, upland birds, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora. particular wildlife species or groups of species

**References to data sources**
Chapter VI. *Agri-Environment Schemes*  

Indicator ref. VI.2.A-3.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria  
Species in need of protection have been successfully targeted by the supported actions

Indicator  
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)

Scheme  
Entry Level Stewardship (ELS)

Answer  
11,435 ha for skylarks

**Explanation of Sources and calculations**

The only option under ELS targeting a particular species is the creation of Skylark plots (EF8). Skylark is a Red list species, but is widespread in England.

Ordinary farmland is also eligible for options which require sympathetic management of hedgerows, ditches and stone walls which support widespread species.

A wide range of widespread species, as well as specialist species and both those in decline and those that are stable or increasing in number will benefit from ordinary farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians, mammals, arable plants, and grassland plant communities will have benefited from these agreements, on the evidence of similar options in earlier schemes.

**References to data sources**

Natural England GENESIS database (ELS.mdb)  
Defra ELS handbook  
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)

Scheme
Higher Level Scheme (HLS)

Answer
877 ha for skylarks; 5,263 ha for other target groups of species

Explanation of Sources and calculations
It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species without incurring disproportionate costs. However there are some options that target species or groups of species.

The only option under HLS targeting a particular species is the creation of Skylark plots (HF8/OHF8). Skylark is a Red list species, but is widespread in England.

Other options target groups of species – specifically waders and wildfowl. These include the maintenance/ restoration/ creation of wet grassland for breeding/ wintering waders and wildfowl. In addition, the maintenance/ restoration/ creation of semi-improved rough grassland is aimed at ‘target species’.

There is some evidence available from CSS of a positive effect from wider options. Nearly all HLS agreement land is defined as ordinary farmland. Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring of habitats, bird numbers and butterflies (not specific to ordinary farmland) and other agri-environment research suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of widespread species, as well as specialist species and both those in decline and those that are stable or increasing in number will benefit from ordinary farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, invertebrates, brown hares, farmland birds, waders, wintering birds, upland birds, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora.

References to data sources
Natural England GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species)

Scheme
Organic Entry Level Scheme (OELS)

Answer
14 ha for skylarks

Explanation of Sources and calculations
The only option under OELS targeting a particular species is the creation of Skylark plots (OF8). Skylark is a Red list species.

Organic farmland is also eligible for options which require sympathetic management of hedgerows, ditches and stone walls which support widespread species.

A wide range of widespread species, as well as specialist species and both those in decline and those that are stable or increasing in number will benefit from organic farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians, mammals, arable plants, and grassland plant communities will have benefited from these agreements, on the evidence of similar options in earlier schemes.

References to data sources
Natural England GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
### Chapter VI. Agri-Environment Schemes  
**Indicator ref. VI.2.A-3.1 (a)**

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Species in need of protection have been successfully targeted by the supported actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species. However, there is some evidence available of a positive effect.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Nearly all CSS agreement land is defined as ordinary farmland (97% of agreement land). Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence (not specific to ordinary farmland) from environmental monitoring and research suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, invertebrates, brown hares, farmland birds, waders, wintering birds, upland birds, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora.

**References to data sources**

Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions.

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%) 

Scheme
Environmentally Sensitive Area (ESA)

Answer
It is not possible to quantify the area of ordinary farmland under agreement that is targeting widespread species. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations
About a third of ESA agreement land is defined as ordinary farmland (34% of agreement land). This land is primarily improved and semi improved grassland closely associated through location and or management with higher nature value habitats. Management prescriptions are primarily aimed at preventing any further deterioration in the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence (not specific to ordinary farmland) from environmental monitoring (habitats and bird populations) and research in ESAs suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, farmland birds, waders, wintering birds, upland birds, invertebrates, brown hares, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora.

References to data sources
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria  Species in need of protection have been successfully targeted by the supported actions

Indicator  Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%)

Scheme  Entry Level Stewardship (ELS)

Answer  100%

Explanation of Sources and calculations
The only option under ELS targeting a particular species is the creation of Skylark plots (EF8). Skylark is a Red list species, but is widespread in England.

Ordinary farmland is also eligible for options which require sympathetic management of hedgerows, ditches and stone walls which support widespread species.

A wide range of widespread species will benefit from ordinary farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians, mammals, arable plants, and grassland plant communities will have benefited from these agreements, on the evidence of similar options in earlier schemes.

References to data sources
Natural England GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%)

**Scheme**
Higher Level Stewardship (HLS)

**Answer**
Cannot answer

**Explanation of Sources and calculations**
The only option under HLS targeting a particular species is the creation of Skylark plots (HF8/OHF8). Skylark is a Red list species, but is widespread in England.

It is not known whether or not groups of species targeted under the grassland options are widespread, therefore a percentage cannot be given.

There is some evidence available from CSS of a positive effect from wider options. Nearly all HLS agreement land is defined as ordinary farmland. Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence (not specific to ordinary farmland) from environmental monitoring and research suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

Ordinary farmland is also subject to prescriptions which require maintenance of traditional field boundaries, hedgerows, dykes and stone walls which support widespread species.

A wide range of farmland birds, invertebrates, reptiles, amphibians and mammals will have benefited from these agreements, including arable plants, invertebrates, brown hares, farmland birds, waders, wintering birds, upland birds, grassland plant communities, dry acid grassland plant communities, lowland meadow and pasture plant communities, wet grassland plant communities, hay meadow and pasture plant communities, upland rough grazing plant communities, hedgerow plant communities, ditch flora.

**References to data sources**
Natural England GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (a)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (a) of which widespread species (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
100%

Explanation of Sources and calculations
The only option under OELS targeting a particular species is the creation of Skylark plots (OF8). Skylark is a Red list species, but is widespread in England.

Organic farmland is also eligible for options which require sympathetic management of hedgerows, ditches and stone walls which support widespread species.

A wide range of widespread species will benefit from organic farmland under agreement. Farmland birds, invertebrates, reptiles, amphibians, mammals, arable plants, and grassland plant communities will have benefited from these agreements, on the evidence of similar options in earlier schemes.

References to data sources
Natural England GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes Indicator ref. VI.2.A-3.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria Species in need of protection have been successfully targeted by the supported actions

Indicator Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)

Scheme ESA/CSS/ELS/OELS/HLS

Answer It is not possible to quantify the area of ordinary farmland under agreement that is targeting specialist species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions.

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
It is not possible to quantify the area of ordinary farmland under agreement that is targeting specialist species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.

**Explanation of Sources and calculations**
Nearly all CSS agreements are defined as ordinary farmland (97% of agreement land). Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring and research (not specific to ordinary farmland) suggest that overall there will be positive benefits to specialist species given sufficient time.

The overall objectives of CSS are: to sustain the beauty and diversity of the countryside, improve and extend wildlife habitats, conserve archaeological sites and historic features, improve opportunities for countryside enjoyment, restore neglected land and features and create new habitats and landscapes. The scheme supports national priorities in relation to biodiversity (e.g. the 5-year 2010 England Biodiversity Action Plan targets for creation of field margins) and has been used to encourage farming activities which benefit particular rare species and habitats.

There are 795 special projects in CSS, some of which specifically target specialist species. It is not possible to identify the area of special projects on CSS that are specific to wildlife or specialist species. Cirl Bunting, Stone Curlew, Horseshoe Bat and Red Squirrel have been targeted through CSS special projects.

Ordinary farmland under CSS agreement is associated with specialist species but it cannot be assumed that all land under a particular measure is targeting a specialist species. The suitability of the land for the specialist species will depend upon local conditions. In terms particularly of birds, examples of specialist species associated with habitats in CSS are described below.

- Cereal field margins and arable land: Grey Partridge, Reed Bunting, Yellowhammer, Barn Owl, Tree Sparrow, Corn Bunting, Lapwing, Linnet
- Lowland grassland: Lapwing, Starling, Yellow Wagtail, Barn Owl
- Uplands: Black Grouse, breeding waders
- Hedgerows: Farmland Birds, dormice, bats

**References to data sources**
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)

**Scheme**
Environmentally Sensitive Area (ESA)

**Answer**
It is not possible to quantify the area of ordinary farmland under agreement that is targeting specialist species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.

**Explanation of Sources and calculations**
There is a significant area of ordinary farmland in ESA agreements (34% of agreement land). This land is primarily improved and semi improved grassland closely associated through location and or management with higher nature value habitats. Management prescriptions are primarily aimed at preventing any further deterioration in the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring and research in ESAs (not specific to ordinary farmland) suggest that overall there will be positive benefits to a wide range of habitats and species given sufficient time.

There is some evidence that specialist species have benefited in ESAs, however, very little of the benefit is associated with ordinary farmland. Examples of specialist bird species that have benefited in ESAs include:

- Snipe, Redshank, Lapwing and Curlew that use lowland wet grasslands as do wintering wildfowl. These species should benefit from protection of ordinary farmland in agreements.
- Corn Bunting have benefited within chalkland and limestone ESAs
- Stone Curlew have benefited from habitat management in Breckland ESA
- Bitterns are breeding on sensitively manged reedbed and associated habitats in the Broads ESA
- Upland and moorland birds particularly Black Grouse, Golden Plover, Dunlin, Redshank, Curlew, Lapwing, Red Grouse, Hen Harrier, Peregrine, Merlin and Twite. All upland ESAs have the potential to benefit these species

**References to data sources**
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-3.1 (b)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria  
Species in need of protection have been successfully targeted by the supported actions

Indicator  
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)

Scheme  
Entry Level Scheme (ELS)

Answer  
0%

Explanation of Sources and calculations
The only option under ELS targeting a particular species is the creation of Skylark plots (EF8). Skylark is not a specialist species.

Ordinary farmland under ELS agreement may be associated with specialist species but it cannot be assumed that all land under a particular measure is targeting a specialist species. The suitability of the land for the specialist species will depend upon local conditions.

References to data sources
To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)</td>
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<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Cannot answer</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The only option under HLS targeting a particular species is the creation of Skylark plots (HF8/OHF8). Skylark is not a specialist species.

It is not known whether or not groups of species targeted under the grassland options are specialist, therefore a percentage cannot be given.

There is some evidence available from CSS of a positive effect from wider options. Nearly all HLS agreements are defined as ordinary farmland. Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. Evidence from environmental monitoring and research (not specific to ordinary farmland) suggest that overall there will be positive benefits to specialist species given sufficient time.

The scheme supports national priorities in relation to biodiversity and has been used to encourage farming activities which benefit particular rare species and habitats.

Ordinary farmland under HLS agreement is associated with specialist species but it cannot be assumed that all land under a particular measure is targeting a specialist species. The suitability of the land for the specialist species will depend upon local conditions. In terms particularly of birds, examples of specialist species associated with habitats in HLS are described below.

- Cereal field margins and arable land: Grey Partridge, Reed Bunting, Yellowhammer, Barn Owl, Tree Sparrow, Corn Bunting, Lapwing, Linnet
- Lowland grassland: Lapwing, Starling, Yellow Wagtail, Barn Owl
- Uplands: Black Grouse, breeding waders
- Hedgerows: Farmland Birds, dormice, bats

**References to data sources**

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (b) of which specialist species (%)

**Scheme**
Organic Entry Level Stewardship (OELS)

**Answer**
0%

**Explanation of Sources and calculations**
The only option under OELS targeting a particular species is the creation of Skylark plots (OF8). Skylark is not a specialist species.

Organic farmland under OELS agreement may be associated with specialist species but it cannot be assumed that all land under a particular measure is targeting a specialist species. The suitability of the land for the specialist species will depend upon local conditions.

**References to data sources**
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSA/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>It is not possible to quantify the area of ordinary farmland under agreement that is targeting declining species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.</td>
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</table>

Explanation of Sources and calculations

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)</td>
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<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>It is not possible to quantify the area of ordinary farmland under agreement that is targeting declining species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.</td>
</tr>
</tbody>
</table>

Explanation of sources and calculations

Most of the plant communities in decline are classed as high nature value. Nearly all CSS agreements are defined as ordinary farmland (97% of agreement land). Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. However in some situations having associated ordinary farmland in agreement will help to maintain and enhance those declining communities. Evidence from environmental monitoring and research (not specific to ordinary farmland) suggest that overall there will be positive benefits to declining species given sufficient time.

The overall objectives of CSS are: to sustain the beauty and diversity of the countryside, improve and extend wildlife habitats, conserve archaeological sites and historic features, improve opportunities for countryside enjoyment, restore neglected land and features and create new habitats and landscapes. The scheme supports national priorities in relation to biodiversity (e.g. the 5-year 2010 England Biodiversity Action Plan targets for creation of field margins) and has been used to encourage farming activities that benefit particular rare species and habitats.

Ordinary farmland under CSS agreement is associated with declining species but it cannot be assumed that all land under a particular measure is targeting a declining species. In terms of birds, examples of declining species associated with habitats in CSS are described below.

- Cereal Field margins and arable land: Grey Partridge, Yellowhammer, Kestrel, Barn Owl, Skylark, Corn Bunting, Lapwing, Linnet.
- Lowland grassland: Lapwing, Yellow Wagtail, Kestrel, Barn Owl, Mistle Thrush
- Uplands: Black Grouse, Skylark, breeding waders
- Hedgerows: Farmland Birds

References to data sources:

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions.

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
It is not possible to quantify the area of ordinary farmland under agreement that is targeting declining species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations
Most of the plant communities in decline are classed as high nature value. However in some situations having associated ordinary farmland in agreements will help to maintain and enhance those declining communities. Reversion of arable to grassland provides more grazing resource allowing stocking rates to reduce to benefit lowland chalk grassland and lowland meadows.

ESA agreements have generally not targeted habitats that are of prime importance for lowland arable or mixed farmland birds (many of which are in decline) though there is evidence that both Corn Bunting and Stone Curlew have benefited from ESA agreements.

All upland ESAs have the potential to benefit upland and moorland birds. The following species are in decline and management of their habitats under ESA agreements should benefit these species (although much of their habitat may not be defined as ordinary farmland): Black Grouse, Skylark, Golden Plover, Dunlin, Redshank, Lapwing, Hen Harrier, Peregrine, Merlin and Twite.

Lowland chalk grasslands have been of benefit to butterflies Adonis Blue and Duke of Burgundy.

References to data sources


Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A.3.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)

Scheme
Entry Level Scheme (ELS)

Answer
Cannot answer

Explanation of Sources and calculations
Skylark is a Red list species that is in decline.

Ordinary farmland under ELS agreement may be associated with other species in decline but it cannot be assumed that all land under a particular measure is targeting such species. The suitability of the land for species in decline will depend upon local conditions.

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

**Criteria**
Species in need of protection have been successfully targeted by the supported actions

**Indicator**
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)

**Scheme**
Higher Level Scheme (HLS)

**Answer**
Cannot answer

**Explanation of Sources and calculations**

Skylark is a Red list species that is in decline.

It is not known whether or not groups of species targeted under the grassland options are in decline, therefore a percentage cannot be given.

There is some evidence available from CSS of a positive effect from wider options. Most of the plant communities in decline are classed as high nature value. Nearly all HLS agreements are defined as ordinary farmland. Management prescriptions are primarily aimed at enhancing the nature conservation value of these habitats or geared towards the recreation of habitats. However in some situations having associated ordinary farmland in agreement will help to maintain and enhance those declining communities. Evidence from environmental monitoring and research (not specific to ordinary farmland) suggest that overall there will be positive benefits to declining species given sufficient time.

The scheme supports national priorities in relation to biodiversity and has been used to encourage farming activities that benefit particular rare species and habitats.

Ordinary farmland under HLS agreement is associated with declining species but it cannot be assumed that all land under a particular measure is targeting a declining species. In terms of birds, examples of declining species associated with habitats in HLS are described below.

- Cereal Field margins and arable land: Grey Partridge, Yellowhammer, Barn Owl, Skylark, Corn Bunting, Lapwing, Linnet
- Lowland grassland: Lapwing, Yellow Wagtail, Kestrel, Barn Owl, Mistle Thrush
- Uplands: Black Grouse, Skylark, breeding waders
- Hedgerows: Farmland Birds

**References to data sources**

**Chapter VI. Agri-Environment Schemes**  
Indicator ref. VI.2.A-3.1 (c)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (c) of which declining species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Scheme (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Skylark is a Red list species that is in decline.

Organic farmland under OELS agreement may be associated with other species in decline but it cannot be assumed that all land under a particular measure is targeting such species. The suitability of the land for species in decline will depend upon local conditions.

**References to data sources**
### Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.A-3.1 (d)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species ( %)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>It is not possible to quantify the area of ordinary farmland under agreement that is targeting stable or increasing species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.</td>
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</table>

**Explanation of Sources and calculations**

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>It is not possible to quantify the area of ordinary farmland under agreement that is targeting stable or increasing species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

Although the long term trend (1970-2006) for Tree Sparrows and Reed Buntings is a decline, there has been an increase in both species between 1994 and 2006, albeit from a very low base. Cereal field margins and arable land prescriptions could benefit these species.

References to data sources

Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.2.A-3.1 (d)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria:
Species in need of protection have been successfully targeted by the supported actions.

Indicator:
Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species (%).

Scheme:
Environmentally Sensitive Area (ESA)

Answer:
It is not possible to quantify the area of ordinary farmland under agreement that is targeting stable or increasing species, doing so would have incurred disproportionate costs. However, there is some evidence available of a positive effect.

Explanation of Sources and calculations:
Although the long term trend (1970-2006) for Tree Sparrows and Reed Buntings is a decline, there has been an increase in both species between 1994 and 2006, albeit from a very low base. Cereal field margins and arable land prescriptions, available in a small number of ESAs, could benefit these species.

References to data sources:

Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.A-3.1 (d)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Scheme (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0%</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Skylark is a Red List species that is in decline.

Although the long term trend (1970-2006) for Tree Sparrows and Reed Buntings is a decline, there has been an increase in both species between 1994 and 2006, albeit from a very low base. Cereal field margins and arable land options could benefit these species, although they may not be a positive target.

References to data sources
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.A-3.1 (d)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria Species in need of protection have been successfully targeted by the supported actions

Indicator Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species (%)

Scheme Higher Level Scheme (HLS)

Answer Cannot answer

Explanation of Sources and calculations
Skylark is a Red list species that is in decline.

It is not known whether or not groups of species targeted under the grassland options are stable or increasing, therefore a percentage cannot be given.

Although the long term trend (1970-2006) for Tree Sparrows and Reed Buntings is a decline, there has been an increase in both species between 1994 and 2006, albeit from a very low base. Cereal field margins and arable land prescriptions could benefit these species.

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.1 (d)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria Species in need of protection have been successfully targeted by the supported actions

Indicator Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (d) of which stable or increasing species (%)

Scheme Organic Entry Level Scheme (OELS)

Answer 0%

Explanation of Sources and calculations

Skylark is a Red list species that is in decline.

Although the long term trend (1970-2006) for Tree Sparrows and Reed Buntings is a decline, there has been an increase in both species between 1994 and 2006, albeit from a very low base. Cereal field margins and arable land prescriptions could benefit these species, although they may not be a positive target.

References to data sources


To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (e) of which soil organisms (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
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</table>

**Explanation of Sources and calculations**

N/A Defra baseline study

**References to data sources**

Defra baseline study 2003
**Chapter VI. Agri-Environment Schemes**  
Indicator ref. VI.2.A-3.1 (f)

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

<table>
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<tr>
<th>Criteria</th>
<th>Species in need of protection have been successfully targeted by the supported actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area of farmland under agreements targeting particular wildlife species or groups of species (hectares and specification of species) (f) of which figuring on international lists of endangered species (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
N/A Defra baseline study

**References to data sources**
Defra baseline study 2003
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
Some evidence for a positive relationship between the supported actions and the population of targeted species on CSS agreement land (see CSS scheme answer sheet).

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).

Scheme
Countryside Stewardship Scheme (CSS)

Answer
- Cirl Bunting populations increased by 82% on land where CSS agreements were targeted at managing the habitat (unkempt hedges, invertebrate rich pasture and weedy winter stubbles)
- Stone Curlew numbers have increased from 150 breeding pairs in 1991 to 254 breeding pairs in 2000. A combination of ESA and CSS agreements has resulted in the recovery of this species.
- The Arable Stewardship Scheme has shown some increase in wintering bird numbers on some sites in the West Midlands.
- 20% of sites monitored in the Arable Stewardship Scheme showed significant increases in breeding bird numbers.
- 33% of sites monitored in the Arable Stewardship Scheme showed an increase in hemipteran (true bug) species diversity
- 15% of sites monitored in the Arable Stewardship Scheme showed an increase in carabid species diversity
- 15% of sites monitored in the Arable Stewardship Scheme showed an increase in sawfly numbers
- Bumble bee numbers have increased on Arable Stewardship sites.

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

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<tr>
<td>Indicator</td>
<td>Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).</td>
</tr>
<tr>
<td>Scheme</td>
<td>Environmentally Sensitive Area (ESA)</td>
</tr>
<tr>
<td>Answer</td>
<td>No evidence relating populations of specific target species to specifically targeted farmland for “ordinary farmland”</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Botanical, breeding and wintering bird surveys and butterfly monitoring are not specific to ordinary farmland in ESAs and take place mainly on high nature value farmland.

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions

Indicator
Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).

Scheme
Entry Level Stewardship (ELS)

Answer
No evidence relating populations of specific target species to specifically targeted farmland.

Explanation of Sources and calculations
However some of the ELS options for arable land are similar to CSS prescriptions, and are likely to have similar effects to those described under CSS.

References to data sources
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.A-3.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria  Species in need of protection have been successfully targeted by the supported actions

Indicator  Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).

Scheme  Higher Level Scheme (HLS)

Answer  No evidence relating populations of specific target species to specifically targeted farmland.

Explanation of Sources and calculations
However many of the HLS options are similar to CSS prescriptions, and are likely to have similar effects to those described under CSS.

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.A-3.2

To what extent has biodiversity (species diversity) been maintained or enhanced thanks to agri-environment measures through the protection of flora and fauna on farmland?

Criteria
Species in need of protection have been successfully targeted by the supported actions.

Indicator
Trend in populations of target species on the specifically targeted farmland (cf., indicator 3.1) (where practical involving estimates of population size) or other evidence for a positive relationship between the supported actions and the abundance of the targeted species (description).

Scheme
Organic Entry Level Scheme (OELS)

Answer
No evidence relating populations of specific target species to specifically targeted farmland.

Explanation of Sources and calculations
However some of the OELS options for arable land are similar to CSS prescriptions, and are likely to have similar effects to those described under CSS.

References to data sources
Chapter VI. Agri-Environment Schemes Indicator ref. VI.2.B-1.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
‘High nature value habitats’ on farmed land have been conserved

Indicator
High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
726,913 hectares in 7935 agreements with an average size of 91.6 ha per agreement.

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

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<tr>
<td>Indicator</td>
<td>High nature-value farmland habitats &quot;that have been&quot; protected by supported actions (number of sites/agreements; total hectares, average size)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Countryside Stewardship Scheme (CSS)</td>
</tr>
<tr>
<td>Answer</td>
<td>13155 hectares in 152 agreements with an average size of 87 ha per agreement.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

High value’ farmland habitats were defined by scheme specialists within Defra and a description is given below.

Land within CSS cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in CSS have been categorised by Defra into two types (see below) which have been used to define “ordinary farmland”.

**Higher tier land** — includes all land subject to enhancement. In CSS, most management options are “higher tiers”. Some of this higher tier land is of ecological importance.

**High value habitats.** For some of this land there is only limited scope to upgrade this land.

For the purposes of this question “high nature value farmland habitats” is confined to **Higher value habitats only** and excludes “higher tier land”. Nearly all measures in CSS are categorised as Higher Tier Land.

There are no measures in CSS that are defined as being “other land” (as there are in ESAs).

References to data sources

Defra AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures – through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
‘High nature value habitats’ on farmed land have been conserved

Indicator
High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size)

Scheme
Environmentally Sensitive Area (ESA)

Answer
437702 hectares in 7487 agreements with an average size of 58 ha per agreement.

Explanation of Sources and calculations
Land within ESAs cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the management options in ESAs have been categorised and those described as “high value habitats” by Defra have been used to define “High nature-value farmland habitats”.

Defra categorisation of agri-environment management options:

High value habitats: For some of this land there is only limited scope to upgrade this land.

Higher tier land covers land which has been subject to enhancement i.e. high value habitats that are enhanced e.g. meadows; supplements which enhance high tier habitats e.g. winter cattle removal; those habitats that are restored, created or reverted e.g. arable reversion. It should, however, be recognised that much of this restored or recreated landscape is of lesser ecological quality than the high value habitats being maintained.

Other land – remaining land in maintenance tiers.

For the purposes of this question “high nature value farmland habitats” is confined to Higher value habitats only and excludes “higher tier land”.

ESAs have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”.

References to data sources
Defra AESIS database (ESA.mdb)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-1.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures— through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

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<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0 ha</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
There are no high value habitats under ELS options.

**References to data sources**
Defra ELS handbook
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size)

Scheme

Higher Level Stewardship (HLS)

Answer

276,056 ha in 296 agreements with an average size of 93 ha per agreement

Explanation of Sources and calculations

Land within HLS cannot be easily categorised as ordinary farmland or otherwise, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the management options in HLS have been categorised and those described as “high value habitats” have been used to define “High nature-value farmland habitats”.

**High value habitats**: For some of this land there is only limited scope to upgrade this land.

**Higher tier land** covers land which has been subject to enhancement. In HLS, most management options are “higher tiers”. Some of this higher tier land is of ecological importance.

For the purposes of this question “high nature value farmland habitats” is confined to **Higher value habitats only** and excludes “higher tier land”.

There are no measures in HLS that are defined as being “other land” (as there are in ESAs).

References to data sources

GENESIS database (HLS.mdb)
Defra HLS handbook
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

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<tr>
<td>Scheme</td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0 ha</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

There are no **high value habitats** under OELS options.

**References to data sources**

Defra OELS handbook
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures— through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**

‘High nature value habitats’ on farmed land have been conserved

**Indicator**

High nature-value farmland habitats “that have been protected by supported actions” (number of sites/agreements; total hectares, average size) (a) of which resulting from specific land uses or traditional farming systems (%)

**Scheme**

ESA/CSS/HLS

**Answer**

100%

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.B-1.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures— through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been protected by supported actions” (number of sites/agreements; total hectares, average size) (a) of which resulting from specific land uses or traditional farming systems (%)

Scheme  

Countryside Stewardship Scheme (CSS)

Answer

100%

Explanation of Sources and calculations

All high nature-value farmland habitats that have been protected by supported actions result from specific land uses or traditional farming systems. All supported semi-natural habitats are farmed (e.g. light seasonal grazing) and resulted from traditional land management practices.

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been protected by supported actions” (number of sites/agreements; total hectares, average size) (a) of which resulting from specific land uses or traditional farming systems (%)

Scheme

Environmentally Sensitive Area (ESA)

Answer

100%

Explanation of Sources and calculations

All high nature-value farmland habitats that have been protected by supported actions result from specific land uses or traditional farming systems. All supported semi-natural habitats are farmed (e.g. light seasonal grazing) and resulted from traditional land management practices.

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures— through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
‘High nature value habitats’ on farmed land have been conserved

Indicator
High nature-value farmland habitats “that have been protected by supported actions” (number of sites/agreements; total hectares, average size) (a) of which resulting from specific land uses or traditional farming systems (%)

Scheme
Higher Level Scheme (HLS)

Answer
100%

Explanation of Sources and calculations
All high nature-value farmland habitats that have been protected by supported actions result from specific land uses or traditional farming systems. All supported semi-natural habitats are farmed (e.g. light seasonal grazing) and resulted from traditional land management practices.

References to data sources
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-1.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

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<tr>
<td>Indicator</td>
<td>High nature-value farmland habitats &quot;that have been protected by supported actions&quot; (number of sites/agreements; total hectares, average size) (b) of which resulting from prevention of encroachment (colonisation by scrub, etc) or abandonment (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>No data, collecting data would result in disproportionate costs.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (c) of which located in Natura 2000 areas

Scheme

ESA/CSS/HLS

Answer

12% of agreements, 15% of area, average size 112 ha

Explanation of Sources and calculations

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-1.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria  
‘High nature value habitats’ on farmed land have been conserved

Indicator  
High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (c) of which located in Natura 2000 areas

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
The total area of high nature value farmland habitats that have been protected by supported actions, which are located within Natura 2000 areas is 10779 ha (82%), within 71 agreements (47%). The average size of these high nature farmland habitats is 152 ha.

In addition, 165548 ha of CSS land within Natura 2000 areas (598 agreements) are under a higher tier option (i.e. defined as ordinary farmland). The average size of these agreements is 277 ha. Land under these agreements has the potential to develop into high nature value farmland habitats over time with appropriate management.

Explanation of Sources and calculations

All fields under Countryside Stewardship Scheme agreements between scheme year 1999 and 2006 were identified and georeferenced to the nearest 100 m. Any points which were outside of the coastline were removed from the calculations. Data were then overlaid with the location of Natura 2000 site boundaries (digitised from 1:10,000 scale maps and provided by English Nature). The total area of high value habitat under agreement was estimated from this overlay.

The data excluded supplements which may lead to the double counting of areas.

Sources of error: The main source of error is to be found in the georeferencing of fields under agreement. The positional accuracy of 100 m may mean that some fields have been erroneously located within or outside a Natura 2000 boundary, but such errors are likely to balance out with the large number of agreements under study here. Errors in data entry of IACS field references may have lead to the mislocation of a small number of fields. The magnitude of this second error can not be checked with the data available.

References to data sources

AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size) (c) of which located in Natura 2000 areas

Scheme

Environmentally Sensitive Areas (ESA)

Answer

The total area of high nature value farmland habitats that have been protected by supported actions, which are located within Natura 2000 areas is 95147 ha (22%), within 851 agreements (11%). The average size of these high nature farmland habitats is 112 ha.

In addition, 87695 ha of ESA land within Natura 2000 areas (741 agreements) are under a “higher tier” option (i.e. defined as ordinary farmland). The average size of these agreements is 118 ha. Land under these agreements has the potential to develop into high nature value farmland habitats over time with appropriate management. The data excluded supplements which may lead to the double counting of areas.

Explanation of Sources and calculations

‘High value’ farmland habitats were defined by scheme specialists within the Rural Development Services, Defra and a description is given below.

Land within ESAs cannot be easily categorised as ordinary farmland or high nature value habitat, particularly land subject to enhancement options as the base level of ecological value from which the land is being enhanced will vary. Although a suitable categorisation of the land is not available, the measures in ESAs have been categorised into three types (see below) which have been used to define “high nature value habitat”.

High value habitats i.e. that relate to land for which the ESA was principally designated. The maintenance of this land is key to the success of the ESA. For some of this land there is only limited scope to upgrade this land.

Higher tier land covers land which has been subject to enhancement i.e. high value habitats that are enhanced eg meadows; supplements which enhance high tier habitats eg winter cattle removal supplement on Moorland; those habitats that are restored, created or reverted e.g. arable reversion. It should, however, be recognised that much of this restored or recreated landscape is of lesser ecological quality than the high value habitats being maintained.

Other land – remaining land in maintenance tiers.

Appendix 2 of ESA case study report shows which scheme measures are allocated into each the categories by Defra.

For the purposes of this question “high nature value farmland habitats” is those measures categorised as “high value habitats” by Defra. “Higher tier land” and “other” land are categorised as ordinary farmland and covered under V1 2.A.
ESAs have been designated for their national importance for wildlife (as well as their landscape and historical importance). Much of the agreement land in ESAs, particularly within part farm ESAs, has been categorised by Defra as “high value habitat”.

All fields under Environmentally Sensitive Area agreements between scheme year 1999 and 2006 were identified and georeferenced to the nearest 100 m. Any points which were outside of the coastline and ESA boundaries were removed from the calculations. Data were then overlaid with the location of Natura 2000 site boundaries (digitised from 1:10,000 scale maps and provided by English Nature). The total area of high value habitat under agreement was estimated from this overlay.

Sources of error: The main source of error is to be found in the georeferencing of fields under agreement. The positional accuracy of 100 m may mean that some fields have been erroneously located within or outside a Natura 2000 boundary, but such errors are likely to balance out with the large number of agreements under study here. Errors in data entry of IACS field references may have lead to the mislocation of a small number of fields. The magnitude of this second error can not be checked with the data available.

References to data sources
- AESIS database (ESA.mdb)
- Natura 2000 boundaries, published by English Nature, Crown Copyright
Chapter VI. Agri-Environment Schemes

Indicators

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (c) of which located in Natura 2000 areas

Scheme

Higher Level Stewardship (HLS)

Answer

The total area of high nature value farmland habitats that have been protected by supported actions, which are located within Natura 2000 areas is 766 ha (0.3%), within 27 agreements (9%). The average size of these high nature farmland habitats is 28 ha.

There is no land defined as ‘ordinary farmland’ in HLS that is located within Natura 2000 areas.

Explanation of Sources and calculations

All fields under HLS agreements between scheme year 2005 and 2006 were identified and georeferenced to the nearest 100 m. Any points which were outside of the coastline were removed from the calculations. Data were then overlaid with the location of Natura 2000 site boundaries (digitised from 1:10,000 scale maps and provided by English Nature). The total area of high value habitat under agreement was estimated from this overlay.

The data excluded supplements which may lead to the double counting of areas.

Sources of error: The main source of error is to be found in the georeferencing of fields under agreement. The positional accuracy of 100 m may mean that some fields have been erroneously located within or outside a Natura 2000 boundary, but such errors are likely to balance out with the large number of agreements under study here. Errors in data entry of IACS field references may have lead to the mislocation of a small number of fields. The magnitude of this second error can not be checked with the data available.

References to data sources

GENESIS database (HLS.mdb)

- Natura 2000 boundaries, published by English Nature, Crown Copyright
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-1.1 (d)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**

‘High nature value habitats’ on farmed land have been conserved

**Indicator**

High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (d) of which habitats that in particular benefit specific species or groups of species (%)

**Scheme**

ESA/CSS/HLS

**Answer**

100%

**Explanation of Sources and calculations**

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>See answer sheets for individual scheme for explanation</td>
</tr>
</tbody>
</table>

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-1.1 (d)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
‘High nature value habitats’ on farmed land have been conserved

**Indicator**
High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (d) of which habitats that in particular benefit specific species or groups of species (%)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
100%

**Explanation of Sources and calculations**
High nature-value farmland habitats in CSS cover Lowland Heathland and Inter-tidal habitat.

Lowland heathland benefits plant communities based on heather, dwarf gorses, and cross leaved heath but also benefit the specialist invertebrate, amphibian, reptile, bird, and mammal communities associated with them.

Inter-tidal habitats benefits plant communities associated with saltmarsh vegetated shingle ridges, saline lagoons and mud flats but also benefit the specialist invertebrate, amphibian, reptile, bird, and mammal communities associated with them.

**References to data sources**
Monitoring and evaluation of the Countryside Stewardship Scheme, Module 2, The ecological characterisation of land under agreement, Centre for Ecology and Hydrology, November 2000
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (d)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size) (d) of which habitats that in particular benefit specific species or groups of species (%)

Scheme

Environmentally Sensitive Area (ESA)

Answer

100%

Explanation of Sources and calculations

High nature-value farmland habitats in ESAs cover a diverse range of habitats. ESAs were designated to protect areas of countryside of high wildlife, landscape and historic value. Within ESAs, “high nature-value farmland habitats” represent the land of highest quality in this respect and it is likely that all this land comprises habitats that in particular benefit specific species or groups of species.

Examples of the habitats represented within High nature-value farmland habitats in ESAs and the species they specialist support are given below: Most of the habitats are made up of NVC vegetation classes.

Ancient and species-rich hedgerows benefit a wide range of species besides those plant communities that form the habitat. They are important for invertebrates, reptiles, birds, and mammals. As well as providing food and breeding sites they provide navigation routes between habitats for many species.

Cereal field margins benefit key farm land species particularly arable plants, farmland birds and invertebrates.

Coastal floodplain and grazing marsh is represented in nine ESAs and represents about 27% of the resource in England. A significant amount of this is in agreements which are thought to have made a significant contribution to the maintenance of this habitat. This habitat is important for breeding waders and wintering birds.

Lowland meadows primarily benefit the plant communities that make up the different types of meadow but also benefit the invertebrate, amphibian, reptile, bird, and mammal communities associated with them. Important areas of these community types in terms of quality/extent occur in Breckland, Cotswold Hills, Lake District, Shropshire Hills, South Downs, South Wessex Downs, Pennine Dales, Somerset Levels and Moors and the Upper Thames Tributaries ESAs.

Upland hay meadows primarily benefit the plant species that make up the community (NVC MG3) but also benefit the invertebrate, amphibian, reptile, bird and mammal communities associated with them. This habitat is found in the Lake District and Pennine Dales ESA.

Lowland calcareous grassland covers a range of plant communities in which lime loving plants are characteristic. This habitat is of particular benefit to butterflies. It is estimated that 15% of the resource is in ESA agreements.
Upland calcareous grassland includes areas of limestone pavement with their own specific plant communities. There are important areas of this resource in the Lake District and the Pennine Dales ESA. It is not possible from existing data to quantify the area in agreements.

Lowland heathland benefits plant communities based on heather, dwarf gorses, and cross-leaved heath but also benefits the specialist invertebrate, amphibian, reptile, bird, and mammal communities associated with them. It is estimated that about 11% of the lowland heath in England is in ESA agreements.

Upland heathland benefits a range of dwarf shrub communities where dwarf shrubs provide at least 25% ground cover. They include NVC communities H4, H8, H12, H10, H21, M15, H18. A significant area of this habitat has been damaged by overgrazing in the past. Agreements are intended to halt and reverse this trend. This is of benefit to the plant communities and to a wide range of moorland birds, Curlew, Lapwing, Redshank, Dunlin, Twite, Golden Plover, Black Grouse, Red Grouse, Merlin, Hen Harrier etc. Blanket bog contains similar species with similar benefits but on a deep peat (>0.5m) base.

Purple moor grass and rush pasture is targeted at a range of vegetation types dominated by Molinia caerulea covering NVC communities M22-M26. It is estimates that about 10% of the resource may be in ESA agreements though this is thought to be highly speculative because of problems defining the habitat.

Sensitive management of reedbeds in the Broads ESA has been of benefit to Bitterns which are nesting on this land.

References to data sources
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (d)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size) (d) of which habitats that in particular benefit specific species or groups of species (%)

Scheme

Higher Level Scheme (HLS)

Answer

100%

Explanation of Sources and calculations

High nature-value farmland habitats in HLS cover Hedges of very high environmental value, woodland, moorland, lowland heathland, sand dunes, coastal saltmarsh, ponds of high wildlife value, reedbeds and fen.

Hedgerows benefit a wide range of species besides those plant communities that form the habitat. They are important for invertebrates, reptiles, birds, and mammals. As well as providing food and breeding sites they provide navigation routes between habitats for many species, such as bats.

Lowland heathland benefits plant communities based on heather, dwarf gorses, and cross leaved heath but also benefit the specialist invertebrate, amphibian, reptile, bird, and mammal communities associated with them.

Coastal saltmarsh is important for breeding waders and wintering birds.

Moorland benefits a range of dwarf shrub communities where dwarf shrubs provide at least 25% ground cover. They include NVC communities H4, H8, H12, H10, H21, M15, H18. A significant area of this habitat has been damaged by overgrazing in the past. Agreements are intended to halt and reverse this trend. This is of benefit to the plant communities and to a wide range of moorland birds, Curlew, Lapwing, Redshank, Dunlin, Twite, Golden Plover, Black Grouse, Red Grouse, Merlin, Hen Harrier etc. Blanket bog contains similar species with similar benefits but on a deep peat (>0.5m) base.

Sensitive management of reedbeds is of benefit to Bitterns.

References to data sources
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
- 'High nature value habitats' on farmed land have been conserved

**Indicator**
- High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (e) of which considered rare habitats at the relevant geographical level (%)

**Scheme**
- CSS (not available for ESA or HLS)

**Answer**
- Cannot answer for all schemes.

**Explanation of Sources and calculations**
Note that answer is for 100% of CSS agreements targeting particular wildlife species, information for ESA and HLS is not available and would entail disproportionate costs in collecting.

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
‘High nature value habitats’ on farmed land have been conserved

Indicator
High nature-value farmland habitats “that have been” protected by supported actions (number of sites/agreements; total hectares, average size) (e) of which considered rare habitats at the relevant geographical level (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations
Both Lowland heath and inter-tidal habitats (which comprise the land in CSS high nature value habitats) are considered rare. Both are UK BAP priority habitats.

In addition on land defined as “ordinary farmland”, the following UK BAP priority habitats were found in a survey of CSS agreements begun between 1991 and 1997, surveyed in 1998 and 1999. At that time this represented 21% of all land in agreements.

<table>
<thead>
<tr>
<th>Habitat</th>
<th>No of agreements</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet woodland</td>
<td>3</td>
<td>40 ha</td>
</tr>
<tr>
<td>Cereal Field Margins</td>
<td>48</td>
<td>1151 ha</td>
</tr>
<tr>
<td>Lowland hay meadow</td>
<td>13</td>
<td>682 ha</td>
</tr>
<tr>
<td>Coastal and Flood plain</td>
<td>7</td>
<td>517 ha</td>
</tr>
<tr>
<td>Grazing marsh</td>
<td>40</td>
<td>3716 ha</td>
</tr>
<tr>
<td>Lowland calcareous grassland</td>
<td>5</td>
<td>1311 ha</td>
</tr>
<tr>
<td>Upland calcareous grassland</td>
<td>10</td>
<td>2030 ha</td>
</tr>
<tr>
<td>Lowland dry acid grassland</td>
<td>13</td>
<td>3643 ha</td>
</tr>
<tr>
<td>Lowland heathland</td>
<td>6</td>
<td>1700 ha</td>
</tr>
<tr>
<td>Upland heathland</td>
<td>2</td>
<td>27 ha</td>
</tr>
<tr>
<td>Rush pastures –species rich</td>
<td>10</td>
<td>587 ha</td>
</tr>
<tr>
<td>Fens</td>
<td>9</td>
<td>227 ha</td>
</tr>
<tr>
<td>Reedbeds</td>
<td>19</td>
<td>298 ha</td>
</tr>
<tr>
<td>Spring and Flush</td>
<td>2</td>
<td>31 ha</td>
</tr>
<tr>
<td>Blanket bog</td>
<td>1</td>
<td>133 ha</td>
</tr>
<tr>
<td>Sand dunes</td>
<td>2</td>
<td>2169 ha</td>
</tr>
<tr>
<td>Salt marsh</td>
<td>27</td>
<td>7293 ha</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>25555</td>
</tr>
</tbody>
</table>

References to data sources
Monitoring and evaluation of the Countryside Stewardship Scheme, Module 2, The ecological characterisation of land under agreement, Centre for Ecology and Hydrology, November 2000
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (e)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures – through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (e) of which considered rare habitats at the relevant geographical level (%)

Scheme

Environmentally Sensitive Area (ESA)

Answer

Unknown

Explanation of Sources and calculations

The following UK BAP priority habitats are covered by ESA agreements with prescriptions aimed at maintaining or enhancing the habitat. The total area of these habitats in agreements under the ERDP is not known. Estimates of the maximum total area of the habitats in England have been given where available as context.

Blanket bog – rare internationally
Cereal field margins
Coastal flood plain and grazing marsh
Coastal vegetated shingle
Fen
Lowland calcareous grassland – rare in UK ~4000ha in England
Lowland dry acid grassland – rare in UK ~30000ha
Lowland (hay) meadow ~10000 ha in England
Lowland heathland ~ 40000 ha in England
Lowland raised bog
Lowland wood pasture and parkland
Maritime cliff and slope
Purple moor grass and rush pasture ~ 7000 ha
Reedbeds
Saltmarsh
Sand dune
Upland calcareous grassland
Limestone pavement – rare internationally
Upland hay meadow – rare in UK <1000ha
Upland heathland
Wet woodland

References to data sources

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-1.1 (e)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

‘High nature value habitats’ on farmed land have been conserved

Indicator

High nature-value farmland habitats "that have been" protected by supported actions (number of sites/agreements; total hectares, average size) (e) of which considered rare habitats at the relevant geographical level (%)

Scheme

Higher Level Stewardship (HLS)

Answer

Unknown

Explanation of Sources and calculations

A range of UK BAP priority habitats are targeted by HLS agreements with prescriptions aimed at maintaining or enhancing the habitat.

References to data sources
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges..) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)

Scheme
ESA(+ECP)/CSS/ELS/OELS/HLS

Answer
267,403 km, 43,822 ha and 21,594 agreements

Explanation of Sources and calculations
Answer does not include data for OFS as there are no options relevant to this indicator.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.B-2.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges..) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
- There is at least 85,112 km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work.
- There are at least 9,337 ha of assisted areas of non-farmed land or partly non-cultivated land.
- There are 6,627 agreements with options for the renovation of isolated features.

The total length of assisted field boundary under agreement is not known. The total area of assisted non-farmed land or partly non-cultivated land is not known. There is no information on the stock of isolated features (patches of trees, ponds etc.) under agreement.

Explanation of Sources and calculations
See VI.2.B-2.1 (a), (b) & (c)

References to data sources
AESIS database (CSS.mdb)
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Ecological infrastructure, including field boundaries (hedges..) or non-cultivated patches of farmland with habitat function have been protected or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Assisted ecological infrastructure &quot;with habitat function&quot; or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Environmentally Sensitive Area (ESA) &amp; ESA Conservation Plans (ECP)</td>
</tr>
<tr>
<td>Answer</td>
<td>- There is at least 20177 km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work</td>
</tr>
<tr>
<td></td>
<td>- There are at least 8701 ha of assisted areas of non-farmed land or partly non-cultivated land and linear field margin.</td>
</tr>
<tr>
<td></td>
<td>- There are 7460 agreements in place relating to agreements with options for assisted ecological infrastructure &quot;with habitat function&quot; or non-farmed patches of land linked to agriculture.</td>
</tr>
</tbody>
</table>

The total length of assisted field boundary under agreement is not known. The total area of assisted non-farmed land or partly non-cultivated land is not known. There is no information on the stock of isolated features (patches of trees, ponds etc.) under agreement.

Explanation of Sources and calculations
See VI.2.B-2.1 (a), (b) & (c)
Linear features, options for assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture and non-farmed land or partly non-cultivated land and linear field margin receiving payment or with a commitment to carry out work are listed below.
<table>
<thead>
<tr>
<th>Management option</th>
<th>Area (ha)</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features (ECP):</td>
<td></td>
<td>2040</td>
<td>2859</td>
</tr>
<tr>
<td>Linear features (ESA supplements):</td>
<td></td>
<td>18137</td>
<td>2285</td>
</tr>
<tr>
<td>Capital grants for the provision of shelter and pine belts or for the protection and provision of hedgerow saplings (ECP):</td>
<td></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Grass margins/ buffer strips/ uncropped wildlife strips (ESA):</td>
<td>1370 ha</td>
<td></td>
<td>206</td>
</tr>
<tr>
<td>Woodland (ESA):</td>
<td>7331 ha</td>
<td></td>
<td>1640</td>
</tr>
<tr>
<td>Tree pollarding, restoration of dewponds, tree planting, creation and restoration of ponds/ scrapes (ECP):</td>
<td></td>
<td></td>
<td>439</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8701 ha</strong></td>
<td><strong>20177 km</strong></td>
<td><strong>7460</strong></td>
</tr>
</tbody>
</table>

**References to data sources**

AESIS database (ESA.mdb; ECP.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges..) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)

Scheme
Entry Level Stewardship (ELS)

Answer
- There is at least 155,661 km of assisted linear features under agreement receiving payments.
- There are at least 21,862 ha of assisted areas of non-farmed land or partly non-cultivated land.
- There are 6,913 agreements with options for the renovation of isolated features.

Explanation of Sources and calculations
See VI.2.B-2.1 (a), (b) & (c)

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

Ecological infrastructure, including field boundaries (hedges..) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator

Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)

Scheme

Higher Level Stewardship (HLS)

Answer

- There is at least 606 km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work.

- There are at least 3,499 ha of assisted areas of non-farmed land or partly non-cultivated land.

- There are 363 agreements with options for the renovation of isolated features.

Explanation of Sources and calculations

See VI.2.B-2.1 (a), (b) & (c)

References to data sources

GENESIS database (HLS.mdb)
Defra HLS handbook
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
Ecological infrastructure, including field boundaries (hedges...) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

**Indicator**
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements)

**Scheme**
Organic Entry Level Stewardship (OELS)

**Answer**
- There is at least 5,847 km of assisted linear features under agreement receiving payments.
- There are at least 423 ha of assisted areas of non-farmed land or partly non-cultivated land.
- There are 231 agreements with options for the renovation of isolated features.

**Explanation of Sources and calculations**
See VI.2.B-2.1 (a), (b) & (c)

**References to data sources**
Defra OELS handbook
GENESIS database (OELS.mdb)
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.B-2.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure *with habitat function* or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (%, kilometres)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
100%, 267,403 km

Explanation of Sources and calculations
There is at least 267,403 km of assisted linear features (including the creation of new linear access) under agreement receiving payments or where there is currently a commitment carry out work, 100% of the figure given at VI.2.B-2.1.

The total length of assisted field boundary under agreement is not known so this length cannot be expressed as a % of assisted ecological infrastructure *with habitat function*.

The answer does not include data from OFS.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.B-2.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (%, kilometres)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%, 85,112km

Explanation of Sources and calculations
There is 85,112km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work, i.e. 100% of the figure given at VI.2.B-2.1.

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features/ boundary type features:</td>
<td>10,077 km</td>
</tr>
<tr>
<td>Grass margins, beetle banks, buffer strips, wildlife strips:</td>
<td>75,035 km</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85,112 km</strong></td>
</tr>
</tbody>
</table>

CSS requires that all field boundaries within the agreement area must be managed sympathetically. In addition Good Farming Practice applies across the whole holding and requires that field boundaries must not be removed or destroyed.

References to data sources
AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.B-2.1 (a)  

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria  
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator  
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (%, kilometres)

Scheme  
Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer  
100%, 20,177km

Explanation of Sources and calculations

There is at least 20,177 km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work as well as 1370 ha of linear field margin, i.e. 100% of the figure given at VI.2.B-2.1ESA.

The total length of assisted field boundary under agreement is not known so this length cannot be expressed as a % of assisted ecological infrastructure "with habitat function". The ESA scheme prescriptions require that no environmental features (walls, hedges, ditches etc) are removed on land within the agreement or on any other part of the holding (for part farm ESAs). Field boundaries that are stock proof have to be maintained in a stock proof condition.

The total length of field boundary or other linear environmental features under agreement is not known. Many ESAs have an agreed 5 year programme of work to maintain and enhance field boundary features, including walls, hedges and ditches.

Information on the length of features receiving payments for management or with a commitment to carry out work, including replanting or restoration of field boundaries. Excludes linear access.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Length (km)</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features (ECPs)</td>
<td>2040 km</td>
<td></td>
</tr>
<tr>
<td>Linear features (ESA supplements)</td>
<td>18137 km</td>
<td></td>
</tr>
<tr>
<td>Grass margins, buffer strips, arable grassland margins, field margin supplements, uncropped wildlife strips):</td>
<td></td>
<td>1370</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>20177 km</strong></td>
<td><strong>1370 ha</strong></td>
</tr>
</tbody>
</table>

All field margin options have been included in this part of the question as they are linear in nature. Grass margins are included as EC guidance refers to "partly non cultivated land – unweeded and/or unfertilised edges of fields". Conservation headlands are excluded because they are sown.

References to data sources

AESIS database (ESA.mdb; ECP.mdb)  
ESA Scheme Guidelines
Chapter VI. Agri-Environment Schemes

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (%, kilometres)

Scheme
Entry Level Stewardship (ELS)

Answer
100%, 155,661 km

Explanation of Sources and calculations
There is at least 155,661 km of assisted linear features under agreement receiving payments as well as 16,321 ha of linear field margin, which is 75% of the area figure given at VI.2.B-2.1 ELS.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Length (km)</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features/ boundary type features</td>
<td>155,661 km</td>
<td></td>
</tr>
<tr>
<td>Grass margins, buffer strips, arable &amp; grassland margins, uncropped wildlife strips</td>
<td></td>
<td>16,321</td>
</tr>
<tr>
<td>TOTAL</td>
<td>155,661 km</td>
<td>16,321 ha</td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature- value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (% , kilometres)

Scheme
Higher Level Stewardship (HLS)

Answer
100%, 606 km

Explanation of Sources and calculations
There is at least 606 km of assisted linear features under agreement receiving payments or where there is currently a commitment carry out work as well as 1290 ha of linear field margin, which is 37% of the area figure given at VI.2.B-2.1 HLS.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Length (km)</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance of hedgerows with very high environmental value</td>
<td>274 km</td>
<td></td>
</tr>
<tr>
<td>Linear features/ boundary type features (capital grants)</td>
<td>332 km</td>
<td></td>
</tr>
<tr>
<td>Grass margins, buffer strips, arable &amp; grassland margins, uncropped wildlife strips</td>
<td></td>
<td>1,290</td>
</tr>
<tr>
<td>TOTAL</td>
<td>606 km</td>
<td>1,290 ha</td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (a)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (a) of which linear features (hedges, walls, etc.) (%, kilometres)

Scheme
Organic Entry Level Scheme (OELS)

Answer
100%, 5,847 km

Explanation of Sources and calculations
There is at least 5,847 km of assisted linear features under agreement receiving payments as well as 326 ha of linear field margin, which is 77% of the area figure given at VI.2.B-2.1 OELS.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Length (km)</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features/ boundary type features</td>
<td>5,847 km</td>
<td></td>
</tr>
<tr>
<td>Grass margins, buffer strips, arable &amp; grassland margins, uncropped wildlife strips</td>
<td></td>
<td>326</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5,847 km</td>
<td>326 ha</td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-2.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria: Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator: Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

Scheme: ESA/CSS/ELS/OELS/HLS

Answer: 56%

Explanation of Sources and calculations
Answer does not include data for OFS.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.B-2.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures– through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations

There are at least 9337 ha of assisted areas of non-farmed land or partly non-cultivated land, 100% of the figure given at VI.2.B-2.1 CSS.

The total area of assisted non-farmed land or partly non-cultivated land is not known so this length cannot be expressed as a % of assisted ecological infrastructure "with habitat function".

All measures relating exclusively to the margins of fields are dealt with under VI.2.B-2.1 (a) as they are linear.

Assisted grazed semi-natural habitats have been excluded as they are farmed. Nearly all assisted non-cropped ecological infrastructure is farmed in that it is grazed, sometimes seasonally (e.g. fens and reedbeds, inter-tidal habitats, orchards). There are some areas of ungrazed land with habitat function – e.g. woodland, dense scrub. Information is available for the area of woodland under agreement. The area of scrub on land under CSS agreement is not known so it is not possible to calculate the total area assisted.

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland: (management of small upland woodlands)</td>
<td>845 ha</td>
</tr>
<tr>
<td>Wild bird seed mixture, pollen and nectar mixture:</td>
<td>8492 ha</td>
</tr>
<tr>
<td>Total</td>
<td>9337 ha</td>
</tr>
</tbody>
</table>

References to data sources
AESIS database (CSS.mdb)
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**

Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

**Indicator**

Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

**Scheme**

Environmentally Sensitive Area (ESA)

**Answer**

84%

**Explanation of Sources and calculations**

There are at least 7331 ha of assisted areas of non-farmed land or partly non-cultivated land, 84% of the total area of land given at VI.2.B2.1 ESA.

The total area of assisted non-farmed land or partly non-cultivated land is not known so this length cannot be expressed as a % of assisted ecological infrastructure "with habitat function".

Nearly all assisted non-cropped ecological infrastructure is farmed in that it is grazed, sometimes seasonally. There are some areas of ungrazed land with habitat function – e.g. dense scrub. The area of these habitats within the individual ESAs is known but the area under agreement under the ERDP cannot be calculated with the information available at present. Information is available for the area of woodland under agreement.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland</td>
<td>7331 ha</td>
</tr>
</tbody>
</table>

Unweeded and/or unfertilised edges of fields are dealt with under VI.2.B-2.1 (a) as they are linear.

**References to data sources**

AESIS database (ESA.mdb)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.2.B-2.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

**Indicator**
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

**Scheme**
Enter Level Stewardship (ELS)

**Answer**
22%

**Explanation of Sources and calculations**
There are at least 5541 ha of assisted areas of non-farmed land or partly non-cultivated land, 22% of the figure given at VI.2.B-2.1 ELS.

The total area of assisted non-farmed land or partly non-cultivated land is not known so this cannot be expressed as a % of assisted ecological infrastructure "with habitat function". All measures relating exclusively to the margins of fields are dealt with under VI.2.B-2.1 (a) as they are linear.

Assisted grazed semi-natural habitats have been excluded as they are farmed.

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland: (management of woodland edges)</td>
<td>1099 ha</td>
</tr>
<tr>
<td>Wild bird seed mixture, pollen and nectar mixture:</td>
<td>4442 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5541 ha</strong></td>
</tr>
</tbody>
</table>

**References to data sources**
GENESIS database (ELS.mdb)  
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria

Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator

Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

Scheme

Higher Level Stewardship (HLS)

Answer

63%

Explanation of Sources and calculations

There are at least 2209 ha of assisted areas of non-farmed land or partly non-cultivated land, 63% of the figure given at VI.2.B-2.1 HLS.

The total area of assisted non-farmed land or partly non-cultivated land is not known so this cannot be expressed as a % of assisted ecological infrastructure "with habitat function". All measures relating exclusively to the margins of fields are dealt with under VI.2.B-2.1 (a) as they are linear.

Assisted grazed semi-natural habitats have been excluded as they are farmed. There are some areas of ungrazed land with habitat function—e.g. woodland, dense scrub. Information is not available for the area of woodland or scrub under agreement.

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland/ scrub maintenance or enhancement</td>
<td>1423 ha</td>
</tr>
<tr>
<td>Wild bird seed mixture, pollen and nectar mixture:</td>
<td>627 ha</td>
</tr>
<tr>
<td>Scrub management (capital grants)</td>
<td>159 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2209 ha</strong></td>
</tr>
</tbody>
</table>

References to data sources

GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (b)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (b) of which patches or areas of non-farmed land (i.e. ecological set-aside, other non-cropped areas, etc.) or partly non-cultivated land (unweeded and/or unfertilised edges of fields) (%)

Scheme
Organic Entry Level Scheme (OELS)

Answer
23%

Explanation of Sources and calculations
There are at least 97 ha of assisted areas of non-farmed land or partly non-cultivated land, 23% of the figure given at VI.2.B-2.1 OELS.

The total area of assisted non-farmed land or partly non-cultivated land is not known so this cannot be expressed as a % of assisted ecological infrastructure "with habitat function".
All measures relating exclusively to the margins of fields are dealt with under VI.2.B-2.1 (a) as they are linear.

Assisted grazed semi-natural habitats have been excluded as they are farmed.

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland: (management of woodland edges)</td>
<td>34 ha</td>
</tr>
<tr>
<td>Wild bird seed mixture, pollen and nectar mixture:</td>
<td>63 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97 ha</strong></td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Assisted ecological infrastructure &quot;with habitat function&quot; or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scheme</th>
<th>ESA(+ECP)/CSS/ELS/OELS/HLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer</td>
<td>14,573 agreements</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Answer does not include data for OFS.

References to data sources
See answer sheets for individual scheme for explanation
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures— through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

**Indicator**
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
There are 6627 agreements with options for the renovation of isolated features.

**Explanation of Sources and calculations**
There is no information on the stock of isolated features (patches of trees, ponds etc) under agreement. There are 6627 agreements with options for the renovation of isolated features (100% of figure given at VI.2.B-2.1 CSS). Such features are protected on land under agreement as the scheme requires that environmental features are not damaged or destroyed. Orchards management /restoration, restoration plan for historic parks & historic landscape management plans have been excluded.

**References to data sources**
AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.B-2.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)

Scheme
Environmentally Sensitive Area (ESA) Conservation Plans (ECP)

Answer
There are 439 agreements with options for the renovation of isolated features.

Explanation of Sources and calculations

There is no information on the stock of isolated features (patches of trees, ponds etc.) under agreement. There are 439 agreements with ECP options for the renovation of isolated features.

Isolated features are protected on land under agreement as scheme measures require that environmental features are not damaged or destroyed. All dewponds on agreement land have to be maintained.

There is information available on the number of agreements that have received capital grants (under ECP) for restoration or have a commitment to carry out restoration work on isolated features and for the creation of dewponds.

<table>
<thead>
<tr>
<th>Management option</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree pollarding</td>
<td>169</td>
</tr>
<tr>
<td>Restoration of dewponds</td>
<td>1</td>
</tr>
<tr>
<td>Tree planting</td>
<td>195</td>
</tr>
<tr>
<td>Creation of ponds</td>
<td>47</td>
</tr>
<tr>
<td>Restoration of ponds</td>
<td>71</td>
</tr>
<tr>
<td>Scrapes</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>439 agreements</strong></td>
</tr>
</tbody>
</table>

NB: total number of agreements is not simply the sum of the final column as some agreements have more than one of these options.

References to data sources
Defra AESIS database (ECP.mdb)
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Assisted ecological infrastructure &quot;with habitat function&quot; or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>There are 6913 agreements with options for the protection of isolated features.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

There are 6913 agreements with options for the protection of trees and ponds (100% of figure given at VI.2.B-2.1 ELS). These agreements are protecting 150,244 trees and an unknown number of ponds.

**References to data sources**

- GENESIS database (ELS.mdb)
- Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.2.B-2.1 (c)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

Criteria
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

Indicator
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)

Scheme
Higher Level Stewardship (HLS)

Answer
There are 363 agreements with options for the protection of isolated features.

Explanation of Sources and calculations
There are 161 agreements with options for the protection of trees and ponds and 274 agreements with capital options, including coppicing bankside trees, tree surgery, tree planting, pond creation/restoration and scrape creation.

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced

**Indicator**
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (c) of which isolated features (patches of trees, etc.) (number)

**Scheme**
Organic Entry Level Scheme (OELS)

**Answer**
There are 231 agreements with options for the protection of isolated features.

**Explanation of Sources and calculations**
There are 231 agreements with options for the protection of trees and ponds on organically managed land (100% of figure given at VI.2.B-2.1 OELS). These agreements are protecting 5259 trees and an unknown number of ponds.

**References to data sources**
GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.2.B-2.1 (d)

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures – through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
Ecological infrastructure, including field boundaries (hedges) or non-cultivated patches of farmland with habitat function have been protected or enhanced.

**Indicator**
Assisted ecological infrastructure "with habitat function" or non-farmed patches of land linked to agriculture (hectares and/or kilometres and/or number of sites/agreements) (d) of which enhancing existing high nature value habitats by alleviating their fragmentation (%)

**Scheme**
ESA(+ECP)/CSS/ELS/OELS/HLS

**Answer**
N/A

**Explanation of Sources and calculations**
N/A Defra baseline study concluded that this information was not available and too difficult to define.

**References to data sources**
Defra baseline study 2003
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.2.B-3.1

To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

| Criteria | Valuable wetland (often uncultivated) or aquatic habitats have been protected from leaching, run-off or sediments originating from adjacent farmland |
| Indicator | Area under assisted farming systems or practices that reduce/prevent leaching, run-off or sedimentation of farm inputs/soil in adjacent valuable wetland or aquatic habitats (hectares) |
| Scheme | ESA/CSS/ELS/OELS/HLS |
| Answer | Insufficient information available to answer this question or the sub parts (a), (b) or (c) as location of valuable wetland or aquatic habitats (hectares) is unavailable. |

Explanation of Sources and calculations

References to data sources
To what extent has biodiversity been maintained or enhanced thanks to agri-environmental measures—through the conservation of high nature-value farmland habitats, protection or enhancement of environmental infrastructure or the protection of wetland or aquatic habitats adjacent to agricultural land (habitat diversity)?

**Criteria**
- Valuable wetland (often uncultivated) or aquatic habitats have been protected from leaching, run-off or sediments originating from adjacent farmland

**Indicator**
- Adjacent valuable wetland or aquatic habitats that have been protected thanks to the assisted actions (hectares)

**Scheme**
- ESA/CSS/ELS/OELS/HLS

**Answer**
- N/A Defra baseline study concluded that this information was not available and too difficult to define.

**Explanation of Sources and calculations**

**References to data sources**
- Defra Baseline Study 2003
VI.2.C. To what extent has biodiversity (genetic diversity) been maintained or enhanced thanks to agri-environmental measures ...through the safeguarding of endangered animal breeds or plant?

Criteria
Endangered breeds/varieties are conserved

Indicator
Animals/plants reared/cultivated under agreement (number of individuals or hectares broken down to breed/variety)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
N/A Defra baseline study

Explanation of Sources and calculations

References to data sources
Defra Baseline Study 2003
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.3-1.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>OFS/ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>All farmland under OFS, ESA, CSS and HLS agreement plus land managed under selected ELS and OELS options (2,883,159 ha &amp; 40,224 agreements) contribute to the coherence with the natural/biophysical characteristics of the zone, plus 47,470 ha in ECP.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
All farmland under agreement (783422 ha & 12210 agreements) contributes to the coherence with the natural/biophysical characteristics of the zone.

Explanation of Sources and calculations
The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use/vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-1.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)

Scheme
Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer
All farmland under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contribute to coherence with the natural/biophysical characteristics of the zone

Explanation of Sources and calculations
Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

ESA monitoring has identified occasional cases where changes in land use/vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
AESIS database (ESA.mdb and ECP.mdb)


Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)

Scheme  
Organic Farming Scheme (OFS)

Answer  
2,377 holdings and 919,864 hectares

Explanation of Sources and calculations

A study by the Countryside Commission (1998) suggests that the degree to which farmers positively affect the landscape is more a matter of the attitude and initiatives of the particular farmer and not the direct result of whether a farm adopts an organic farming system or not. However, it also suggests that organic farmers are more likely to adopt farming and land management practices which are beneficial to the landscape and the environment as a whole. Farmers who choose organic methods provide net benefits to the landscape largely because of their awareness of the environment in general. Key conclusions were:

- In lowland areas, organic mixed farms had noticeable positive effects on the quality of the surrounding landscape mainly because of their contrast with intensive conventional mixed farms.
- In upland areas, there was little noticeable difference between organic and conventional farms in terms of their effect on landscape. This is due to the fact that conventional mixed upland farms tend to be less intensive than their counterparts in lowland areas.
- The main differences which enable the organic farm to stand out in the lowland landscape were the higher proportion of unmanaged or bushy hedges, the higher number of young and recent hedgerow trees, smaller fields and the higher proportion of hedges to fences. In general, conventional farms had larger fields, fewer and conventionally managed hedgerows and less new hedgerow tree planting.

A report by the Countryside Agency (2000) lists the landscape benefits of organic farming as follows:

- Organic mixed farms incorporate more beneficial landscape features than conventional farms, although this is only perceptible in the lowlands
- Crop rotations of organic systems maintain landscape diversity
- Field boundaries tend to be better maintained and enhance biodiversity
- Organic farmers are sympathetic to their environment and likely to employ land management practices which benefit it and which are also technically necessary to successful organic production – this is most discernible on lowland mixed farms.
- Mixed organic farms contribute more beneficial landscape features than conventional farms – these include reduced field size, abundance of trees and sympathetic hedgerow management. The impact on the landscape of converting land in intensive arable areas would be even greater as mixed systems would be introduced into what is currently a relatively uniform landscape.

The research available indicates an association between organic farming and landscape benefits although some might not be causal – farmers with an interest in the environment might be most likely to convert to organic farming. The additional effect of organic conversion is difficult to measure but is real in most cases – the CRER Evaluation of OFS (2002) measured additional active environmental work on organic farms rather than the presence of environmentally positive features.
The difficulty in answering the question fully is the timescale for perceptive/cognitive change in relation to the commitment under the scheme and the absence of a baseline for ‘natural/biophysical characteristics of the zone’. There is no requirement under OFS to reinstate features which are consistent with the natural landscape for any locality (other than designated sites), although this could be prescribed. The answer has therefore been limited to lowland sites, using the robust farm type typologies. Answer: 2,377 holdings and 919,864 hectares.

**References to data sources**


Defra OFS prescription database

AESIS database
Chapter VI. Agri-Environment Schemes Indicator ref. VI.3-1.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)

Scheme
Entry Level Stewardship (ELS)

Answer
303,984 ha within 15,499 agreements contribute to the coherence with the natural/biophysical characteristics of the zone.

Explanation of Sources and calculations
The ELS options that are considered to contribute to visual coherence are overwintered stubble, undersown spring cereals and management of grassland, rough grazing, moorland, ponds and high erosion risk cultivated land.

References to data sources
GENESIS database (ELS.mdb)
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares).

Scheme
Higher Level Stewardship (HLS)

Answer
All farmland under HLS options (93,717 ha & 725 agreements) contributes to the coherence with the natural/biophysical characteristics of the zone.

Explanation of Sources and calculations
HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. This may also happen in HLS. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
GENESIS database (HLS.mdb)
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares)

Scheme
Organic Entry Level Scheme (OELS)

Answer
16,246 ha within 711 agreements contribute to the coherence with the natural/biophysical characteristics of the zone.

Explanation of Sources and calculations
The OELS options that are considered to contribute to visual coherence are overwintered stubble, under sown spring cereals and management of grassland, rough grazing, moorland, ponds and high erosion risk cultivated land.

References to data sources
GENESIS database (OELS.mdb)
## Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-1.1 (a)**

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns… (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>99% of agreements and 99% of area</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Answer does not include data for OFS.

**References to data sources**

See answer sheets for individual scheme for explanation.
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-1.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns…(%)  

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
100%

Explanation of Sources and calculations

All land in CSS agreements (783422 ha & 12210 agreements) contributes to the coherence with the natural/biophysical characteristics of the zone. All land use patterns under agreement contribute to this.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes Indicator ref. VI.3-1.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns…(%) 

Scheme Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer 100%

Explanation of Sources and calculations
All land in the ESA under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contributes to the coherence with the natural/biophysical characteristics of the zone. All land use patterns under agreement contribute to this.

Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

ESA monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
AESIS database (ESA.mdb; ECP.mdb)
ADAS: UK
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-1.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**

The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

**Indicator**

Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns…(%)  

**Scheme**

Organic Farming Scheme (OFS)

**Answer**

Could not answer – dependent on farm type
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-1.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

| Criteria | The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced |
| Indicator | Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns…(%) |
| Scheme | Entry Level Stewardship (ELS) |
| Answer | 15,175 agreements (98% of agreements) and 278,994 ha (92% of area) |

Explanation of Sources and calculations

The main measures which involve the land use patterns under ELS that are considered to contribute to the coherence with the natural/biophysical characteristics of the zone are: over-wintered stubbles, under sown spring cereals, archaeological features taken out of cultivation & under grass, and maintenance of grassland, rush pasture and enclosed rough grazing.

References to data sources

GENESIS database (ELS.mdb)  
Defra ELS handbook
## Chapter VI. Agri-Environment Schemes  
### Indicator ref. VI.3-1.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns ... (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Explanation of Sources and calculations

All land in HLS agreements (93,717 ha & 725 agreements) contributes to the coherence with the natural/biophysical characteristics of the zone. All land use patterns under agreement contribute to this.

HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. This may also happen in HLS. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

### References to data sources

- Defra HLS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (a) of which due to land-use patterns ...(%) ,

Scheme
Organic Entry Level Stewardship (OELS)

Answer
699 agreements (98% of agreements) and 16070 ha (99% of area)

Explanation of Sources and calculations
The main measures which involve the land use patterns under OELS that are considered to contribute to the coherence with the natural/biophysical characteristics of the zone are: over-wintered stubbles, under sown spring cereals, archaeological features taken out of cultivation & under grass, and maintenance of grassland, rush pasture and enclosed rough grazing.

References to data sources
Defra OELS handbook
GENESIS database (OELS.mdb)
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
60% of agreements and 85% of area

Explanation of Sources and calculations
This answer does not include data for OFS

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator  
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%) 

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
100%

Explanation of Sources and calculations
All land under CSS agreement (12,210 agreements and 783,422 ha) contributes to the coherence with the natural/biophysical characteristics of the zone. All flora, fauna or habitats under agreement contribute to this.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

CSS monitoring has identified occasional cases where changes in vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The following are the main measures which involve recreation of habitats under CSS that will enhance the coherence with the natural/biophysical characteristics of the zone:
<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Area (ha)</th>
<th>No. of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation/regeneration of fens/reedbeds/carr</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Restoration and management of old orchards</td>
<td>2111</td>
<td>1253</td>
</tr>
<tr>
<td>Creating inter-tidal habitats on grassland</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Creating inter-tidal habitats on cultivated land</td>
<td>68</td>
<td>3</td>
</tr>
<tr>
<td>Re-creation of heathland</td>
<td>1073</td>
<td>67</td>
</tr>
<tr>
<td>Regeneration of grassland/semi-natural vegetation</td>
<td>65995</td>
<td>3576</td>
</tr>
<tr>
<td>Recreating heath</td>
<td>462</td>
<td>17</td>
</tr>
<tr>
<td>Recreating grassland on cultivated land</td>
<td>9360</td>
<td>389</td>
</tr>
<tr>
<td>Regenerating heather on improved land</td>
<td>1143</td>
<td>14</td>
</tr>
<tr>
<td>Regenerating suppressed heather moor</td>
<td>24538</td>
<td>215</td>
</tr>
<tr>
<td>Regenerating suppressed heather moorland (&gt;300 ha)</td>
<td>8254</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>113033</strong></td>
<td><strong>5554</strong></td>
</tr>
</tbody>
</table>

Excludes any measures relating to linear features (walls, hedges etc.)

**References to data sources**

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-1.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
Environmentally Sensitive Area (ESA)

Answer
100%

Explanation of Sources and calculations

All land in the ESA under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contributes to the coherence with the natural/biophysical characteristics of the zone. All flora, fauna or habitats under agreement contribute to this.

Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape and wildlife. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

ESA monitoring has identified occasional cases where change in vegetation management as a result of the scheme has had a detrimental effect on landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The following are the main measures which involve recreation of habitats under ESAs and ECPs that will enhance the coherence with the natural/biophysical characteristics of the zone:

<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Area (ha)</th>
<th>No. of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reversion to rough land or moorland (ECP)</td>
<td>42956</td>
<td>19</td>
</tr>
<tr>
<td>Conversion of arable to grassland (ECP)</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Conversion of arable to grassland (ESA)</td>
<td>1132</td>
<td>15</td>
</tr>
<tr>
<td>Arable reversion (ESA)</td>
<td>41820</td>
<td>1124</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>85935</strong></td>
<td><strong>1161</strong></td>
</tr>
</tbody>
</table>

Excludes any measures relating to linear features (walls, hedges etc.)
References to data sources

AESIS database (ESA.mdb and ECP.mdb)


| Criteria | The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced |
| Indicator | Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%) |
| Scheme   | Organic Farming Scheme (OFS) |
| Answer   | Not answered – dependent on farm type |
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-1.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
Entry Level Stewardship (ELS)

Answer
989 agreements (6.4%) and 25264 ha (8.3% of area)

Explanation of Sources and calculations

The main measures which involve the maintenance of habitats under ELS that are considered to contribute to the coherence with the natural/biophysical characteristics of the zone are the maintenance of rough grazing, rush pasture and moorland.

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1 (b)  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme  Higher Level Stewardship (HLS)

Answer  100%

Explanation of Sources and calculations
All land under HLS agreement (725 agreements and 93,717 ha) contributes to the coherence with the natural/biophysical characteristics of the zone. All flora, fauna or habitats under agreement contribute to this.

HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

CSS monitoring has identified occasional cases where changes in vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. This may also happen in HLS. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The following are the main measures which involve recreation of habitats under HLS that will enhance the coherence with the natural/biophysical characteristics of the zone:

<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Area (ha)</th>
<th>No. of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation/ maintenance/ restoration of woodland &amp; orchards</td>
<td>2286</td>
<td>385</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of traditional water meadows</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>Arable reversion to grassland</td>
<td>452</td>
<td>48</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of semi-natural/ wet/ semi-improved grassland</td>
<td>12,639</td>
<td>576</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of moorland &amp; upland rough grazing</td>
<td>13,460</td>
<td>104</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of lowland heath</td>
<td>389</td>
<td>14</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of inter-tidal and coastal habitats</td>
<td>196</td>
<td>9</td>
</tr>
<tr>
<td>Creation/ maintenance/ restoration of wetland</td>
<td>148</td>
<td>41</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29,608</td>
<td></td>
</tr>
</tbody>
</table>
References to data sources

GENESIS database (HLS.mdb)
Defra HLS handbook

Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-1.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
27 agreements (3.8%) and 225 ha (1.4% of area)

Explanation of Sources and calculations
The main measures which involve the maintenance of habitats under OELS that are considered to contribute to the coherence with the natural/biophysical characteristics of the zone are the maintenance of rough grazing, rush pasture and moorland.

References to data sources
Defra OELS handbook
GENESIS database (OELS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
1.1% of the area of agreement (and 9.9% of the agreements) contributing to landscape coherence

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
1.2% of the area of agreement (and 26% of the agreements) contributing to landscape coherence

Explanation of Sources and calculations

Total area subject to scrub and bracken control 9725 ha (3131 agreements). In addition there are 1137 agreements with provision for the removal of eyesores (area unknown).

Current landforms are maintained through agreements. Appreciation of landform is enhanced through specific measures for scrub control - scrub control also has an ecological benefit.

References to data sources

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme  Environmentally Sensitive Area (ESA) Conservation Plans (ECP)

Answer  0.6% of the area of agreement (and 2.1% of the agreements) contributing to landscape coherence

Explanation of Sources and calculations

Total area with a commitment to carry out scrub, bracken or rhodedendron control under ECP options is 4483 ha (262 agreements).

Current landforms are maintained through agreements. Appreciation of landform is enhanced through specific measures for scrub control - scrub control also has an ecological benefit.

ESA monitoring in the South Downs ESA established that although there was a net decrease in the area of scrub (and establishment of new scrub) on agreement land there was some increase of areas of established scrub. Whilst a sample of sites monitored in the Breckland ESA showed a net increase in the area of scrub. However, there is no information on any increase in the area of scrub on ERDP agreement land.

References to data sources

AESIS database (ECP.mdb)


Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme  
Organic Farming Scheme (OFS)

Answer  
0%

Explanation of Sources and calculations
Not relevant to the OFS prescription and no evidence from previous research.

References to data sources


Defra OFS prescription database

AESIS database
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme
Entry Level Stewardship (ELS)

Answer
2.1% of the area under agreement (and 1.5% of the agreements) contributing to landscape coherence

Explanation of Sources and calculations
The option for the management of high erosion risk cultivated land is considered to contribute to the maintenance of landform. The total area under this option is 6420 ha (231 agreements).

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-1.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%).

Scheme
Higher Level Stewardship (HLS)

Answer
0.5% of the area of agreement (and 18% of the agreements) contributing to landscape coherence.

Explanation of Sources and calculations
Total area under the option for the management of high erosion risk cultivated land, which is considered to contribute to the maintenance of landform, is 259 ha (1 agreement).

Total area subject to scrub and bracken control 225 ha (127 agreements). In addition there are 33 agreements with provision for the removal of eyesores (area unknown).

Current landforms are maintained through agreements. Appreciation of landform is enhanced through specific measures for scrub control - scrub control also has an ecological benefit.

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria: The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator: Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (c) of which due landforms such as relief or contours (%)

Scheme: Organic Entry Level Stewardship (OELS)

Answer: 1.0% of the area under agreement (and 1.0% of the agreements) contributing to landscape coherence.

Explanation of Sources and calculations:
The option for the management of high erosion risk cultivated land is considered to contribute to the maintenance of landform. The total area under this option is 164 ha (7 agreements).

References to data sources:
GENESIS database (OELS.mdb)
Defra OELS handbook
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

**Indicator**
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)

**Scheme**
ESA/CSS/ELS/OELS/HLS

**Answer**
100%

**Explanation of Sources and calculations**
Note, not relevant to OFS agreements

**References to data sources**
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria: The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator: Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%).

Scheme: Countryside Stewardship Scheme (CSS)

Answer: 100%

Explanation of Sources and calculations:

CSS prescriptions require water bodies to be retained on agreement land.

The area of water bodies under agreement cannot be calculated with the data available, however 1061986 m² of ponds have been restored or have a commitment to be restored under CSS on 1676 agreements.

References to data sources:
AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-1.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced.

Indicator
Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)

Scheme
Environmentally Sensitive Area (ESA) Conservation Plans (ECP)

Answer
100%

Explanation of Sources and calculations
ESA prescriptions require water bodies to be retained on agreement land.

The area of water bodies under agreement cannot be calculated with the data available; however 71 agreements have restored ponds or have a commitment to restore ponds under conservation plans.

<table>
<thead>
<tr>
<th>Scheme option /measure</th>
<th>No. of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pond restoration</td>
<td>71</td>
</tr>
</tbody>
</table>

References to data sources
AESIS database (ESA.mdb and ECP.mdb)
## Chapter VI. Agri-Environment Schemes

### Indicator ref. VI.3-1.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Not relevant to the OFS prescription and no evidence from previous research

**References to data sources**

- Defra OFS prescription database
- AESIS database
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3.1.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced

Indicator  Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)

Scheme  Entry Level Stewardship (ELS)

Answer  100%

Explanation of Sources and calculations
The rules of ELS require the retention of all environmental features that have to be marked on the Farm Environment Record map; this includes ponds.

The area of water bodies under agreement cannot be calculated with the data available, however 307 ha of buffers around ponds have been created within 704 agreements.

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
### Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-1.1 (d)**

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The rules of HLS require the identification, mapping and retention of all environmental features on the Farm Environment Record; this includes ponds.

The area of water bodies under agreement cannot be calculated with the data available, however 13 ha of buffers around ponds have been created within 28 agreements, and pond restoration options have been taken up on 44 agreements (comprising 68 agreements in total).

**References to data sources**

GENESIS database (HLS.mdb)

Defra HLS handbook
### Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-1.1 (d)**

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) coherence between farmland and the natural/biophysical characteristics has been enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to coherence with the natural/biophysical characteristics of the zone (number of sites and hectares) (d) of which due to the preservation of water bodies (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The rules of OELS require the retention of all environmental features that have to be marked on the Farm Environment Record map; this includes ponds.

The area of water bodies under agreement cannot be calculated with the data available, however 13 ha of buffers around ponds have been created within 18 agreements.

**References to data sources**

GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
All farmland under ESA, CSS and HLS agreement, plus land under selected ELS and OELS options (1,672,582 ha & 41,003 agreements) contribute to the perceptive/cognitive differentiation in the landscape.

Explanation of Sources and calculations
Note: OFS N/A Defra baseline study

References to data sources
See answer sheets for individual scheme for explanation
Defra baseline study 2003
Chapter VI. Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
All farmland under agreement (783422 ha & 12210 agreements) contributes to the perceptive/cognitive differentiation in the landscape.

Explanation of Sources and calculations
The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use/vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The CSS scheme prescriptions also require that environmental features (walls, hedges, ditches etc.) are not removed on land within agreement or on any other part of the holding. All boundaries are maintained to a traditional height and width, characteristic of the area. The total length of field boundary or other linear environmental features under agreement is not known.

References to data sources

Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-2.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria 
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator 
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

Scheme 
Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer 
All farmland under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contributes to the perceptive/cognitive differentiation in the landscape.

Explanation of Sources and calculations
Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

ESA monitoring has identified occasional cases where changes in land use/vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The ESA scheme prescriptions require that no environmental features (walls, hedges, ditches etc.) are removed on land within agreement or on any other part of the holding (for part farm ESAs). The total length of field boundary or other linear environmental features under agreement is not known.

References to data sources
Defra AESIS database (ESA.mdb)


Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-2.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria

The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator

Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

Scheme

Entry Level Stewardship (ELS)

Answer

(29,114 ha & 155,661 km in 18,590 agreements) contributes to the perceptive/cognitive differentiation in the landscape.

Explanation of Sources and calculations

The ELS options that are considered to contribute to visual differentiation in the landscape are management of buffers and margins, field corners, wildlife mixes, hedges, walls and ditches.

References to data sources

GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

Scheme
Higher Level Stewardship (HLS)

Answer
All farmland under agreement (93,717 ha & 725 agreements) contributes to the perceptive/cognitive differentiation in the landscape.

Explanation of Sources and calculations
HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use/vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. This is also likely to happen in HLS. Where this has occurred it is likely to have been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

The HLS scheme rules also require that environmental features (walls, hedges, ditches etc.) are not removed on land within agreement or on any other part of the holding.

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

**Indicator**
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres)

**Scheme**
Organic Entry Level Scheme (OELS)

**Answer**
403 ha & 5847 km in 776 agreements contribute to the perceptive/cognitive differentiation in the landscape.

**Explanation of Sources and calculations**
The OELS options that are considered to contribute to visual differentiation in the landscape are management of buffers and margins, field corners, wildlife mixes, hedges, walls and ditches.

**References to data sources**
GENESIS database (OELS.mdb)
Defra OELS handbook
### Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-2.1 (a)**

**To what extent have landscapes been maintained or enhanced by agri-environmental measures?**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>100% of the area (1,672,582 ha) and 76% of the agreements (31,053).</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Answer does not include data for OFS.

**References to data sources**

See answer sheets for individual scheme for explanation.
Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.3-2.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations
All farmland under agreement (783422 ha, under 12210 agreements) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All land use patterns under agreement contribute to this.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria: The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced.

Indicator: Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%).

Scheme: Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer: 100%

Explanation of Sources and calculations:

All land in the ESA under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All land use patterns under agreement contribute to this.

Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

ESA monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources:

AESIS database (ESA.mdb & ECP.mdb)


Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%)

Scheme
Entry Level Stewardship (ELS)

Answer
100% of the area (and 50% of the agreements)

Explanation of Sources and calculations
29114 ha of land within 9226 agreements are managed under options that result in an enhancement of the visual complexity due to a change in land use or crop patterns. The ELS options that are considered to contribute to this are buffers and margins, field corners and wildlife mixes.

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI.  Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%)

Scheme  
Higher Level Stewardship (HLS)

Answer  
100%

Explanation of Sources and calculations

All farmland under agreement (93,717 ha, under 725 agreements) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All land use patterns under agreement contribute to this.

HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

CSS monitoring has identified occasional cases where changes in land use as a result of the scheme have reduced landscape coherence, usually temporarily. This may also happen under HLS. Where this has occurred it is likely to have been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources

GENESIS database (HLS.mdb)

Defra HLS handbook

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (a) of which due to the visual complexity resulting from land-use/crop patterns (%)

Scheme
Organic Entry Level Scheme (OELS)

Answer
100% of the area (and 24% of the agreements)

Explanation of Sources and calculations
403 ha of organically managed land within 190 agreements are managed under options that result in an enhancement of the visual complexity due to a change in land use or crop patterns. The OELS options that are considered to contribute to this are buffers and margins, field corners and wildlife mixes.

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
ESA/CSS/ELS/OELS/HLS

Answer
98% of area under agreement (data for ESA, CSS and HLS only) and 70% of agreements (data for ESA, CSS, ELS, HLS and OELS).

Explanation of Sources and calculations
Answer does not include data for OFS.

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

**Indicator**
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%)

**Scheme**
Countryside Stewardship Scheme (CSS)

**Answer**
100%

**Explanation of Sources and calculations**

All (100%) of environmental features on farmland under agreement (783422 ha, under 12210 agreements) contribute to the perceptive/cognitive differentiation in the landscape.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

CSS monitoring has identified occasional cases where changes in vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

Field boundary and other linear environmental features (hedges, walls etc. are dealt with under VI.3-2.1 (c).

**References to data sources**

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme  
Environmentally Sensitive Area (ESA)

Answer  
100%

Explanation of Sources and calculations

All (100%) of environmental features on farmland under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contribute to the perceptive/cognitive differentiation in the landscape.

Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape and wildlife. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

ESA monitoring has identified occasional cases where changes in vegetation management as a result of the scheme has had a detrimental effect on landscape coherence, usually temporarily. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

Field boundary and other linear environmental features (hedges, walls etc. are dealt with under VI.3-2.1 (c).

References to data sources

AESIS database (ESA.mdb & ECP.mdb)
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria: The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced.

Indicator: Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%).

Scheme: Entry Level Stewardship (ELS)

Answer: 37% of agreements

Explanation of Sources and calculations:
6913 agreements include options for the protection of in-field trees and/or ponds. These ELS options are considered to maintain or enhance visual complexity due to environmental features.

References to data sources:
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
Higher Level Stewardship (HLS)

Answer
100%

Explanation of Sources and calculations
All (100%) environmental features on farmland under agreement (93,717 ha, under 725 agreements) contribute to the perceptive/cognitive differentiation in the landscape.

HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape or wildlife.

CSS monitoring has identified occasional cases where changes in vegetation management as a result of the scheme have reduced landscape coherence, usually temporarily. This may also happen in HLS. Where this has occurred it is likely to have been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

Field boundary and other linear environmental features (hedges, walls etc. are dealt with under VI.3-2.1 (c).

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced.

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (b) of which due to environmental features such as flora, fauna or habitats (%)

Scheme
Organic Entry Level Scheme (OELS)

Answer
30% of agreements

Explanation of Sources and calculations
231 agreements include options for the protection of in-field trees and/or ponds. These OELS options are considered to maintain or enhance visual complexity due to environmental features.

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-2.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/ cognitive (visual etc.) differentiation (homogeneity/ diversity) of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>93% of the area under agreement (information on area is only available for CSS and ESA) and 97% of agreements (for CSS, ESA, ELS, HLS and OELS).</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations
All land in the CSS under agreement (783422 ha, under 12210 agreements) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All traditional field boundaries and other traditional man made objects contribute to this.

The CSS scheme prescriptions also require that environmental features (walls, hedges, ditches etc.) are not removed on land within agreement or on any other part of the holding. All boundaries are maintained to a traditional height and width characteristic of the area. The total length of field boundary or other linear environmental features under agreement is not known.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. CSS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

Information on the length of features receiving payment for management, including replanting or restoration and creation of new linear access is given below.

<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ditch, earth bank and stone wall restoration; hedge coppicing, gapping up, laying, planting and restoration.</td>
<td>10078</td>
<td>9562</td>
</tr>
<tr>
<td>Bridleways, footpaths.</td>
<td>4328</td>
<td>1633</td>
</tr>
<tr>
<td>Hard surface paths for disabled.</td>
<td>73244 m²</td>
<td>61</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14406 km (plus 73244 m²)</strong></td>
<td><strong>11256</strong></td>
</tr>
</tbody>
</table>

References to data sources
AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Environmentally Sensitive Area (ESA)</td>
</tr>
<tr>
<td>Answer</td>
<td>100%</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations:

All land in the ESA under agreement (8702 agreements; 765926 ha under ESA options and 47,470 ha under ECP options) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All traditional field boundaries and other traditional man made objects contribute to this.

The ESA scheme prescriptions require that environmental features (walls, hedges, ditches etc.) are retained on land within agreement and on any other part of the holding (through cross compliance measures for part farm ESAs). Field boundaries that are stock proof have to be maintained in a stockproof condition. Many ESAs have an agreed 5 year programme of work to maintain and enhance field boundary features, including walls, hedges and ditches. The total length of field boundary or other linear environmental features under agreement is not known.

Existing high quality landscapes have been designated as ESAs to protect and enhance the landscape. The ESA scheme operates in areas defined by their landscape characteristics. These landscape characteristics have been categorised and described for each ESA through landscape assessment with reference to the patterns of land use that are characteristic of the ESA. ESA objectives involve maintenance and enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

ESA monitoring and compliance monitoring have identified a few isolated cases where traditional field boundaries under agreement have been removed and as a result (in breach of scheme rules) have reduced landscape coherence.

Information on the length of features receiving payments for management, including replanting or restoration of field boundaries and tracks is given below.

Information on the length of features receiving supplementary payments for management, including replanting or restoration is given below.

Length of linear features under agreement receiving payments: 18136 km (2284 agreements)
The effects of scrub control are covered under VI.3-1.1 (c).
The length represents a planned expenditure and the actual amount of restoration completed and paid on may be less than this

**References to data sources**

AESIS database (ESA.mdb and ECP.mdb)


ADAS (2002b) Dry stone walls on ESA agreement holdings. April 2002

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration/creation of features</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features: drystone walls, wall renovation, hedge management and restoration supplements.</td>
<td>18136</td>
<td>2284</td>
</tr>
<tr>
<td>Linear features <strong>(ECP)</strong>: fencing, ditch restoration, hedge laying/planting/gapping up/coppicing, provision and rebuilding of stone walls and cornish hedges.</td>
<td>2040</td>
<td>1640</td>
</tr>
<tr>
<td>Linear features <strong>(ECP)</strong>: restoration and re-creation of shelter belts, protection and provision of hedgerow trees.</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>20176</strong></td>
<td><strong>3955</strong></td>
</tr>
</tbody>
</table>
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-2.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)

Scheme
Entry Level Stewardship (ELS)

Answer
94% of agreements

Explanation of Sources and calculations
All traditional field boundaries and other traditional man made objects contribute to perceptive/cognitive, in particular visual, differentiation in the landscape. Options for the management of man-made objects (hedgerows, ditches and walls) have been taken up on 17,390 agreements (94%).

The rules of ELS require the retention of all environmental features that have to be marked on the Farm Environment Record map; this includes hedges, walls, ditches and streams.

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-2.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)

Scheme
Higher Level Stewardship (HLS)

Answer
73% of agreements

Explanation of Sources and calculations
All land in the HLS under agreement (93,717 ha, under 725 agreements) contributes to perceptive/cognitive, in particular visual, differentiation in the landscape. All traditional field boundaries and other traditional man made objects contribute to this.

The HLS scheme rules also require that environmental features (walls, hedges, ditches etc.) are not removed on land within agreement or on any other part of the holding.

HLS operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the patterns of land use. HLS objectives involve enhancement of the landscape. All land entered into the scheme is in management options designed to either maintain or enhance the landscape.

Options for the management of man-made objects (hedges, ditches and walls) have been taken up on 491 agreements, and options for rights of way access have been taken up on 112 agreements. In total, 526 agreements (73%) have options for man-made objects.

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
### Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-2.1 (c)**

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The perceptive/cognitive (visual etc.) differentiation (homogeneity/diversity) of farmland has been maintained or enhanced</th>
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<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to perceptive/cognitive, in particular visual, differentiation (homogeneity/diversity) in the landscape (number of sites and hectares/kilometres) (c) of which due to man-made objects (hedgerows, ditches, tracks) (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Entry Level Scheme (OELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>96% of agreements</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

All traditional field boundaries and other traditional man made objects contribute to perceptive/cognitive, in particular visual, differentiation in the landscape.

Options for the management of man-made objects (hedges, ditches and walls) have been taken up on 743 agreements (96%).

The rules of OELS require the retention of all environmental features that have to be marked on the Farm Environment Record map; this includes hedges, walls, ditches and streams.

**References to data sources**

GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-3.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**  
The cultural identity of farmland has been maintained or enhanced

**Indicator**  
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

**Scheme**  
OFS/ESA/CSS/ELS/OELS/HLS

**Answer**  
All farmland under CSS, ESA and HLS agreements plus land under selected ELS and OELS options (1,909,931 ha & 43,666 agreements) contribute to the maintenance/enhancement of the cultural/historical characteristics of the zone.

Nearly all traditional walls, hedges, earthbanks and ditches are of historical interest and all those under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total length of these features under agreement is unknown, it is substantial.

All sites of historical interest (including archaeological remains and sites, traditional buildings and features such as dewponds and veteran trees) under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total number of these features under agreement could not be calculated with the information available, the number is substantial.

OFS in itself does not promote the maintenance/enhancement of cultural/historical characteristics. However, this does not mean that they are not protected, but any protection is driven by other factors such as personal interest or other initiatives.

**Explanation of Sources and calculations**

The area stated does not include any data from OFS.

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria

The cultural identity of farmland has been maintained or enhanced

Indicator

Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

Scheme

Countryside Stewardship Scheme (CSS)

Answer

All farmland under agreement (783422 ha) contributes to the maintenance/enhancement of the cultural/historical characteristics of the zone.

Nearly all traditional walls, hedges, earthbanks and ditches are of historical interest and all those under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total length of these features under agreement is unknown, it is substantial.

All sites of historical interest (including archaeological remains and sites, traditional buildings and features such as dewponds and veteran trees) under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total number of these features under agreement could not be calculated with the information available, the number is substantial.

Explanation of Sources and calculations

The overall CSS objective is to conserve archaeological sites and historic features. All land entered into the scheme is in management options designed to either maintain or restore the historical interest of the land. Historic features and landscapes are an aspect that the scheme specifically targets with options to restore parklands, conserve areas which demonstrate the history of development of the landscape, preserve major earthworks, restore historic water meadows, conserve deer parks and wood pasture and restore traditional buildings.

As well as sites of national archaeological importance (Scheduled Monuments) there are many thousands of other recorded sites and features of archaeological interest on land within CSS (recorded on Local Government Sites and Monuments Records). Scheme prescriptions require that historical features are not damaged or destroyed and there are many scheme options to restore features of historical interest.

CSS monitoring has identified occasional cases where changes in land use or routine management operations have constituted a risk of damage to historic features. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options). More commonly historical features have not been included in agreements and this is seen as a missed opportunity.
References to data sources

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The cultural identity of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Environmentally Sensitive Area (ESA) &amp; ESA Conservation Plans (ECP)</td>
</tr>
<tr>
<td>Answer</td>
<td>All farmland under agreement (765926 ha under ESA, 47470 ha under ECP) contributes to the maintenance/enhancement of the cultural/historical characteristics of the zone. Nearly all traditional walls, hedges, earthbanks and ditches are of historical interest and all those under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total length of these features under agreement is unknown, it is substantial. All sites of historical interest (including archaeological remains and sites, traditional buildings and features such as dewponds and veteran trees) under agreement will be contributing to the maintenance/enhancement of the cultural/historical characteristics of the zone. Although the total number of these features under agreement could not be calculated with the information available, the number is substantial.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

ESA objectives involve the protection of the historic interest of the ESA. All land entered into the scheme is in management options designed to either maintain or enhance historical interest. The traditional farmland patterns, traditional buildings, field boundaries ancient woodlands and historic parklands together form the historic landscape of the ESAs.

As well as sites of national archaeological importance (Scheduled Monuments) there are tens of thousands of other recorded sites and features of archaeological interest in ESAs (recorded on Local Government Sites and Monuments Records). Scheme prescriptions require that historical features are not damaged or destroyed and there are opportunities to restore historic features.

ESA monitoring has identified occasional cases where changes in land use or routine management operations have constituted a risk of damage to historic features. Where this has occurred it has been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).
References to data sources

AESIS database (ESA.mdb; ECP.mdb)

ADAS (2002a) Protecting historic features through ESA agreement mapping. March 2002

ADAS (2002b) Dry stone walls on ESA agreement holdings. April 2002


To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The cultural identity of farmland has been maintained or enhanced

**Indicator**
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

**Scheme**
Organic Farming Scheme (OFS)

**Answer**
OFS in itself does not promote the maintenance/enhancement of cultural/historical characteristics. However, this does not mean that they are not protected, but any protection is driven by other factors such as personal interest or other initiatives.

**Explanation of Sources and calculations**
A study by the Countryside Commission (1998) suggests that the degree to which farmers positively affect the landscape is more a matter of the attitude and initiatives of the particular farmer and not the direct result of whether a farm adopts an organic farming system or not. In terms of the counterfactual i.e. in the absence of OFS, these individuals would make a particular contribution to the landscape.

In the case of cultural/historical features, there is no requirement to preserve or reinstate these as part of the organic prescription and no discernible secondary impact from changes to farming practice.

**References to data sources**
Defra OFS prescription database
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-3.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**

The cultural identity of farmland has been maintained or enhanced

**Indicator**

Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

**Scheme**

Entry Level Stewardship (ELS)

**Answer**

252,687 ha & 21,055 agreements contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

**Explanation of Sources and calculations**

The ELS options which are considered to make a contribution to the maintenance of cultural/historical characteristics are the management of grassland and moorland, hedges, walls, ditches, trees, ponds and archaeological features.

**References to data sources**

GENESIS database (ELS.mdb)

Defra ELS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

Scheme
Higher Level Stewardship (HLS)

Answer
All farmland under agreement (93,717 ha & 725 agreements) contributes to the maintenance/enhancement of cultural/historical characteristics of the zone.

Explanation of Sources and calculations
An overall HLS objective is to conserve archaeological sites and historic features. All land entered into the scheme is in management options designed to either maintain or restore the historical interest of the land. Historic features and landscapes are an aspect that the scheme specifically targets with options to restore parklands, conserve areas which demonstrate the history of development of the landscape, preserve major earthworks, restore historic water meadows, conserve deer parks and wood pasture and restore traditional buildings.

As well as sites of national archaeological importance (Scheduled Monuments) there are many other recorded sites and features of archaeological interest on land within HLS (recorded on Local Government Sites and Monuments Records). Scheme prescriptions require that historical features are not damaged or destroyed and there are many scheme options to restore features of historical interest.

CSS monitoring has identified occasional cases where changes in land use or routine management operations have constituted a risk of damage to historic features. It is likely that this was also happen under HLS. Where this has occurred it is likely to have been as a result of localised issues of implementation of scheme options (rather than of the scheme options being of detriment to landscape coherence in all situations (i.e. through poor design of scheme options).

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-3.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres)

Scheme
Organic Entry Level Scheme (OELS)

Answer
14,179 ha & 974 agreements contributes to the maintenance/enhancement of cultural/historical characteristics of the zone.

Explanation of Sources and calculations
The OELS options which are considered to make a contribution to the maintenance of cultural/historical characteristics are the management of grassland and moorland, hedges, walls, ditches, trees, ponds and archaeological features.

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-3.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria

The cultural identity of farmland has been maintained or enhanced

Indicator

Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (a) presence of traditional crops or traditional domestic as influenced by the supported actions (%) currently stops at traditional domestic (%)

Scheme

CSS/ELS/OELS/HLS

Answer

23% of land in V1.3-3.1 (minus ESA) is specifically targeted at historic landscape (traditional crops).

Explanation of Sources and calculations

Answer calculated using data for CSS, ELS, HLS and OELS. Unknown for ESA.

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-3.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (a) presence of traditional crops or traditional domestic as influenced by the supported actions (%) currently stops at traditional domestic (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
0.3%

Explanation of Sources and calculations
2454 ha of land are managed specifically as historic landscapes through the restoration and management of old orchards, restoration of ancient irrigated water meadows, restoration of historic parks, restoration of historic features in the upland landscape and restoration of old meadow and pasture.

References to data sources
AESIS database (CSS.mdb)
<table>
<thead>
<tr>
<th><strong>Criteria</strong></th>
<th>The cultural identity of farmland has been maintained or enhanced</th>
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</thead>
<tbody>
<tr>
<td><strong>Indicator</strong></td>
<td>Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (a) presence of traditional crops or traditional domestic as influenced by the supported actions (%)’ currently stops at traditional domestic (%)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>Environmentally Sensitive Area (ESA)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>Unknown</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The traditional farmland patterns, traditional buildings, field boundaries, ancient woodlands and historic parklands together form the historic landscape of the ESAs. However, the area of historic parkland, ancient woodland, water meadows and other traditional crops or area with traditional domestic animals is not known.

**References to data sources**

### Chapter VI. Agri-Environment Schemes

#### Indicator ref. VI.3-3.1 (a)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

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<thead>
<tr>
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<tr>
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</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>87% of land and 62% of agreements</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

218,655 ha of land in 12,998 agreements are managed under options that maintain traditional grassland and moorland.

**References to data sources**

- GENESIS database (ELS.mdb)
- Defra ELS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (a) presence of traditional crops or traditional domestic as influenced by the supported actions (%) currently stops at traditional domestic (%)

Scheme
Higher Level Stewardship (HLS)

Answer
34% of land under agreement and 95% of agreements

Explanation of Sources and calculations
31,535 ha of land in 687 agreements are managed under options that maintain, restore or manage orchards, historic parks, water meadows, meadow and pasture.

References to data sources
GENESIS database (HLS.mdb)
Defra HLS handbook
### Chapter VI. Agri-Environment Schemes

**Indicator ref. VI.3-3.1 (a)**

**To what extent have landscapes been maintained or enhanced by agri-environmental measures?**

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</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>Organic Entry Level Stewardship (OELS)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>94% of land and 64% of agreements</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

13,364 ha of organic land in 621 agreements are managed under options that maintain traditional grassland and moorland.

**References to data sources**

GENESIS database (OELS.mdb)
Defra OELS handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-3.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The cultural identity of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%) 

Scheme  
ESA/CSS/ELS/OELS/HLS

Answer  
90% of agreements

Explanation of Sources and calculations

References to data sources

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations

Nearly all walls, hedges, earthbanks and ditches under agreement are of historical interest as they reflect the historic patterns of enclosure in the landscape and all (100%) are managed in order to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

The length of these features under agreement can not be calculated with the information available, however, they are numerous and widespread, and likely to be present on all agreements. Payments are being made for the management and restoration of many of these features (see below)

The CSS scheme prescriptions also require that environmental features (walls, hedges, ditches etc.) are not removed on land within agreement or on any other part of the holding. All boundaries are maintained to a traditional height and width characteristic of the area. The total length of field boundary or other linear environmental features under agreement is not known.

The CS Scheme operates in targeted areas defined in part by their landscape character (Joint Character Areas). The landscape characteristics of Joint Character Areas have been categorised and described through landscape assessment with reference to the traditional patterns of enclosure.

Information on the length of features receiving payment for management or with a commitment to restore or replant boundaries are given below.

<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ditch, earth bank and stone wall restoration; hedge coppicing, gapping up, laying, planting and restoration.</td>
<td>10078</td>
<td>9562</td>
</tr>
</tbody>
</table>

References to data sources

AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3.3.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The cultural identity of farmland has been maintained or enhanced

Indicator  Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%)  

Scheme  Environmentally Sensitive Area (ESA) & ESA Conservation Plans (ECP)

Answer  100%

Nearly all walls, hedges, earthbanks and ditches are of historical interest as they reflect the historic patterns of enclosure in the landscape and all (100%) are managed in order to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

The total length of field boundary or other linear environmental features under agreement is not known. However, they are numerous and widespread, and likely to be present on all agreements. The ESA scheme prescriptions require that environmental features (walls, hedges, ditches etc.) are retained on land within agreement and on any other part of the holding (through cross compliance measures for part farm ESAs). Field boundaries that are stock proof have to be maintained in a stock proof condition. Many ESAs have an agreed 5 year programme of work to maintain and enhance field boundary features, including walls, hedges and ditches.

Payments have been received or there are commitments for the management and restoration of many of these features (see below).

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration/ creation of features</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features: drystone walls, wall renovation, hedge management and restoration supplements.</td>
<td>18136</td>
<td>2284</td>
</tr>
<tr>
<td>Linear features (ECP): fencing, ditch restoration, hedge laying/planting/gapping up/coppicing, provision and rebuilding of stone walls and cornish hedges.</td>
<td>2040</td>
<td>1640</td>
</tr>
<tr>
<td>Linear features (ECP): restoration and re-creation of shelter belts, protection and provision of hedgerow trees.</td>
<td></td>
<td>31</td>
</tr>
</tbody>
</table>

References to data sources
Defra AESIS database (ESA.mdb and ECP.mdb)


To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The cultural identity of farmland has been maintained or enhanced

**Indicator**
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%)

**Scheme**
Enter Level Stewardship (ELS)

**Answer**
83% of agreements

**Explanation of Sources and calculations**
Nearly all walls, hedges, earthbanks and ditches are of historical interest as they reflect the historic patterns of enclosure in the landscape.

17,390 agreements (83%) have options for the management of 155,660 km of man-made linear objects (ditches, earth banks, stone walls, hedges) and all managed under these options are considered to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

**References to data sources**
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria

The cultural identity of farmland has been maintained or enhanced

Indicator

Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%) 

Scheme

Higher Level Stewardship (HLS)

Answer

69% of agreements

Explanation of Sources and calculations

Nearly all walls, hedges, earthbanks and ditches are of historical interest as they reflect the historic patterns of enclosure in the landscape and all (100%) are managed in order to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

Payments have been received or there are commitments for the management and restoration of many of these features (see below).

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration/ creation of features</th>
<th>Length (km)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear features: maintenance of hedgerows of very high environmental value</td>
<td>274</td>
<td>141</td>
</tr>
<tr>
<td>Linear features (capital grants): hedgerow/ hedgebank/ ditch/ stone wall restoration and repair</td>
<td>337</td>
<td>437</td>
</tr>
<tr>
<td>Total</td>
<td>611</td>
<td>497</td>
</tr>
</tbody>
</table>

References to data sources

GENESIS database (HLS.mdb)

Defra HLS handbook
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1 (b)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (b) man-made linear objects (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
76% of agreements

Explanation of Sources and calculations
Nearly all walls, hedges, earthbanks and ditches are of historical interest as they reflect the historic patterns of enclosure in the landscape.

743 agreements (76%) have options for the management of 5,847 km of man-made linear objects (ditches, earth banks, stone walls, hedges) and all managed under these options are considered to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone.

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
### To what extent have landscapes been maintained or enhanced by agri-environmental measures?

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<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>ESA/CSS/ELS/OELS/HLS</td>
</tr>
<tr>
<td>Answer</td>
<td>68% of agreements</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**

See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)

Scheme
Countryside Stewardship Scheme (CSS)

Answer
100%

Explanation of Sources and calculations
Recorded historic features under agreement (100%) are identified on the agreement map and managed in order to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone. The number of archaeological features recorded on the SMR and under agreement cannot be calculated with the information available.

Many thousands of historic features (buildings, ruins, Scheduled Monuments, earthworks etc.) identified on the County Sites and Monuments Records are protected through CSS agreements.

Management of scrub on archaeological features is mainly undertaken under the option ‘Restoration of historic features in upland landscapes’ of which there is 33 ha.

Restoration of historic point/singular features is taking place or is planned to take place on land under agreement through:

<table>
<thead>
<tr>
<th>Management option (measure)</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coppicing bankside trees</td>
<td>1559</td>
</tr>
<tr>
<td>Frameworking of old fruit trees</td>
<td>3</td>
</tr>
<tr>
<td>Fruit tree pruning and restoration</td>
<td>642</td>
</tr>
<tr>
<td>Pollarding</td>
<td>1073</td>
</tr>
<tr>
<td>SP: Restoration traditional buildings</td>
<td>76</td>
</tr>
<tr>
<td>Orchard tree guards</td>
<td>466</td>
</tr>
<tr>
<td>Orchard tree guards - fences</td>
<td>700</td>
</tr>
<tr>
<td>Parkland tree guards</td>
<td>682</td>
</tr>
<tr>
<td>Minor tree surgery</td>
<td>715</td>
</tr>
<tr>
<td>Major tree surgery</td>
<td>1103</td>
</tr>
<tr>
<td>TOTAL</td>
<td>7019</td>
</tr>
</tbody>
</table>

References to data sources

AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes Indicator ref. VI.3-3.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)

Scheme
Environmentally Sensitive Area (ESA) Conservation Plans (ECP)

Answer
100%

Recorded historic features under agreement (100%) are identified on the agreement map and managed in order to contribute to the maintenance/enhancement of cultural/historical characteristics of the zone. The number of archaeological features recorded on the SMR and under agreement cannot be calculated with the information available. Many thousands of historic features (buildings, ruins, Scheduled Monuments, earthworks etc.) identified on the County Sites and Monuments Records are protected through ESA agreements.

Restoration of historic point features is taking place on land under agreement using capital grants (ECP options):

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration of historic features</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of historic features</td>
<td>124</td>
</tr>
<tr>
<td>Management of scrub on archaeological features</td>
<td>1</td>
</tr>
<tr>
<td>Restoration of Ponds</td>
<td>71</td>
</tr>
<tr>
<td>Renovation of traditional farm buildings using traditional local styles and materials</td>
<td>473</td>
</tr>
<tr>
<td>Pollarding of trees</td>
<td>169</td>
</tr>
<tr>
<td>TOTAL</td>
<td>838</td>
</tr>
</tbody>
</table>

References to data sources
Defra AESIS database (ESA.mdb and ECP.mdb)
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-3.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The cultural identity of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)

Scheme  
Entry Level Stewardship (ELS)

Answer  
38% of agreements

Explanation of Sources and calculations
The following ELS options relate to the protection of traditional buildings, archaeological features, or singular landscape features such as trees and ponds.

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration of historic features</th>
<th>Area or number</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of in-field trees</td>
<td>150244 trees</td>
<td>6573</td>
</tr>
<tr>
<td>Buffering of in-field ponds</td>
<td>307 ha</td>
<td>704</td>
</tr>
<tr>
<td>Protection of archaeological features</td>
<td>33,725 ha</td>
<td>1908</td>
</tr>
<tr>
<td>Maintenance of traditional farm buildings</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>7983</td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (ELS.mdb)
Defra ELS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**
The cultural identity of farmland has been maintained or enhanced

**Indicator**
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)

**Scheme**
Higher Level Stewardship (HLS)

**Answer**
60% of agreements

**Explanation of Sources and calculations**
The following HLS options relate to the protection or restoration of traditional buildings, archaeological features, or singular landscape features such as trees and ponds.

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration of historic features</th>
<th>Area or number</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of in-field trees</td>
<td>910 trees</td>
<td>94</td>
</tr>
<tr>
<td>Pond buffering and maintenance</td>
<td></td>
<td>120</td>
</tr>
<tr>
<td>Protection of archaeological features</td>
<td>4,024 ha</td>
<td>264</td>
</tr>
<tr>
<td>Capital works on trees</td>
<td></td>
<td>177</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>435</strong></td>
</tr>
</tbody>
</table>

**References to data sources**
GENESIS database (HLS.mdb)
Defra HLS handbook
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-3.1 (c)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The cultural identity of farmland has been maintained or enhanced

Indicator
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (c) man-made point/singular features (e.g., presence of patches of trees or the possibility of viewing heritage thanks to vegetation management, etc.) (%)

Scheme
Organic Entry Level Stewardship (OELS)

Answer
27% of agreements

Explanation of Sources and calculations
The following OELS options relate to the protection of traditional buildings, archaeological features, or singular landscape features such as trees and ponds.

<table>
<thead>
<tr>
<th>Management options (measures) for the restoration of historic features</th>
<th>Area or number</th>
<th>Number of agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of in-field trees</td>
<td>5259 trees</td>
<td>221</td>
</tr>
<tr>
<td>Buffering of in-field ponds</td>
<td>13 ha</td>
<td>18</td>
</tr>
<tr>
<td>Protection of archaeological features</td>
<td>802 ha</td>
<td>53</td>
</tr>
<tr>
<td>Maintenance of traditional farm buildings</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>262</td>
</tr>
</tbody>
</table>

References to data sources
GENESIS database (OELS.mdb)
Defra OELS handbook
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria: The cultural identity of farmland has been maintained or enhanced

Indicator: Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).

Scheme: ESA/CSS/ELS/OELS/HLS

Answer: 3% of agreements

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  

Indicator ref. VI.3-3.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The cultural identity of farmland has been maintained or enhanced

Indicator  
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
At least 10% of agreements with new access created through Open Access and educational access. Open access covers 12% of the area in CSS.

Explanation of Sources and calculations

There are 1206 agreements for open access of which 602 for educational access. 9817 ha are covered by access agreements (Open Access). This is access funded under CSS which is over and above that already available through Public Rights of Way.

The answer does not take account of the amount of surrounding ESA land that might viewed as a result of these agreements and no other information was available on other opportunities for experiencing traditional activities.

The CSS scheme promotes traditional farming practices for land and associated environmental features (such as field boundaries) under agreement. There are a wide variety of measures that sustain traditional land use and traditional land management practices (such as shepherding, heather burning, tree pollarding, hedge laying, hay making, water level management, seasonal grazing).

References to data sources

AESIS database (CSS.mdb)
Chapter VI. Agri-Environment Schemes  

Indicators ref. VI.3-3.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**  
The cultural identity of farmland has been maintained or enhanced

**Indicator**  
Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).

**Scheme**  
Environmentally Sensitive Area (ESA)

**Answer**  
<1% of agreements and <1% of the area (100 agreements covering 154 ha)

**Explanation of Sources and calculations**

Only new opportunities for experiencing traditional activities by the general public are accounted for. There are 30 RDR compliant agreements with provision for new access in 11 ESAs. Total area of this new access land under agreement is 154 ha.

The answer does not take account of the amount of surrounding ESA land that might viewed as a result of these agreements and no other information was available on other opportunities for experiencing traditional activities.

The ESA scheme was set up to promote traditional farming practices for land and associated environmental features (such as field boundaries) under agreement. There are a wide variety of measures that sustain traditional land use and traditional land management practices (such as shepherding, heather burning, tree pollarding, hedge laying, hay making, water level management, seasonal grazing).

**References to data sources**

AESIS database (ESA.mdb)  
Scheme literature
Chapter VI. Agri-Environment Schemes

Indicator ref. VI.3-3.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The cultural identity of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).</td>
</tr>
<tr>
<td>Scheme</td>
<td>Entry Level Stewardship (ELS)</td>
</tr>
<tr>
<td>Answer</td>
<td>0%</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
There are no options relating to access or traditional activities under ELS.

References to data sources
Defra ELS handbook
### Chapter VI.  Agri-Environment Schemes  

**Indicator ref.  VI.3-3.1 (d)**

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The cultural identity of farmland has been maintained or enhanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).</td>
</tr>
<tr>
<td>Scheme</td>
<td>Higher Level Stewardship (HLS)</td>
</tr>
<tr>
<td>Answer</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

There are 164 agreements (23%) with access options. These include permissive access, access for people with reduced mobility, bridleway/ cycle path access and educational access.

**References to data sources**

GENESIS database (HLS.mdb)  
Defra HLS handbook
Chapter VI. Agri-Environment Schemes  Indicator ref. VI.3-3.1 (d)

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The cultural identity of farmland has been maintained or enhanced

Indicator  Farmland under agreement contributing to the maintenance/enhancement of cultural/historical characteristics of the zone (number of sites/objects, and hectares/kilometres) (d) experiencing traditional activities (%).

Scheme  Organic Entry Level Scheme (OELS)

Answer  0%

Explanation of Sources and calculations
There are no options relating to access or traditional activities under OELS.

References to data sources
Defra OELS handbook
Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values).

Indicator
Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description). Additionally unquantifiable benefits have been reported in terms of adding value and consumer choice.

Scheme
ESA (plus CSS, ELS, OELS, HLS and OFS but not quantified)

Answer
There are 100 agreements covering 154 ha that are covered by ESA access agreements (Public Access). Other benefits have not been quantified, but some evidence available of likely benefits and value. No benefit studies have been done for CSS. A benefit study commissioned by MAFF on the South Downs and Somerset Levels and Moors ESA using the contingent valuation method (CVM) indicated that the net annual public benefits greatly exceeded financial costs either to the EC or UK. ESA policy in these two areas was seen to give very high VFM. An evaluation of educational access under CSS and HLS found that whilst it was difficult to quantify the return on investment in educational access, benefits were being delivered to teachers, students and farmers. Socio-economic studies of grant-funded (including CSS and ESA) traditional farm building restoration and wall repair in the Yorkshire Dales and the Lake District have shown considerable benefits including the creation of employment, inputs into the local economy, support for craft skills, advantages to farm businesses and landscape enhancement for residents and visitors.

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-4.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  
The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

Indicator  
Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description)

Scheme  
Countryside Stewardship Scheme (CSS)

Answer  
No benefit studies have been done for CSS. A benefit study commissioned by MAFF on the South Downs and Somerset Levels and Moors ESA using the contingent valuation method (CVM) indicated that the net annual public benefits greatly exceeded financial costs either to the EC or UK. ESA policy in these two areas was seen to give very high VFM. It is not unreasonable to expect similar findings on a study of CSS agreements.

An evaluation of educational access under CSS and HLS found that whilst it was difficult to quantify the return on investment in educational access, benefits were being delivered to teachers, students and farmers.

A socio-economic study of grant-funded (including CSS) traditional farm building restoration and wall repair in the Yorkshire Dales has shown considerable benefits including the creation of employment, inputs into the local economy, support for craft skills, advantages to farm businesses and landscape enhancement for residents and visitors.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th></th>
<th>Benefits (willingness to pay)</th>
<th>Expenditure (UK and EC)</th>
<th>Expenditure (EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>South Downs ESA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitors and residents</td>
<td>48,682</td>
<td>2160</td>
<td>970</td>
</tr>
<tr>
<td>General public</td>
<td>31,153</td>
<td>2160</td>
<td>970</td>
</tr>
<tr>
<td><strong>Somerset Levels ESA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitors and residents</td>
<td>10,758</td>
<td>2540</td>
<td>1859</td>
</tr>
<tr>
<td>General public</td>
<td>41987</td>
<td>2540</td>
<td>1859</td>
</tr>
</tbody>
</table>

There is evidence that these benefits may be overstated (Whitby 2000) and the results are generally viewed as indicative of the level of benefit achieved.
References to data sources
Defra AESIS database (CSS.mdb)


Chapter VI. Agri-Environment Schemes

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

Indicator
Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description)

Scheme
Environmentally Sensitive Area (ESA)

Answer
There are 100 agreements covering 154 ha that are covered by access agreements (Public Access).

A benefit study commissioned by MAFF on the South Downs and Somerset Levels and Moors ESA using the contingent valuation method (CVM) indicated that the net annual public benefits greatly exceeded financial costs either to the EC or UK. ESA policy in these two areas was seen to give very high VFM.

Explanation of Sources and calculations

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Benefits (willingness to pay)</th>
<th>Expenditure (UK and EC)</th>
<th>Expenditure (EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>South Downs ESA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitors and residents</td>
<td>48,682</td>
<td>2160</td>
<td>970</td>
</tr>
<tr>
<td>General public</td>
<td>31,153</td>
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<td>970</td>
</tr>
<tr>
<td><strong>Somerset Levels ESA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitors and residents</td>
<td>10,758</td>
<td>2540</td>
<td>1859</td>
</tr>
<tr>
<td>General public</td>
<td>41987</td>
<td>2540</td>
<td>1859</td>
</tr>
</tbody>
</table>

There is evidence that these benefits may be overstated (Whitby 2000) and the results are generally viewed as indicative of the level of benefit achieved.

Socio-economic studies of grant-funded (including ESA) traditional farm building restoration and wall repair in the Yorkshire Dales and the Lake District have shown considerable benefits including the creation of employment, inputs into the local economy, support for craft skills, advantages to farm businesses and landscape enhancement for residents and visitors.

References to data sources
Defra AESIS database (ESA.mdb)
Chapter VI. Agri-Environment Schemes  

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Organic Farming Scheme (OFS)</td>
</tr>
<tr>
<td>Answer</td>
<td>Unquantifiable benefits have been reported in terms of adding value and consumer choice.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
CRER (2002) reported that 29% of organic farmers surveyed had developed a range of value-adding initiatives, including various direct marketing and on-farm processing activities. This can be argued to have a wider benefit to society through direct access to local food and non-GMO food. However, Enteleca found that only 5% of the use of organic ingredients in meals was only rated as a key factor by 5% of holiday makers and that there is no perceived relationship between ‘local’ and ‘organic’.

The diversification benchmarking exercise by the University of Exeter (2003) found that on-farm tourism is reliant on proximity to major tourist-based attractions. This cannot be reconciled with organic farming directly.

In conclusion, protected/improved landscape structures and functions associated with organic farming are unlikely to generate tourism per se but the development of local food networks involving organic produce (and other local speciality food) does offer rural development benefits in terms of employment and consumer choice.

References to data sources
To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria
The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

Indicator
Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description). Additionally unquantifiable benefits have been reported in terms of adding value and consumer choice.

Scheme
Entry Level Scheme (ELS)

Answer
No benefit studies have been done for ELS

Explanation of Sources and calculations

References to data sources
Chapter VI. Agri-Environment Schemes  
Indicator ref. VI.3-4.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

Criteria  The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

Indicator  Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description). Additionally unquantifiable benefits have been reported in terms of adding value and consumer choice.

Scheme  Higher Level Scheme (HLS)

Answer  No benefit studies have been done for HLS.

Explanation of Sources and calculations
A benefit study commissioned by MAFF on the South Downs and Somerset Levels and Moors ESA using the contingent valuation method (CVM) indicated that the net annual public benefits greatly exceeded financial costs either to the EC or UK. ESA policy in these two areas was seen to give very high VFM. It is not unreasonable to expect similar findings on a study of HLS agreements.

An evaluation of educational access under CSS and HLS found that whilst it was difficult to quantify the return on investment in educational access, benefits were being delivered to teachers, students and farmers.

Socio-economic studies of grant-funded (including CSS and ESA) traditional farm building restoration and wall repair in the Yorkshire Dales and the Lake District have shown considerable benefits including the creation of employment, inputs into the local economy, support for craft skills, advantages to farm businesses and landscape enhancement for residents and visitors. Similar benefits are expected from HLS.

References to data sources
Chapter VI.  Agri-Environment Schemes  

Indicator ref. VI.3-4.1

To what extent have landscapes been maintained or enhanced by agri-environmental measures?

**Criteria**  
The protection/improvement landscape structures and functions relating to farmland results in societal benefits/values (amenity values)

**Indicator**  
Evidence of societal benefits/value resulting from the protected/improved landscape structures and functions (description). Additionally unquantifiable benefits have been reported in terms of adding value and consumer choice.

**Scheme**  
Organic Entry Level Scheme (OELS)

**Answer**  
No benefit studies have been done for OELS

**Explanation of Sources and calculations**

**References to data sources**


Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

To what extent have the supported investments helped to increase the competitiveness of agricultural products through improved and rationalised processing and marketing of agricultural products?

Criteria
Rational procedures in assisted processing and marketing lines

Indicator
Evidence of more rational processing and marketing procedures (description, beneficiaries having ISO9000)

Scheme
Processing and Marketing Grant (PMG)

Answer
Uptake of more rational processing and marketing procedures is evident from PMG scheme monitoring data. The effect at country level is negligible in view of the limited scale of the programme.

Explanation of Sources and calculations
Scheme monitoring data records that 157 of 292 (54%) supported projects involved improvement or rationalisation of processing procedures or marketing channels. However, this percentage should be interpreted with care because it does not represent the percentage of projects with a single or main objective as rationalisation of processing or marketing procedures; rather, it represents the percentage of all projects recording some impact on processing or marketing. This is a result of the fact that quite a number of supported projects reported contributing to one or more of the PMG scheme objectives and it is not possible to identify one single main objective for each supported project from the limited information provided in the brief project descriptions in the monitoring data. This means that the achievement of individual objectives needs to be interpreted carefully. A detailed breakdown of the distribution of projects and the objectives they reported contributing to is shown in the following table.

<table>
<thead>
<tr>
<th>Project Objectives</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply new technologies</td>
<td>52</td>
<td>18%</td>
</tr>
<tr>
<td>Encourage the better use or elimination of by products or waste</td>
<td>36</td>
<td>12%</td>
</tr>
<tr>
<td>Encourage the development of new outlets for agricultural products</td>
<td>70</td>
<td>24%</td>
</tr>
<tr>
<td>Favour innovative investments</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Guide production in line with foreseeable market trends</td>
<td>105</td>
<td>36%</td>
</tr>
<tr>
<td>Improve and monitor health conditions</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Improve and monitor quality</td>
<td>58</td>
<td>20%</td>
</tr>
<tr>
<td>Improve or rationalise marketing channels</td>
<td>51</td>
<td>17%</td>
</tr>
<tr>
<td>Improve or rationalise processing procedures</td>
<td>140</td>
<td>48%</td>
</tr>
<tr>
<td>Improve the presentation and preparation of products</td>
<td>70</td>
<td>24%</td>
</tr>
<tr>
<td>Protect the environment</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Other objective</td>
<td>16</td>
<td>5%</td>
</tr>
<tr>
<td>Total no. of projects contributing by objectives</td>
<td>674</td>
<td>230%</td>
</tr>
<tr>
<td>Total no. of supported businesses</td>
<td>292</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the case studies (7) in the PMG Evaluation (Elliott J et al, 2003), all businesses took the opportunity to upgrade their processing lines to improve efficiency and product quality and presentation. There is no data on the uptake of ISO standards.
References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.

Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.1-2.1

To what extent have the supported investments helped to increase the competitiveness of agricultural products through improved and rationalised processing and marketing of agricultural products?

Criteria
Rational procedures in assisted processing and marketing lines

Indicator
Capacity-use in assisted processing & marketing lines (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
[To be completed].

Explanation of Sources and calculations

The final monitoring data shows that 157 of 292 (54%) supported projects involved improvement or rationalization of processing procedures or marketing channels. At the evaluation of PMG, (Elliott J et al, 2003), in the 7 case studies there was no evidence of increased capacity use, as all businesses were at full capacity before investment. The investment was often driven by the need to expand facilities and at that point in time <2 years from the start of the projects, capacity had been increased but was not fully utilised.

References to data sources
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.1-3.1

To what extent have the supported investments helped to increase the competitiveness of agricultural products through improved and rationalised processing and marketing of agricultural products?

Criteria
Rational procedures in assisted processing and marketing lines

Indicator
Change in processing/marketing costs per unit of basic product (%) thanks to assistance

Scheme
Processing and Marketing Grant (PMG)

Answer
<5% (estimate)

Explanation of Sources and calculations
PMG monitoring indicates that 157 of the 292 (54%) supported projects involved improvement or rationalisation of processing procedures or marketing channels. From the case studies (7) in the PMG Evaluation (Elliott J et al, 2003), there was evidence that economies of scale and more labour-efficient new technology would achieve savings in unit costs of production. The scale of saving – mainly labour – was modest at 5-10% - much of which would be offset by increased depreciation on new facilities in the short-medium term.

As the number of projects for which this information is available is low, the answer has been presented as a percentage rather than €/t by commodity.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.

Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.2-1.1

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria
The intrinsic quality of processed/marketed agricultural products is improved

Indicator
Share of agricultural basic products contained in processed/marketed products with improved intrinsic quality from assistance (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
<30 %

Explanation of Sources and calculations
Monitoring data indicates that 87 of 292 (30%) successful applicants improved the presentation and preparation of products, or improved and monitored quality. As explained earlier, this percentage represents proportion of projects reporting some contribution to this aim rather than the share of projects with the main aim of improving presentation and preparation of products, or improving and monitoring quality. On this basis, the proportion of projects in this category relative to total PMG assisted businesses needs to be interpreted with care. The proportion is unlikely to be higher than that achieved in the wider food processing industry (non-assisted peers). It is not possible to differentiate the reason for this improvement in intrinsic quality from the information available.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.2-1.1(a)

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria
The intrinsic quality of processed/marketed agricultural products is improved

Indicator
Share of agricultural basic products contained in processed/marketed products with improved intrinsic quality from assistance (%) (a) due to systematic quality monitoring (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
<20%

Explanation of Sources and calculations
Monitoring data indicates that 58 of 292 (20%) successful applicants improved and monitored quality. A detailed breakdown of the distribution of project objectives is shown in the following table.

<table>
<thead>
<tr>
<th>Project Objectives</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply new technologies</td>
<td>52</td>
<td>18%</td>
</tr>
<tr>
<td>Encourage the better use or elimination of by products or waste</td>
<td>36</td>
<td>12%</td>
</tr>
<tr>
<td>Encourage the development of new outlets for agricultural products</td>
<td>70</td>
<td>24%</td>
</tr>
<tr>
<td>Favour innovative investments</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Guide production in line with foreseeable market trends</td>
<td>105</td>
<td>36%</td>
</tr>
<tr>
<td>Improve and monitor health conditions</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Improve and monitor quality</td>
<td>58</td>
<td>20%</td>
</tr>
<tr>
<td>Improve or rationalise marketing channels</td>
<td>51</td>
<td>17%</td>
</tr>
<tr>
<td>Improve or rationalise processing procedures</td>
<td>140</td>
<td>48%</td>
</tr>
<tr>
<td>Improve the presentation and preparation of products</td>
<td>70</td>
<td>24%</td>
</tr>
<tr>
<td>Protect the environment</td>
<td>25</td>
<td>9%</td>
</tr>
<tr>
<td>Other objective</td>
<td>16</td>
<td>5%</td>
</tr>
<tr>
<td>Total no. of projects reporting contributing to objectives</td>
<td>674</td>
<td>230%</td>
</tr>
<tr>
<td>Total no. of supported businesses</td>
<td>292</td>
<td>100%</td>
</tr>
</tbody>
</table>

As explained earlier, this percentage represents proportion projects reporting contributing to all objectives rather than the share of projects with the main aim as improving and monitoring quality. On this basis, together with the fact that it is difficult to differentiate the reason for this improvement in intrinsic quality from the information available, the proportion of projects in this category relative to total PMG assisted businesses needs to be interpreted with care. Therefore, it is not clear whether or not the proportion is higher than that achieved in the wider food processing industry (non-assisted peers).

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.2-1.1(b)

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria
The intrinsic quality of processed/marketed agricultural products is improved

Indicator
Share of agricultural basic products contained in processed/marketed products with improved intrinsic quality from assistance (%) (b) due to improved homogeneity within and/or between batches (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
It is not possible to differentiate from available information

Explanation of Sources and calculations
Monitoring data indicates that 87 of 292 (30%) successful applicants improved the presentation and preparation of products, or improved and monitored quality. However, it is not possible to differentiate the reason for this improvement in quality from the information available.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria
Uptake of quality labels has increased

Indicator
Share of marketed products sold with quality label (number of products and %)

Scheme
Processing and Marketing Grant (PMG)

Answer
15%

Explanation of Sources and calculations
The information available on labels from the monitoring data is the project descriptions. Wherever an organic produce is involved, it is a certain sign of using organic/quality labeling. However, information on labeling for the rest of the projects which are not related to organic produce is not well recorded in the monitoring data. Current information in the monitoring data (project description) indicates that 44 out of 292 (15%) supported projects used local/company brands to differentiate and add value to their produce, excluding organic produce. This compares with an estimated 10% of food and drink companies nationally which are classified as specialty, a majority of which will use local/regional labels. The level of labeling is therefore higher than for non-assisted peers.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.2-2.1 (a)

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria

Uptake of quality labels has increased

Indicator

Share of marketed products sold with quality label (number of products and %) (a)
EU-level labelling schemes (%)

Scheme

Processing and Marketing Grant (PMG)

Answer

7%

Explanation of Sources and calculations

The only information available for this is the organic labeling, which is an EU-level labeling scheme. There are 20 (7%) out of 292 supported projects involving organic produce.

References to data sources

PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria: Uptake of quality labels has increased
Indicator: Share of marketed products sold with quality label (number of products and %) (b)
national-level labelling schemes (%)
Scheme: Processing and Marketing Grant (PMG)
Answer: No evidence of uptake from documentation or monitoring data

Explanation of Sources and calculations
No evidence from documentation or monitoring data of uptake of national-level labeling schemes.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria: Uptake of quality labels has increased
Indicator: Share of marketed products sold with quality label (number of products and %) (c) other labelling schemes (%)
Scheme: Processing and Marketing Grant (PMG)
Answer: 8%

Explanation of Sources and calculations
Monitoring data indicates that 24 (8%) out of 292 successful applicants for which monitoring data is available used local/company brands to differentiate and add value to their produce, excluding organic produce.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.2-3.1

To what extent have the supported investments helped to increase the added value and competitiveness of agricultural products by improving their quality?

Criteria
Higher added value in financial terms thanks to improved quality

Indicator
Added value in assisted processing & marketing lines (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
29.8% but see notes below.

Explanation of Sources and calculations
Changes in value adding were not directly recorded but value added is a reflection of the product presentation and quality. There are 87 of 292 (29.8%) assisted projects recorded as having made an improvement in the quality or presentation of the products. As indicated before, this percentage needs to be interpreted with care (because projects frequently reported more than one objective) and is unlikely to be above the level for non-assisted businesses.

It is clear from the survey and case studies in the PMG evaluation (Elliott J et al. 2003) that quality improvements achieved through investment are generally used to develop market share rather than increase financial value adding. To some extent these may be added-value markets but they will normally displace non-assisted businesses and there is no net gain. This will have consequences for suppliers of raw material to these businesses – the main benefit is sustained or increased volume of orders rather than increased prices.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England

Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.3-1.1

To what extent have the supported investments improved the situation of the basic agricultural production sector?

Criteria
Demand for and price of basic agricultural products assured or improved

Indicator
Positive trend in quantity/price of raw product (assured/improved)

Scheme
Processing and Marketing Grant (PMG)

Answer
Evidence of upward trend in quantity but no evidence of price trend.

Explanation of Sources and calculations

The best evidence remains that reported at the MTE: In the PMG survey of successful applicants (Elliott J et al., 2003), 41 out of 45 respondents (91%) stated that the scheme had allowed their business to grow – this can be inferred as additional quantity of raw product. The case studies demonstrated that the average growth in volume of output/input was 22% to date with a target growth of 38%.

While the sample was very small, this is likely to be indicative of growth for the 91% of projects that have expanded production. This should not be confused with wider market demand as much of the new growth will have displaced competitor demand. The limited number of assisted projects means that there is not sufficient data to give meaningful figures by commodity but the table below shows the breakdown of projects by commodity in 2002 to highlight where any growth in demand is concentrated.

<table>
<thead>
<tr>
<th>Main sector</th>
<th>Total eligible cost ('000 EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>9207</td>
</tr>
<tr>
<td>Milk and dairy products</td>
<td>13994</td>
</tr>
<tr>
<td>Cereals</td>
<td>3609</td>
</tr>
<tr>
<td>Oilseeds</td>
<td>203</td>
</tr>
<tr>
<td>Wines and alcohols</td>
<td>141</td>
</tr>
<tr>
<td>Fruit and vegetables</td>
<td>19955</td>
</tr>
<tr>
<td>Flowers and plants</td>
<td>2572</td>
</tr>
<tr>
<td>Potato</td>
<td>5950</td>
</tr>
<tr>
<td>Other crop products</td>
<td>1934</td>
</tr>
<tr>
<td>Other products</td>
<td>1898</td>
</tr>
</tbody>
</table>

In terms of price, there is no evidence to suggest that the value of raw materials is increased for assisted projects – rather, projects claim that these outlets are secured for existing suppliers or new suppliers are taken on. While this may represent a higher price to new suppliers, this cannot be assumed or demonstrated from the data.

References to data sources


Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.3-1.2

To what extent have the supported investments improved the situation of the basic agricultural production sector?

Criteria
Demand for and price of basic agricultural products assured or improved

Indicator
Share (within area of programme) of gross sales of basic agricultural products that are sold to outlets safeguarded or created thanks to assistance (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
0.23%

Explanation of Sources and calculations
The best evidence remains that from the MTE:
Gross Output from farming in England in 2002 was €18,856 million (Defra, 2003). The cumulative number of projects assisted to December 2002 was 79 and the average turnover – based on the PMG Evaluation survey (Elliott J et al, 2003) – is estimated at €13 million. On the basis that these businesses are primary processors, an estimated 50% of this figure represents raw material purchased. Taken as a percentage of gross agricultural output, the share of gross sales represented by assisted business is 0.03%. It is assumed that the entire basic product bought by these businesses is safeguarded by the assistance.

Adjusting for the situation at the Ex Post Evaluation there are 269 assisted projects likely to have a turnover of €44 million which is 0.23% of €18,856 million.

References to data sources
Defra 2003. Agriculture in the UK


Mid Term Evaluation of the ERDP (ADAS & SQW, 2003)
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.3-2.1

To what extent have the supported investments improved the situation of the basic agricultural production sector?

Criteria
Co-operation developed between the producers of basic agricultural products and processing/marketing stages

Indicator
Share of supply of basic products to beneficiary producers (processing) or marketers that depends on multi-annual contracts or equivalent instruments (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
38%

Explanation of Sources and calculations
The best evidence remains the MTE and Evaluation of PMG in 2003. The PMG Evaluation survey (Elliott J et al, 2003) indicated that 17 of the 45 responding beneficiaries (38%) stated that the project ‘involved producers directly in food processing and marketing’ – this represents a commitment to producers. In addition, the monitoring data indicates that 40 of the 79 assisted projects (51%) involved an increase in amount of locally produced/sourced raw material – less than 100% of supplies to these projects will be on a multi-annual basis.

Very few products are sold to marketers on a contract basis (multi-annual or otherwise) – the exception in recent years has been organic milk.

Therefore the figure of 38% relates entirely to producers.

References to data sources

Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.4-1.1

To what extent have the supported investments improved health and welfare?

| Criteria | Health and welfare concerns are appropriately integrated into the programme |
| Indicator | Share of assisted investments in processing and marketing related to health and welfare (% of total cases) |
| Scheme | Processing and Marketing Grant (PMG) |
| Answer | 8.6% |

Explanation of Sources and calculations

Analysis of project descriptions from monitoring data and PMG Evaluation survey (Elliott J et al, 2003) indicate that no assisted projects to date relate to health and welfare (to improve the nutritive and hygiene quality of products for human consumption) per se.

There are 25 out of 292 project from monitoring data (8.56%) claimed to have contributed to the objective of improving health conditions. However, it is difficult to decide whether or not these are the main objectives of these projects according to the brief project descriptions recorded. Two projects from the 292 projects mentioned improved staff facilities/working conditions in their project description and a further two mentioned improved hygiene, the majority of investments will arguably improve provision for working conditions out of concerns to comply with current health and safety and hygiene legislation rather than on a voluntary basis.

References to data sources

PROBIS scheme monitoring data: PMG.xls supplied by Natural England
### Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.4-1.1 (a)

**To what extent have the supported investments improved health and welfare?**

**Criteria**

Health and welfare concerns are appropriately integrated into the programme

**Indicator**

Share of assisted investments in processing and marketing related to health and welfare (% of total cases) (a) to improve the nutritive and hygiene quality of products for human consumption (%)

**Scheme**

Processing and Marketing Grant (PMG)

**Answer**

0.7% (but see notes)

**Explanation of Sources and calculations**

According to the monitoring data are 25 projects claimed to have contributed to the aim of improving health and welfare, two out of which (0.7%) mentioned to improve hygiene in their project description. However, it is difficult to identify whether or not these are the main objectives of these projects. The more detailed PMG Evaluation survey (Elliott J et al, 2003) indicates that no assisted projects relate to health and welfare (to improve the nutritive and hygiene quality of products for human consumption) per se. As mentioned before, it is always the case that supported investments will improve the nutritive and hygiene quality of products to comply with statutory quality and hygiene standards rather than on a voluntary basis. Hygienic quality is such an essential aspect of all food processing that it seems likely that it has not always been separately recorded in the monitoring data where improvements happened corollary to increased capacity.

**References to data sources**

PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
To what extent have the supported investments improved health and welfare?

**Criteria**
Health and welfare concerns are appropriately integrated into the programme

**Indicator**
Share of assisted investments in processing and marketing related to health and welfare (% of total cases) (b) to improve the nutritive and hygiene quality of animal feed (%)

**Scheme**
Processing and Marketing Grant (PMG)

**Answer**
3%

**Explanation of Sources and calculations**
Eight of the 292 projects listed in the monitoring data (3%) relate to animal feed manufacture.

Analysis of project descriptions from monitoring data and PMG Evaluation survey (Elliott J et al, 2003) indicate that no assisted projects to date relate to health and welfare (to improve the nutritive and hygiene quality of animal feed) per se. A number of projects may deliver this as a side effect of the application of better processes or quality procedures.

**References to data sources**
PMG Scheme monitoring data.
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.4-1.1 (c)

To what extent have the supported investments improved health and welfare?

Criteria

Health and welfare concerns are appropriately integrated into the programme

Indicator

Share of assisted investments in processing and marketing related to health and welfare (% of total cases) of which aiming to improve workplace safety (%)

Scheme

Processing and Marketing Grant (PMG)

Answer

N/A Defra Baseline Study

Explanation of Sources and calculations

References to data sources

ERDP Baseline Report (Berkely Hill et al, 2002)
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.4-1.1 (d)

To what extent have the supported investments improved health and welfare?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Health and welfare concerns are appropriately integrated into the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of assisted investments in processing and marketing related to health and welfare (% of total cases) (d) of which aiming to improve animal welfare (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Processing and Marketing Grant (PMG)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A Defra Baseline Study</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
N/A Defra baseline report

References to data sources
ERDP Baseline Report (Berkely Hill et al, 2002)
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.4-2.1

To what extent have the supported investments improved health and welfare?

Criteria
Animals transported or handled for slaughter do not infect live animals

Indicator
Trend in spread of contagious diseases during handling and transport of animals for slaughter related to assistance (description, e.g., frequency of incidents)

Scheme
Processing and Marketing Grant (PMG)

Answer
N/A

Explanation of Sources and calculations
N/A ERDP baseline assessment

References to data sources
ERDP Baseline Report (Berkely Hill et al, 2002)
To what extent have the supported investments improved health and welfare?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Workplace conditions improved for persons involved in processing and marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Trend in workplace conditions related to assistance (description, e.g., frequency of reported incidents)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Processing and Marketing Grant (PMG)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
N/A ERDP baseline assessment

References to data sources
ERDP Baseline Report (Berkely Hill et al, 2002)
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.5-1.1

To what extent have the supported investments protected the environment?

Criteria
Profitable outlets for basic agricultural products linked to environmentally positive farming have been provided

Indicator
Capacity created or upgraded for processing/marketing of basic agricultural products resulting from environmentally positive farming (tons)

Scheme
Processing and Marketing Grant (PMG)

Answer
Quantity not available and obtaining data would result in disproportionate costs. However, 7% of projects meet this criteria

Explanation of Sources and calculations
Monitoring data (project descriptions) indicates that 20 out of 292 projects (7%) of projects involve organic produce. Given the wide spread of produce covered by these projects, there is no reliable data on tons of produce.

Monitoring data and project descriptions indicate no projects relating to crops for renewable energy or traditional non-food land uses.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.5-1.1 (a)

To what extent have the supported investments protected the environment?

Criteria
Profitable outlets for basic agricultural products linked to environmentally positive farming have been provided

Indicator
Capacity created or upgraded for processing/marketing of basic agricultural products resulting from environmentally positive farming (tons) (a) of which processing/marketing of products produced by farmers respecting environmental obligations verified or regulated by contractual obligations or an equivalent instrument (tons)

Scheme
Processing and Marketing Grant (PMG)

Answer
Quantity not available and obtaining data would result in disproportionate costs. However, 7% of projects meet this criteria

Explanation of Sources and calculations
Monitoring data (project descriptions) indicates that 20 out of 292 projects (7%) of projects involve organic produce all of these meet this criteria. Given the wide spread of produce covered by these projects, there is no reliable data on tons of produce.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England.
To what extent have the supported investments protected the environment?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Profitable outlets for basic agricultural products linked to environmentally positive farming have been provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Capacity created or upgraded for processing/marketing of basic agricultural products resulting from environmentally positive farming (tons) (b) crops for renewable energy or traditional non-food land uses (e.g. cork) (ton)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Processing and Marketing Grant (PMG)</td>
</tr>
<tr>
<td>Answer</td>
<td>Nil</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Monitoring data and project descriptions indicate no projects in this category.

**References to data sources**

PROBIS scheme monitoring data: PMG.xls supplied by Natural England
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

Indicator ref. VII.5-2.1

To what extent have the supported investments protected the environment?

Criteria
The assisted operations relating to processing or marketing exceed minimum environmental standards

Indicator
Share of processing and marketing lines introducing environmental improvements (%)

Scheme
Processing and Marketing Grant (PMG)

Answer
53%

Explanation of Sources and calculations

The scheme monitoring data indicates that 25 (8%) of 292 successful applicants with objectives to protect the environment. However, this often relates to meeting the statutory environmental requirements rather than making improvements. Therefore, the direct effect in environmental improvements is limited. Analysis of the project descriptions of these 25 projects suggests environmental improvements were not a direct aim for any of these projects but rather a result of collateral effects.

Elliott J et al (2003) in their survey of successful applicants asked which scheme objectives related to their project. Twenty-four of 45 (53%) indicated that ‘Protect the environment’ did apply but none ticked this box as a main scheme objective. It has been assumed from this and from the case studies (7) that all environmental improvement is a collateral effect of investing in new facilities and technology and the need to comply with current and anticipated standards. This is as a collateral effect of the investment rather than a primary objective.

References to data sources

PROBIS scheme monitoring data: PMG.xls supplied by Natural England

To what extent have the supported investments protected the environment?

Criteria: The assisted operations relating to processing or marketing exceed minimum environmental standards

Indicator: Share of processing and marketing lines introducing environmental improvements, of which: (a) with environmental improvement as the direct aim (%)

Scheme: Processing and Marketing Grant (PMG)

Answer: 0%

Explanation of Sources and Calculations
Monitoring data indicate that 25 projects claimed to have contributed to the protection of the environment. This represents 8% of the total 292 supported projects. However, analysis of project descriptions of these projects shows that environmental improvements are not direct aims for any of them but rather a collateral effect of other objectives.

References to Data Sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

To what extent have the supported investments protected the environment?

Criteria  The assisted operations relating to processing or marketing exceed minimum environmental standards

Indicator  Share of processing and marketing lines introducing environmental improvements, of which: (b) with environmental improvement as a collateral effect (%)

Scheme  Processing and Marketing Grant (PMG)

Answer  53%

Explanation of Sources and calculations
Analysis of the project descriptions in the monitoring data shows that there are 25 projects claimed to have contributed to the improvements of the environment as a collateral effect to achieve other objectives.

Elliott J et al (2003) in their survey of successful applicants asked which scheme objectives related to their project. Twenty-four of 45 (53%) indicated that ‘Protect the environment’ did apply but none ticked this box as a main scheme objective. It has been assumed from this and from the case studies (7) that all environmental improvement is a collateral effect of investing in new facilities and technology and the need to comply with current and anticipated standards.

References to data sources
PROBIS scheme monitoring data: PMG.xls supplied by Natural England
Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

To what extent have the supported investments protected the environment?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The assisted operations relating to processing or marketing exceed minimum environmental standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of processing and marketing lines introducing environmental improvements, of which: (c) investments going beyond standards concerning emissions (waste, sewage, smoke) from the processing and marketing sites (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Processing and Marketing Grant (PMG)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and obtaining data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

Not possible to answer this question specifically without consultation with successful businesses. The question was not included in the survey of successful beneficiaries at the MTE and PMG Evaluation as it was considered that respondents would not have sufficient knowledge of emission standards – most will assume that new equipment at least meets current standards and has some future-proofing.

Evidence from case studies suggests that most new technology and most applicants incorporate some future-proofing in terms of emissions. The benefits are therefore collateral effects rather than project drivers and there is insufficient information to answer the question.

References to data sources

PROBIS scheme monitoring data: PMG.xls supplied by Natural England
## Chapter VII. Improving Processing Procedures and Marketing of Agricultural Products

### Indicator ref. VII.5-2.1 (d)

To what extent have the supported investments protected the environment?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The assisted operations relating to processing or marketing exceed minimum environmental standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of processing and marketing lines introducing environmental improvements, of which: (d) assisted investments concerning resource use and environmental effects of the products after leaving the processing/marketing site (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Processing and Marketing Grant (PMG)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and obtaining data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

### Explanation of Sources and calculations

Not possible to answer this question specifically without consultation with successful businesses.

Evidence from case studies in the PMG evaluation (Elliott J et. al, 2003) suggests that most new technology and most applicants incorporate some future-proofing in terms of environmental standards (resource use and environmental effects of the products after leaving the processing/marketing site). The benefits are therefore collateral effects rather than project drivers.

New technology will be more resource efficient with regard to water but the scale of the PMG budget is such that the country level impact will be negligible.

### References to data sources

PROBIS scheme monitoring data: PMG.xls supplied by Natural England  
To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria: Increase of wooded area on previous agricultural and non-agricultural land

Indicator: Area of assisted plantings (hectares)

Scheme: All Schemes

Answer: Total planted = 45,223 ha

Explanation of Sources and calculations
Area planted on agricultural land = 36,878 ha
Area planted on non-agricultural land = 8,345 ha

References to data sources
See WGS/FWPS and EWGS on following pages.
To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Increase of wooded area on previous agricultural and non-agricultural land

Indicator
Area of assisted plantings (hectares)

Scheme
Woodland Grant Scheme (WGS) and Farm Woodland Premium Scheme (FWPS)

Answer
Total planted = 43,519ha

Explanation of Sources and calculations
Area planted on agricultural land = 35,433ha
Area planted on non-agricultural land = 8,086ha

<table>
<thead>
<tr>
<th>Arable</th>
<th>17006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass</td>
<td>18427</td>
</tr>
<tr>
<td>Total agricultural</td>
<td>35433</td>
</tr>
<tr>
<td>Non-agricultural</td>
<td>8086</td>
</tr>
<tr>
<td>TOTAL</td>
<td>43519</td>
</tr>
</tbody>
</table>

References to data sources
FC Grants & Licenses
Chapter VIII. Forestry

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria

Increase of wooded area on previous agricultural and non-agricultural land

Indicator

Area of assisted plantings (hectares)

Scheme

English Woodland Grant Scheme (EWGS)

Answer

1,704 ha

Explanation of Sources and calculations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable</td>
<td>699</td>
</tr>
<tr>
<td>Grass</td>
<td>746</td>
</tr>
<tr>
<td>Total agricultural</td>
<td>1445</td>
</tr>
<tr>
<td>Non-agricultural</td>
<td>259</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1704</td>
</tr>
</tbody>
</table>

References to data sources

EWGS data.
To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands

Indicator
Anticipated additional average annual increment (m3/hectare/year)

Scheme
Woodland Grant Scheme (WGS)

Answer
New planting = 4.55m3/ha/annum

Explanation of Sources and calculations
2,337ha of conifers have been planted with a potential increment of 10m3/ha/annum
23,387ha of broadleaves have been planted with a potential increment of 4m3/ha/annum

No data available on additional average increment from support for EXISTING woodlands

Potential increments based on yield classification system used by FC for other reporting requirements: 10m3 for coniferous and 4m3 for broad leaved woodland

References to data sources
FC Grants & Licenses
To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Anticipated additional average annual increment (m³/hectare/year)</td>
</tr>
<tr>
<td>Scheme</td>
<td>English Woodland Grant Scheme (EWGS)</td>
</tr>
</tbody>
</table>

**Answer**  
See previous answer

**Explanation of Sources and calculations**

**References to data sources**
Chapter VIII. Forestry

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicator</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands</td>
<td>Anticipated additional average annual increment (m3/hectare/year) of which (a) in new plantings (% and hectares concerned)</td>
<td>Woodland Grant Scheme (WGS) &amp; Farm Woodland Premium Scheme (FWPS)</td>
</tr>
<tr>
<td>Answer: 100%, 25,724ha</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Based on a total growing stock of 138,000,000m3 (in 2000)
A yield class of 4m3/ha/annum has been used for broadleaves and 10m3/ha/annum for the conifers.

References to data sources
FC Grants & Licenses
Chapter VIII. Forestry

To what extent are forest resources being maintained and enhanced through the programme: (I) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands

Indicator
Anticipated additional average annual increment (m3/hectare/year) of which (a) in new plantings (% and hectares concerned)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
No data available on new plantings under EWGS

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.1.A-2.1 (b)

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria

Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands

Indicator

Anticipated additional average annual increment (m3/hectare/year) of which (b) new woodland resource brought into active management

Scheme

Woodland Grant Scheme (WGS) (WGS)

Answer

Information not available. Obtaining data would result in disproportionate cost.

Explanation of Sources and calculations

Since 2000, 11,986ha of undermanaged woodlands have been improved under the Woodland Improvement Grant (Project 2).

It is not possible to calculate the effect that this will have average annual increment. Most of the benefits will come from improving the quality of the resource rather than the quantity of the resource. Over 75% of the area relates to broadleaf woodlands.

References to data sources

FC Grants & Licenses
To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Anticipated increase in volume of growing stock thanks to planting of new woodland and improvement of existing woodlands

Indicator
Anticipated additional average annual increment (m³/hectare/year) of which (b) new woodland resource brought into active management

Scheme
English Woodland Grant Scheme (EWGS)

Answer
Information not available. Obtaining data would result in disproportionate cost.

Explanation of Sources and calculations
Since 2000, 307,664ha of woodland has been managed under WGS and EWGS, of which 182,760ha has been improved under Annual Management Grants for WGS and EWGS.

It is not possible to calculate the effect that this will have on average annual increment. Most of the benefits will come from improving the quality of the resource rather than the quantity of the resource.

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.1.A-3.1

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Anticipated improvement in quality (assortment, diameter) and structure of growing stock thanks to forest improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Trend in structure/quality parameters (description e.g. including hardwood/softwood, diameter-evolution, straightness, knots.....)</td>
</tr>
<tr>
<td>Scheme</td>
<td>WGS/FWPS/ECS</td>
</tr>
<tr>
<td>Answer</td>
<td>Upward trend cannot quantify</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources

See answer sheets for individual scheme for explanation
Chapter VIII. Forestry

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Anticipated improvement in quality (assortment, diameter) and structure of growing stock thanks to forest management

Indicator
Trend in structure/quality parameters (description e.g. including hardwood/softwood, diameter-evolution, straightness, knots.....)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
Upward trend – cannot quantify

Explanation of Sources and calculations
76% of private woodlands are currently broadleaved but the composition is gradually changing in favour of broadleaves and towards greater diversity of species and structure. The WGS/EWGS and FWPS encouraged planting and restocking with broadleaved species through higher grant rates, and annual payments under the FWPS are 15 years for mainly broadleaves and 10 years for mainly conifers. The percentage of broadleaves in new planting is currently around 90%.

The UK Forestry Standard states that where conifers are to be felled, the restocking is to be done with at least 5% broadleaves and where felling areas are large; the proportion of broadleaves is to be increased further. Where conifers are to be replanted, the standard also states that at least 5% should be with a different conifer species to add further diversity.

The Woodland Improvement Grant (WIG 2) is also helping to improve the quality and structure of the growing stock, by giving financial assistance towards felling, uneconomic thinning, selection felling and the rehabilitation of coppice.

References to data sources


To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

**Criteria**: Anticipated improvement in quality (assortment, diameter) and structure of growing stock thanks to forest improvement

**Indicator**: Trend in structure/quality parameters (description e.g. including hardwood/softwood, diameter-evolution, straightness, knots.....)

**Scheme**: Energy Crop Scheme (ECS)

**Answer**: The ECS will have no direct impact on forest quality since these are generally monoculture species harvested on very short rotations with little premium for form or quality.

**Explanation of Sources and calculations**

SRC production is fundamentally focused on biomass quantity production – plant form structure and shape not predominant issues. The increased uptake of these crops will stimulate crop breeding programmes that will ultimately influence issues that relate to ease of harvest (stem straightness, number and diameter) and this is already happening in the case of willow (Lindgaard et al., 2001). SRC producer groups will probably engender high production standards and procure higher quality planting material than situations where growers are acting singly. There is no evidence to support the assertion that ECS will stimulate other forms of forestry production.

**References to data sources**

Chapter VIII. Forestry

To what extent are forest resources being maintained and enhanced through the programme: (i) particularly by influencing land-use and the structure and quality of the growing stock?

Criteria
Anticipated improvement in quality (assortment, diameter) and structure of growing stock thanks to forest improvement

Indicator
Trend in structure/quality parameters (description e.g. including hardwood/softwood, diameter-evolution, straightness, knots.....)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
Upward trend – cannot quantify

Explanation of Sources and calculations
See previous answer to indicator 1.A-3.1 for trends in structure/quality parameters as a result of WGS/EWGS.

References to data sources
To what extent are forest resources being maintained and enhanced through the programme: particularly by influencing the total carbon storage in (existing and new) forest stands?

**Criteria**
There is additional build up of carbon in the growing stock of new (and existing woodlands).

**Indicator**
Average annual net carbon storage from 2000-2012 thanks to assistance (millions of tonnes/year)

**Scheme**
Woodland Grant Scheme (WGS) (WGS) & Farm Woodland Premium Scheme (FWPS) (FWPS)

**Answer**
0.18 MtC/year

**Explanation of Sources and calculations**
There is no data on the increase in carbon storage thanks to support for existing woodlands. The average annual net carbon storage from assisted new woodlands is expected to rise from 0.1MtC/yr in 2000 to 0.2 – 0.3MtC/yr in 2012, assuming planting levels are maintained at current levels (average 0.18MtC/year)

Calculated from FC figures for Carbon sequestration from new planting in the UK, adjusted to reflect the proportion from assisted new plantings in England.

Total carbon storage in England’s woodlands will however peak in 2005 and then, despite the increase in new woodlands, it is predicted to reduce each year until 2016. This is due to the large amount of planting in the 1960’s, which will be felled between 2005 and 2016.

**References to data sources**
FC. 2002. UK Indicators of Sustainable Forestry
Chapter VIII. Forestry  

Indicator ref. VIII.1.B-1.1

To what extent are forest resources being maintained and enhanced through the programme: particularly by influencing the total carbon storage in (existing and new) forest stands?

Criteria
There is additional build up of carbon in the growing stock of new (and existing woodlands).

Indicator
Average annual net carbon storage from 2000-2012 thanks to assistance (millions of tonnes/year)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
See previous answer

Explanation of Sources and calculations

References to data sources
To what extent are forest resources being maintained and enhanced through the programme: particularly by influencing the total carbon storage in (existing and new) forest stands?

**Criteria**
There is additional build up of carbon in the growing stock of new (and existing woodlands).

**Indicator**
Trend in average annual net carbon storage beyond 2012 (millions of tons/year)

**Scheme**
Woodland Grant Scheme (WGS) (WGS) and Farm Woodland Premium Scheme (FWPS) (FWPS)

**Answer**
Upward trend 0.05Mt/year until 2020

**Explanation of Sources and calculations**
Beyond 2012, the forest sink is expected to increase, through new woodland planting by 0.2 – 0.3 MtC/yr, rising to 0.4 – 0.6MtC/yr in 2020 (trend 0.05Mt/year)
Despite the increase in carbon storage from new woodlands, the total mass of carbon in England’s woodlands will peak in 2005 and then reduce each year until 2016. This is due to an increase in the total volume felled – from woodlands planted in the 1960’s).

**References to data sources**
To what extent are forest resources being maintained and enhanced through the programme: particularly by influencing the total carbon storage in (existing and new) forest stands?

**Criteria**
- There is additional build up of carbon in the growing stock of new (and existing woodlands).

**Indicator**
- Trend in average annual net carbon storage beyond 2012 (millions of tons/year)

**Scheme**
- English Woodland Grant Scheme (EWGS)

**Answer**
- See previous answer

**Explanation of Sources and calculations**

**References to data sources**
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and encouragement of the productive functions on forest holdings?

Criteria
More rational production of forest products (or services)

Indicator
Short/medium term changes in operating cost for silviculture, harvesting, transport and stocking operations due to assistance/m3

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
The best evidence remains that prepared for the MTE:
There is no known baseline information on costs, so it has not been possible to record changes. The FC has carried out some research into establishment costs and these are shown below. These could provide some useful baseline data.

<table>
<thead>
<tr>
<th>Establishment scheme</th>
<th>Total plan Area (ha)</th>
<th>Unit costs Yr 0 £</th>
<th>Unit costs To year 5 £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. area under WGS alone</td>
<td>3.0</td>
<td>2,165</td>
<td>4,300</td>
</tr>
<tr>
<td>Smaller area under WGS alone</td>
<td>1.5</td>
<td>2,705</td>
<td>5,070</td>
</tr>
<tr>
<td>Native woods - new planting</td>
<td>5.0</td>
<td>3,110</td>
<td>4,740</td>
</tr>
<tr>
<td>Native woods - Nat. regen.</td>
<td>1.6</td>
<td>4,345</td>
<td>6,145</td>
</tr>
<tr>
<td>Av. area WGS/FWPS</td>
<td>4.0</td>
<td>4,025</td>
<td>5,950</td>
</tr>
<tr>
<td>Larger area WGS/FWPS</td>
<td>25.0</td>
<td>2,452</td>
<td>3,820</td>
</tr>
<tr>
<td>Ave. all schemes</td>
<td></td>
<td>3,133</td>
<td>5,004</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Ave. all schemes added by ADAS

References to data sources
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and encouragement of the productive functions on forest holdings?

Criteria More rational production of forest products (or services)

Indicator Short/medium term changes in operating cost for silviculture, harvesting, transport and stocking operations due to assistance/m3

Scheme English Woodland Grant Scheme (EWGS)

Answer See answer above.

Explanation of Sources and calculations

References to data sources
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and encouragement of the productive functions on forest holdings?

Criteria: More rational production of forest products (or services)

Indicator: Share of holdings being connected to association of forest holders or similar organisation (%)

Scheme: Energy Crop Scheme (ECS)

Answer: Not applicable ERDP Baseline Study.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry  

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria: More activities/employment on holdings

Indicator: Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year)

Scheme: WGS/ECS (No information for EWGS)

Answer: Between 5.6 (WGS) and 6.5 (ECS) hours/ha/year

Explanation of Sources and calculations
See answer sheets for individual scheme for explanation
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities/employment on holdings

Indicator
Activity on holdings from {planting/improvement works} plus {anticipated work from the assisted action in the short/mid term} (hours/hectare/year)

Scheme
ECS

Answer
6.5 hours/ha/year

Explanation of Sources and calculations

The best evidence remains the MTE answer:
Survey results indicate only a modest amount of on-farm labour is diverted to ECS activities, suggesting little likelihood of job creation. 70% of ECS beneficiaries see no impact on their fixed cost base, indicating neutral employment impacts.
Survey evidence indicates significant contractor use that will result in job creation. However most activity is in the period March –April for planting and November/December for harvesting, traditionally quiet times on farm holdings.
The following table presents the average number of man days spent on post planting and harvesting activities for SRC:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-planting crop care</td>
<td>4</td>
</tr>
<tr>
<td>Harvesting</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Assuming an 8 hour day this equates to 66.4 hours /holding/year
With a total of 215ha planted on 21holdings this equates to 6.5 hours/ha/day.

Note: one off activities involved with planting are not included in this figure.

Scheme beneficiaries were asked whether they anticipated that the ECS would have an impact on their farm fixed cost base. Only 20% thought that it might have an impact on the fixed cost base, suggesting little impact on farm-based rural employment.
A recent report (Elliott et al., 2003) indicated that bioenergy was the only RE form that created significant dispersed rural economic income, primarily through cropping contractors.

References to data sources
ADAS.2003.Survey of WGS beneficiaries for ERDP MTE
Chapter VIII. Forestry  

Indicator ref. VIII.2.B-1.1

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year)

Scheme

Woodland Grant Scheme (WGS)

Answer

5.6 hours/ha/year

Explanation of Sources and calculations

The best evidence remains the ME answer:

322FTE for 4573ha = 0.704 days/holding/year or 5.6 hours/holding/year (based on 220 X 8 hour day/year)

Based on labour costs of Model EA

Planting - £600/1000 broadleaved trees - total costs = £4,115,700
Beating up - £210/1000 trees – total costs = £1,455,300
Weeding - £110/ha x 3 years = £330/ha - total costs = £1,509,090
Total establishment labour costs = £7,080,090 (£1,548/ha)

Total labour costs/annual cost per person = £7,080,090/£22,000 = 322 full time equivalents/year

Other figures used

Area planted 2002-03 – 4,573ha
7048 beneficiaries (equivalent to holdings) in 2002-2003
Assumed 1,500 trees per hectare planted
Labour cost - £100/day (FC Indicative costs)

References to data sources

ADAS.2003.Survey of WGS beneficiaries for ERDP MTE
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria: More activities/employment on holdings

Indicator: Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year)

Scheme: English Woodland Grant Scheme (EWGS)

Answer: Not available without disproportionate cost.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.B-1.1 (a)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (a) falling in periods where agricultural activity level is below the capacity on combined farm/forest holdings (hours/holding/year + number of holding concerned)

Scheme

WGS/ECS

Answer

66 – 80 hours per holding per year

Explanation of Sources and calculations

See answer sheets for individual scheme for explanation.

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.B.1.1 (a)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities/employment on holdings

Indicator
Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (a) falling in periods where agricultural activity level is below the capacity on combined farm/forest holdings (hours/holding/year + number of holding concerned)

Scheme
Energy Crop Scheme (ECS)

Answer
From the MTE: 66.4 hours/holding/year.

Explanation of Sources and calculations

The best evidence remains that from the MTE:
Survey results indicate only a modest amount of on-farm labour is diverted to ECS activities, suggesting little likelihood of job creation. 70% of ECS beneficiaries see no impact on their fixed cost base, indicating neutral employment impacts.
Survey evidence indicates significant contractor use that will result in job creation. However most activity is in the period March –April for planting and November/December for harvesting, traditionally quiet times on farm holdings.
The following table presents the average number of man days spent on post planting and harvesting activities for SRC:

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<td>4</td>
</tr>
<tr>
<td>Harvesting</td>
<td>4.3</td>
</tr>
</tbody>
</table>

This implies that an average of 8.3 days/holding/year or 66.4 hours/holding/year spent on planting/improvement works.

Scheme beneficiaries were asked whether they anticipated that the ECS would have an impact on their farm fixed cost base. Only 20% thought that it might have an impact on the fixed cost base, suggesting little impact on farm-based rural employment.
A recent report (Elliott et al., 2003) indicated that bioenergy was the only RE form that created significant dispersed rural economic income, primarily through cropping contractors.

References to data sources
MTE Scheme Supplementary questionnaire (questions 7 & 8)
Chapter VIII. Forestry

Indicator ref. VIII.2.B-1.1 (a)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities/employment on holdings

Indicator
Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (a) falling in periods where agricultural activity level is below the capacity on combined farm/forest holdings (hours/holding/year + number of holding concerned)

Scheme
Woodland Grant Scheme (WGS) (WGS)

Answer
Total activity 80hrs/holding/year on WGS funded work and nil holdings. There are rarely periods of labour surplus on combined farm forestry holdings in England.

Explanation of Sources and calculations

The best evidence remains that from the MTE:
322FTE for 7048 holdings = 10 days/holding/year or 80 hours/holding/year (based on 220 day/year)

Based on labour costs of Model EA
Planting - £600/1000 broadleaved trees - total costs = £4,115,700
Beating up - £210/1000 trees – total costs = £1,455,300
Weeding - £110/ha x 3 years = £330/ha - total costs = £1,509,090
Total establishment labour costs = £7,080,090 (£1,548/ha)
Total labour costs/annual cost per person =£7,080,090/£22,000 = 322 full time equivalents/year based upon 2002/3 data

Other figures used
Area planted 2002-03 – 4,573ha
7048 beneficiaries (equivalent to holdings) in 2002-2003
Assumed 1,500 trees per hectare planted
Labour cost - £100/day (FC Indicative costs)
There were 15894 WGS beneficiaries (equivalent to holdings) in 2000/03.

References to data sources
ADAS. 2003. Survey of WGS beneficiaries for ERDP MTE
FC Grants & Licenses
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from {planting/improvement works} plus {anticipated work from the assisted action in the short/mid term} (hours/hectare/year) (a) falling in periods where agricultural activity level is below the capacity on combined farm/forest holdings (hours/holding/year + number of holding concerned)

Scheme

English Woodland Grant Scheme (EWGS)

Answer

[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.B-1.1 (b)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities/employment on holdings

Indicator
Activity on holdings from (planting/ improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (b) leading to additional or maintained employment on forest holdings (full time equivalents/year)

Scheme
WGS/ECS

Answer
150 FTE (ECS contribution insignificant)

Explanation of Sources and calculations

References to data sources
See answer sheets for individual scheme for explanation
Chapter VIII. Forestry

Indicator ref. VIII.2.B-1.1 (b)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from (planting/improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (b) leading to additional or maintained employment on forest holdings (full time equivalents/year)

Scheme

Energy Crop Scheme (ECS)

Answer

Survey results indicate only a modest amount of on-farm labour is diverted to ECS activities, suggesting little likelihood of job creation. Survey evidence indicates significant contractor use which will result in job creation. The establishment phase will lead to 0.1 FTE per holding. The medium term will enable 0.05FTE per holding – a significant proportion of which will be contractor activity (harvesting, handling and haulage of biomass)

Explanation of Sources and calculations

The best evidence remains that from the MTE:

The initial stages of energy cropping (establishment and post establishment husbandry (excluding harvest) were investigated by survey of participating Holdings. The following Table presents the average number of man days spent on each activity:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application process</td>
<td>2.2</td>
</tr>
<tr>
<td>Contract negotiation</td>
<td>1.1</td>
</tr>
<tr>
<td>Land preparation</td>
<td>4.4</td>
</tr>
<tr>
<td>Planting</td>
<td>5.2</td>
</tr>
<tr>
<td>Post-planting crop care</td>
<td>3.8</td>
</tr>
</tbody>
</table>

These figures exclude contractor activities which were significant. As a percentage of all activity, contractor effort was as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn Sprays</td>
<td>30%</td>
</tr>
<tr>
<td>Cultivation</td>
<td>30%</td>
</tr>
<tr>
<td>Seed bed preparation</td>
<td>20%</td>
</tr>
<tr>
<td>Pre-planting sprays</td>
<td>25%</td>
</tr>
<tr>
<td>Planting</td>
<td>80%</td>
</tr>
<tr>
<td>Fencing</td>
<td>45%</td>
</tr>
<tr>
<td>Cut-back</td>
<td>65%</td>
</tr>
<tr>
<td>Fertiliser application</td>
<td>20%</td>
</tr>
</tbody>
</table>

In addition, 80% of growers plan to use contractors for harvesting. Harvesting (Dec-Feb) will be an out-of-season activity that may therefore contribute to job preservation and rural incomes.

Supplementary scheme survey has indicated that an average of 19.6 man days were taken on establishing the energy crops. Supplementary scheme survey indicated that only 61% of activity during establishment was undertaken by staff retained by the holding, the remainder was undertaken by contractors. Assuming similar work rates, this would indicate that an additional 7.6 days/holding activity was undertaken by contractors, giving an overall effort of 27.2 days/holding. Assuming a working year of 220 days, this equates to 0.1 man years.

Annual operations in the medium term will include triennial husbandry and harvesting for SRC.
Labour for both crops is unlikely to exceed 0.5 days/ha/yr (this includes harvesting, handling and haulage of biomass). The ECS has 21 holdings and a total of 415 hectares indicating that each holding is 19.8 ha. Thus the FTE activity per holding will equate to 9.8 days, less than 5% of a FTE year.

A recent report (Elliott et al., 2003) indicated that bio-energy was the only RE form that created significant dispersed rural economic income, primarily through cropping contractors.

References to data sources

Scheme Supplementary questionnaire (questions 7 & 8)
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from (planting/ improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (b) leading to additional or maintained employment on forest holdings (full time equivalents/year)

Scheme

Woodland Grant Scheme (WGS)

Answer

150 FTE activities on holdings

Explanation of Sources and calculations

MTE Answer:

Based on labour costs of Model EA
Planting - £600/1000 broadleaved trees - total costs = £4,115,700
Beating up - £210/1000 trees – total costs = £1,455,300
Weeding - £110/ha x 3 years = £330/ha - total costs = £1,509,090
Total establishment labour costs = £7,080,090 (£1,548/ha)
Total labour costs/annual cost per person = £7,080,090/£22,000 = 322 full time equivalents/year

Other figures used
Area planted 2002-03 – 4,573ha
Assumed 1,500 trees per hectare planted
Labour cost - £100/day (FC Indicative costs)
Proportion of input using holding labour 33% (based upon WGS survey Q41)

Ex Post Estimate:

Average area planted 2000 – 2006 was 6,460 ha which was 141% of the MTE assumption of 4,573 ha. 141% of 106 = 150 FTE.

References to data sources

ADAS. 2003. Survey of WGS beneficiaries for ERDP MTE
WGS employment.xls
FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.2.B-1.1 (b)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities/employment on holdings

Indicator

Activity on holdings from (planting/ improvement works) plus (anticipated work from the assisted action in the short/mid term) (hours/hectare/year) (b) leading to additional or maintained employment on forest holdings (full time equivalents/year)

Scheme

English Woodland Grant Scheme (EWGS)

Answer

No information available but in general woodland has a lower labour input than farmland in England. Some information may be available from the Ex Post Evaluation survey.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.B-2.1

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities in rural community, due to primary or secondary production on holdings or due to initial processing and marketing stages

Indicator
Volume of short/medium term supply of basic forest products for small scale, local processing (m3/year)

Scheme
Energy Crop Scheme (ECS)

Answer
44,250 ton/year
WGS/FWPS N/A Defra Baseline Study

Explanation of Sources and calculations
4425 ha of SRC have been planted. SRC will be harvested 3 or 4 years after planting. Yield maturity (i.e. maximum economic yields) will be achieved by the second harvest cycle for SRC. Average annualised yields 10t/yr for SRC. Therefore the output of SRC is 44,250 tons per year.

References to data sources
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
More activities in rural community, due to primary or secondary production on holdings or due to initial processing and marketing stages

Indicator
Employment in the short/medium term outside holdings (full time equivalents/year)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)
Note: ECS not applicable- Defra Baseline Study

Answer
455 FTE

Explanation of Sources and calculations

MTE answer:
Alternative measure of upstream employment used
322 full time equivalents/year (contractors) used to plant and maintain new WGS & WGS/FWPS funded woodlands

Based on labour costs of Model EA
- Planting - £600/1000 broadleaved trees - total costs = £4,115,700
- Beating up - £210/1000 trees – total costs = £1,455,300
- Weeding - £110/ha x 3 years = £330/ha - total costs = £1,509,090
Total establishment labour costs = £7,080,090 (£1,548/ha)
Total labour costs/annual cost per person = £7,080,090/£22,000 = 322 full time equivalents/year

Other figures used
- Area planted 2002-03 – 4,573ha
- Assumed 1,500 trees per hectare planted
- Labour cost - £100/day (FC Indicative costs)

Estimate for Ex Post Evaluation
Average rate of planting 2000 – 2006 = 6,460 ha per year which is 141% of the MTE assumption. 141% of 322 FTE = 455 FTE.

References to data sources
- FC.2002. Indicative costs (www.forestry.gov.uk)
- Ex Post answer to question VIII.1.A-1.1
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria

More activities in rural community, due to primary or secondary production on holdings or due to initial processing and marketing stages

Indicator

Employment in the short/medium term outside holdings (full time equivalents/year)

Scheme

English Woodland Grant Scheme (EWGS)

Answer

No information available.

Explanation of Sources and calculations

References to data sources
**Chapter VIII. Forestry**

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

**Criteria**  
Greater attractiveness of area for local populations or rural tourists

**Indicator**  
Additional attractive/valuable area or sites due to assistance (c.f. Question 3, chapter VI)

**Scheme**  
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**  
9,519 ha

**Explanation of Sources and calculations**

3,076 ha have been planted in the National Forest (2000-2006) under the WGS (including FWPS).  
2,967 ha have been planted in the South West Forest (2000-2006) under the WGS (including FWPS).  
3,476 ha have been planted in the Community Forests (2000-2006) under the WGS (including FWPS).  
These forests are all within areas of high populations.  
90% of the new woodlands in the National Forest are open to the public.

**References to data sources**

Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
Greater attractiveness of area for local populations or rural tourists

Indicator
Additional attractive/valuable area or sites due to assistance (c.f. Question 3, chapter VI)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
368 ha

Explanation of Sources and calculations

368ha have been planted in Community Forests (2006) under the EWGS.

References to data sources
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

**Criteria**
- Maintaining or increasing income in rural areas

**Indicator**
- Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)

**Scheme**
- Energy Crop Scheme (ECS)

**Answer**
- [To be completed]

**Explanation of Sources and calculations**

**References to data sources**
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria: Maintaining or increasing income in rural areas

Indicator: Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries. Additional sustainable income on holdings

Scheme: Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer: No information available.

Explanation of Sources and calculations

References to data sources
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

**Criteria**
- Maintaining or increasing income in rural areas

**Indicator**
- Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)

**Scheme**
- English Woodland Grant Scheme (EWGS)

**Answer**
- No information available

**Explanation of Sources and calculations**

**References to data sources**
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

**Criteria**
- Maintaining or increasing income in rural areas

**Indicator**
- Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)

**Scheme**
- Energy Crop Scheme (ECS)

**Answer**
[To be completed]

**Explanation of Sources and calculations**
Bioenergy schemes are the only renewable energy systems that provide significant economic multipliers in rural communities. 31% of activities associated with establishing energy crops was undertaken by contractors.

Evidence collected to date from ECS indicates that a high proportion of activities during the crop establishment phase is undertaken by contractors.

**References to data sources**
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
   Maintaining or increasing income in rural areas
Indicator
   Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries. Additional sustainable income on holdings
Scheme
   Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)
Answer
   Zero

Explanation of Sources and calculations
Grants do not provide ‘additional’ increased income as payments are based on income forgone. As there is a high initial costs in relation of woodland creation, there is likely to be a loss of income overall in the short term.

References to data sources
FC Grants & Licenses
Defra.May 2003 SSB database
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria: Maintaining or increasing income in rural areas
Indicator: Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)
Scheme: English Woodland Grant Scheme (EWGS)
Answer: As above.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry  

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria  
Maintaining or increasing income in rural areas

Indicator  
Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)

Scheme  
Energy Crop Scheme (ECS)

Answer  
[To be completed].

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry  
Indicator ref. VIII.2.B-4.1 (b)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria  
Maintaining or increasing income in rural areas

Indicator  
Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries. Knock on activities or assisted off-farm activities

Scheme  
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer  
Data not available, collection would result in disproportionate costs. However, there is evidence that there will be a positive effect on off-farm activities.

Explanation of Sources and calculations

There is no financial data on knock-on activities or assisted off-farm activities. The ADAS survey at the MTE, however, revealed that 32% of woodland owners provide some or all of their timber for local wood using industries.

Q44 of the ADAS survey of WGS beneficiaries at the MTE (existing woodlands) asked – How much of the timber/wood products from your land is used by local industries. The answers are shown in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>87</td>
<td>57</td>
</tr>
<tr>
<td>Some</td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td>The majority</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>All</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Not stated</td>
<td>16</td>
<td>11</td>
</tr>
</tbody>
</table>

References to data sources

ADAS.2003. WGS Beneficiary Survey for ERDP MTE
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
Maintaining or increasing income in rural areas

Indicator
Income in the short/medium term due to assisted activities (euro/year, number of beneficiaries)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
Information not available.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria
Maintaining or increasing income in rural areas

Indicator
Ratio of (premium for loss of income) to (net-income from previous land use)

Scheme
Farm Woodland Premium Scheme (FWPS)

Answer
The ratio depends upon the land type. The table below shows the ratio of FWPS annual payment for loss of income to income from previous land use for the range of land types.

<table>
<thead>
<tr>
<th>Land type</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable Land</td>
<td></td>
</tr>
<tr>
<td>Outside the LFA</td>
<td>0.55:1</td>
</tr>
<tr>
<td>LFA (DA)</td>
<td>0.44:1</td>
</tr>
<tr>
<td>LFA (SDA)</td>
<td>0.34:1</td>
</tr>
<tr>
<td>Other Improved Land</td>
<td></td>
</tr>
<tr>
<td>Outside the LFA</td>
<td>1.09:1</td>
</tr>
<tr>
<td>LFA (DA)</td>
<td>0.96:1</td>
</tr>
<tr>
<td>LFA (SDA)</td>
<td>1.20:1</td>
</tr>
<tr>
<td>Unimproved Land</td>
<td></td>
</tr>
<tr>
<td>LFA (DA)</td>
<td>1.07:1</td>
</tr>
<tr>
<td>LFA (SDA)</td>
<td>1.07:1</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
In order to adequately compensate participants over the scheme period an adjustment to the payment rate, based on Net Present Value, is used. The ratios above include a ‘raising’ factor of 1.3

References to data sources
Defra Payment Review 2001. Income foregone calculations
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and development of income, employment and other socio-economic functions and conditions?

Criteria    Maintaining or increasing income in rural areas
Indicator   Ratio of (premium for loss of income) to (net-income from previous land use)
Scheme      English Woodland Grant Scheme (EWGS)
Answer      Data not available
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria: Appropriate protection actions undertaken
Indicator: Area planted / managed with a view to protective functions (ha)
Scheme: Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS) and English Woodland Grant Scheme (EWGS)

Answer: N/A

Explanation of Sources and calculations
N/A Defra baseline study

References to data sources
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS) and English Woodland Grant Scheme (EWGS)

Answer
Area = 87,007 ha

Explanation of Sources and calculations
Total of agricultural land = 36,878 ha
Total of brown field sites planted = 8,088 ha
Area of water bodies protected = 42,041 ha

References to data sources
See following pages
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

**Criteria**
Non-woodland and socio-economic interests are protected

**Indicator**
Resources/assets enjoying improved protection due to assisted forest actions (hectare)

**Scheme**
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**
85,303 ha.

**Explanation of Sources and calculations**

- Total of agricultural land = 35,433 ha
- Total of brown field sites planted = 7,829 ha
- Area of water bodies protected (VIII.2.C-2.1(b)) = 42,041 ha

**References to data sources**

- FC Grants & Licenses
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
1,704 ha

Explanation of Sources and calculations
Total of agricultural land = 1,445 ha

References to data sources
EWGS data.
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare) (a) of which agricultural land (%)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS) and EWGS.

Answer
42%

Explanation of Sources and calculations
Total protected area is 87,007 ha of which 36,878 ha is agricultural land.

References to data sources
See following pages for each scheme.
Chapter VIII. Forestry

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare) (a) of which agricultural land (%)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS) (excludes EWGS)

Answer
42%

<table>
<thead>
<tr>
<th></th>
<th>2000-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable</td>
<td>17,006</td>
</tr>
<tr>
<td>Grass</td>
<td>18,427</td>
</tr>
<tr>
<td>Total agricultural</td>
<td>35,433</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
Total protected area is 85,303ha of which 35,433ha is agricultural land
The above table below shows the amount of agricultural land which has been planted with trees, under the WGS and FWPS.

References to data sources
FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.2.C-2.1 (b)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare) (b) of which water bodies (%)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
49%

Explanation of Sources and calculations
Based on woodlands planted within the catchment of lakes, there are 42,041 ha of lakes, which represents 49% of the total area protected.

Over the last three years, woodland has been planted under the WGS scheme within the catchments of 49,041 ha of lakes (14,011 individual lakes). In total, 24,809 ha of woodland (23,577 individual woodlands) have been planted within these catchments. Water bodies may derive some protection from these woodlands in terms of reduced soil erosion or diffuse pollution impacts, dependent on woodland size, lake shape and size, farming practice, terrain and soils.

The Environment Agency Lakes database, which provides information on the location and size (but not shape) of lakes in Great Britain, was used to identify the location of the central points of lakes in England. The Centre for Ecology and Hydrology database of digital elevation (50 x 50 m) was used to derive the catchment area for each lake in the database. The National Inventory of Woodlands and Trees was used to identify all areas planted under the WGS for reference dates 31/03/00, 31/03/01 and 31/03/02. All lakes were identified that contained new woodland planting under WGS in their catchments. A subset of lakes with woodlands within their catchments that were within 1000 m of the central point of the lake was created from this. The WGS figures include plantings also entered into the FWPS.

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.C-2.1 (a)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria

Non-woodland and socio-economic interests are protected

Indicator

Resources/assets enjoying improved protection due to assisted forest actions (hectare) (a) of which agricultural land (%)

Scheme

English Woodland Grant Scheme (EWGS)

Answer

85%

<table>
<thead>
<tr>
<th></th>
<th>2000-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable</td>
<td>699</td>
</tr>
<tr>
<td>Grass</td>
<td>746</td>
</tr>
<tr>
<td><strong>Total agricultural</strong></td>
<td><strong>1445</strong></td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

Total protected area is 1,704ha of which 1,445ha is agricultural land. The above table below shows the amount of agricultural land which has been planted with trees, under the EWGS.

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.2.C-2.1 (c)

To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

Criteria
Non-woodland and socio-economic interests are protected

Indicator
Resources/assets enjoying improved protection due to assisted forest actions (hectare) (c) of which villages, tourist facilities.

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
Information not available, obtaining data would result in disproportionate costs.

Explanation of Sources and calculations
There is no data available which quantifies the villages and towns protected by assisted actions.

However, 7,829ha of ‘brown field sites’ have been planted with WGS/EWGS funding and this represents 9% of the total protected area

References to data sources
FC Grants & Licenses
To what extent have the assisted actions enabled forestry to contribute to the economic and social aspects of rural development: by maintenance and appropriate enhancement of protective functions in forest management?

**Criteria**
Non-woodland and socio-economic interests are protected

**Indicator**
Resources/assets enjoying improved protection due to assisted forest actions (hectare) (c) of which villages, tourist facilities.

**Scheme**
English Woodland Grant Scheme (EWGS)

**Answer**
Information not available, obtaining data would result in disproportionate costs

**Explanation of Sources and calculations**
See previous answer

**References to data sources**
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions

Indicator
Area planted/regenerated/improved with indigenous tree species (hectares) (a) of which in mixture (hectares)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
12,196ha

Explanation of Sources and calculations
12,196ha of indigenous species have been planted in mixture as New Native Woodlands

These plantings have all been created in accordance with FC Bulletin 112. Creating New Native Woodlands, which means that they are comprised of native tree and shrub species appropriate to the site. Species are chosen by reference to the National Vegetation Classification (NVC).

Scheme

<table>
<thead>
<tr>
<th>Scheme</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Native Woodlands</td>
<td>9969.2</td>
</tr>
<tr>
<td>NNW in National Parks Challenge</td>
<td>1410.4</td>
</tr>
<tr>
<td>Exmoor &amp; Dartmoor</td>
<td>153.2</td>
</tr>
<tr>
<td>Lake District</td>
<td>322.2</td>
</tr>
<tr>
<td>North York Moors</td>
<td>229.4</td>
</tr>
<tr>
<td>Northumberland</td>
<td>377.5</td>
</tr>
<tr>
<td>Peak District</td>
<td>111.3</td>
</tr>
<tr>
<td>Yorkshire Dales</td>
<td>216.8</td>
</tr>
<tr>
<td>Jig-saw Challenge</td>
<td>816.4</td>
</tr>
</tbody>
</table>

References to data sources
FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.3.A-1.1

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**
Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions

**Indicator**
Area planted/regenerated/improved with indigenous tree species (hectares) (a) of which in mixture (hectares)

**Scheme**
English Woodland Grant Scheme (EWGS)

**Answer**
See previous answer

**Explanation of Sources and calculations**

**References to data sources**
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions

Indicator
Area planted/regenerated/improved with indigenous tree species (hectares) (a) of which in mixture (hectares)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
9,969.2ha of new native woodland

Explanation of Sources and calculations
These plantings have all been created in accordance with FC Bulletin 112. Creating New Native Woodlands, which means that they are comprised of native tree and shrub species appropriate to the site. Species are chosen by reference to the National Vegetation Classification (NVC).

Scheme

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Native Woodlands</td>
<td>9969.2</td>
</tr>
<tr>
<td>NNW in National Parks Challenge</td>
<td>1410.4</td>
</tr>
<tr>
<td>Exmoor &amp; Dartmoor</td>
<td>153.2</td>
</tr>
<tr>
<td>Lake District</td>
<td>322.2</td>
</tr>
<tr>
<td>North York Moors</td>
<td>229.4</td>
</tr>
<tr>
<td>Northumberland</td>
<td>377.5</td>
</tr>
<tr>
<td>Peak District</td>
<td>111.3</td>
</tr>
<tr>
<td>Yorkshire Dales</td>
<td>216.8</td>
</tr>
<tr>
<td>Jig-saw Challenge</td>
<td>816.4</td>
</tr>
</tbody>
</table>

References to data sources

FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.3.A-1.1 (a)

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria: Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions

Indicator: Area planted/regenerated/improved with indigenous tree species (hectares) (a) of which in mixture (hectares)

Scheme: English Woodland Grant Scheme (EWGS)

Answer: See previous answer

Explanation of Sources and calculations

References to data sources
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**
Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions

**Indicator**
Area planted/regenerated/improved with indigenous tree species (hectares) (b) of which providing in situ conservation of genetic resources (hectares)

**Scheme**
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**
9,969.2ha of new native woodland

**Explanation of Sources and calculations**
Under the WGS, there is however a general requirement that all New Native Woodlands are planted in accordance with the advice given in FC Practice Note 8 Using Local Stock for Planting Trees and Shrubs.

All New Native Woodlands are planted in accordance with FC Bulletin 112. The plantings are based on the National Vegetation Classification (NVC), which ensures that the trees and shrubs match the site type.

See also 3A-1.1 (a)

**References to data sources**
FC Woodland Grant Scheme (WGS) pack
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Genetic and/or species diversity protected/improved by using indigenous tree species or mixtures in assisted actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area planted/regenerated/improved with indigenous tree species (hectares) (b) of which providing in situ conservation of genetic resources (hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>English Woodland Grant Scheme (EWGS)</td>
</tr>
<tr>
<td>Answer</td>
<td>See previous answer</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**
Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

**Indicator**
Critical sites maintained/improved due to assistance (hectares)

**Scheme**
Woodland Grant Scheme (WGS) (WGS)

**Answer**
817.47ha

**Explanation of Sources and calculations**
The table below shows the area planted under the Jig-Saw Challenge. Many of the ancient and semi-natural woodlands in England are fragmented and this discrentional scheme encourages the planting of native woodlands, where they extend or link up existing semi-natural woodlands.

<table>
<thead>
<tr>
<th>Target area</th>
<th>Conservancy</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheshire</td>
<td>North West England</td>
<td>192.21</td>
</tr>
<tr>
<td>NE Pennines AONB</td>
<td>North East England</td>
<td>50.89</td>
</tr>
<tr>
<td>North York Moors National Park</td>
<td>Yorkshire &amp; The Humber</td>
<td>114.66</td>
</tr>
<tr>
<td>Howardian Hills AONB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lincolnshire Limewoods</td>
<td>East Midlands</td>
<td>79.53</td>
</tr>
<tr>
<td>Clun &amp; NW Herefordshire Hills</td>
<td>West Midlands</td>
<td>68.33</td>
</tr>
<tr>
<td>South Suffolk</td>
<td>East England</td>
<td>60.82</td>
</tr>
<tr>
<td>North Essex Clayland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braydon Forest</td>
<td>South West England</td>
<td>71.1</td>
</tr>
<tr>
<td>Isle of Wight</td>
<td>South East England</td>
<td>179.93</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>817.47</strong></td>
</tr>
</tbody>
</table>

**References to data sources**
FC Grants & Licenses
<table>
<thead>
<tr>
<th><strong>Criteria</strong></th>
<th>Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator</strong></td>
<td>Critical sites maintained/improved due to assistance (hectares)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>English Woodland Grant Scheme (EWGS)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>No Jigsaw Challenge scheme under EWGS.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria: Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

Indicator: Critical sites maintained/improved due to assistance (hectares) (a) of which in or linked to Natura 2000 areas (hectares)

Scheme: Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer: 40,643 ha

Explanation of Sources and calculations
A total of 178 sites of WGS planting, encompassing 596 ha, are in or adjacent to Natura 2000 areas. A total of 950 sites of WIG/AMG (WGS) and WIG/WMG (EWGS) with a total of 24,855 ha are in or adjacent to Natura 2000 areas.

In addition, 1,353 ha of new WGS planting (1,088 fields) lie within 500m of Natura 2000 areas, and 13,839 ha (1,454 fields) of managed woodland (WIG/AMG or WIG/WMG). These sites may add wildlife value to such areas.

The following spatial datasets were used in this calculation:
- National Inventory of Woodland and Trees (NIWT; published by the Forestry Commission)
- SAC, SPA and Ramsar site boundaries (published by English Nature)
- WIG1, 2,3,4,5 and AMG from WGS, and WMG and WIG from EWGS for years 2000 to 2006.

All NIWT areas which are under WGS agreements and were planted from Scheme Year 1999 onwards (reference date 31/03/00 and later) were used in this analysis. All sites that were within or adjacent to a Natura 2000 site were selected, and the total area estimated. A second analysis selected all additional sites within 500 m of the Natura 2000 sites.

References to data sources
- FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.3.A-2.1 (a)

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

Indicator
Critical sites maintained/improved due to assistance (hectares) (a) of which in or linked to Natura 2000 areas (hectares)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
See previous answer

Explanation of Sources and calculations

References to data sources
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**  
Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

**Indicator**  
Critical sites maintained/improved due to assistance (hectares) (b) of which protected/restored from natural hazards (hectares)

**Scheme**  
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**  
No data available, obtaining it would result in disproportionate cost.

**Explanation of Sources and calculations**

No specific information available relating to protection from natural hazards, but Jig-saw challenge plantings will provide additional protection to ancient semi-natural woodlands – see Q 3A-2.1

**References to data sources**

FC Grants & Licenses
Chapter VIII. Forestry

Indicator ref. VIII.3.A-2.2

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

Indicator
Trend in protection of vulnerable non-commercial (i.e. non traded forest products) species/varieties of flora and fauna on land subject to assisted actions (description)

Scheme
Woodland Grant Scheme (WGS)

Answer
Upward trend in grants targeting protection of vulnerable species/varieties. Information not available obtaining data would result in disproportionate costs

Explanation of Sources and calculations
A 50% Woodland Improvement Grant (Project 3 – biodiversity) is available for coppice management for rare butterflies and dormice and to protect other vulnerable species and habitats. The grant is also available for preparing and implementing management plans for semi-natural woodlands and for work in important non-woodland habitats. The ADAS survey revealed that 63% of respondents claimed the grant for coppicing, 44% for survey & management plans and 38% for ride management

References to data sources
FC. Woodland Grant Scheme (WGS) Applicants Pack.
Chapter VIII. Forestry

Indicator ref. VIII.3.A-2.2

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Protection/improvement of habitat diversity through the upkeep of representative, rare or vulnerable forest ecosystems, that depend on specific assisted forest infrastructures of silvicultural practices

Indicator
Trend in protection of vulnerable non-commercial (i.e. non traded forest products) species/varieties of flora and fauna on land subject to assisted actions (description)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
No information available.

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

Indicator ref. VIII.3.A-3.1

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

Indicator Area planted in zones with low or missing forest cover (hectares)

Scheme Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer 9519ha

Explanation of Sources and calculations
Between 2000 and 2006, 9,519ha of new woodlands have been planted within the National Forest and Community Forests with WGS funding.

References to data sources
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

Indicator
Area planted in zones with low or missing forest cover (hectares)

Scheme
English Woodland Grant Scheme (EWGS)

Answer
Information not available, obtaining it would result in disproportionate costs

Explanation of Sources and calculations

References to data sources
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**  
Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

**Indicator**  
Area planted in zones with low or missing forest cover (hectares) (a) in or linked to Natura 2000 areas (hectares)

**Scheme**  
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**  
1284ha

**Explanation of Sources and calculations**

367 ha of new woodland have been planted under the WGS scheme (2000 – 2002) within areas of low or missing forest cover, lying within Natura 2000 areas.

In addition, 917 ha have been planted in areas of low or missing forest cover, lying within 500m of Natura 2000 areas, and could add biodiversity value to these areas by linkages.

The WGS figures include plantings also entered into the FWPS

**Low or missing forest cover**
The entire National Inventory of Woodland and Trees (NIWT) was used to estimate the percentage forest cover on a 10 x 10 km grid across England. ‘Low or missing’ forest cover was defined as less than 10% of the total land area in each square.

**WGS field selection**
Fields under WGS agreement for reference dates 31/03/00, 31/03/01 and 31/03/02 were selected from the NIWT to represent the new planting under the ERDP.

**Analysis**
The selection of WGS fields was combined with the most recent boundaries for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites to select both those sites within or directly adjacent to Natura 2000 sites and those within 500 metres of these sites, within the squares identified as having low or missing forest cover.

**References to data sources**
- English country boundary: Kingswood Ltd. (2003)
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**  Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

**Indicator**  Area planted in zones with low or missing forest cover (hectares) (a) in or linked to Natura 2000 areas (hectares)

**Scheme**  English Woodland Grant Scheme (EWGS)

**Answer**  Information not available, obtaining it would result in disproportionate costs.

**Explanation of Sources and calculations**

**References to data sources**
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria
Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

Indicator
Area planted in zones with low or missing forest cover (hectares) (b) forming corridors between isolated habitats (hectares)

Scheme
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

Answer
4514 ha

Explanation of Sources and calculations
There are 4,514 ha of new woodlands planted under the WGS which potentially perform a linking function between previously isolated habitats in areas of low or missing forest cover.

The figure for WGS plantings also includes areas entered into the FWPS.

Forest cover
The same dataset of low or missing forest cover as discussed in VIII.3.A-3.1(a) was used for the analysis. A subset of the National Inventory of Woodland and Trees (NIWT) covering all woodland except those plots planted under the WGS between 2000 and 2002 was used to identify isolated habitats ("existing planting").

Linkage
The dataset of all WGS fields planted between 2000 and 2002 was used to identify newly planted areas ("new planting") within areas of low or missing forest cover. The development of linkages was determined by selecting all "existing planting" fields within 500 m of a "newly planted" field. The algorithm then checked whether these "existing planting" fields would still be linked (with a maximum distance of 500 m) if the "new planting" field did not exist. If the newly planted field genuinely linked new areas together it was counted toward the total area.

References to data sources
AESIS dataset of FWPS planting: Defra (2003)
Coverage of low or missing forest cover: see VIII.3.A-3.1(a)
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

Criteria Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

Indicator Area planted in zones with low or missing forest cover (hectares) (b) forming corridors between isolated habitats (hectares)

Scheme English Woodland Grant Scheme (EWGS)

Answer Information not available, obtaining it would result in disproportionate costs

Explanation of Sources and calculations

References to data sources
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance, conservation and appropriate enhancement of biological diversity?

**Criteria**
Protection/improvement of habitat diversity through beneficial interaction between assisted areas and the surrounding landscape/countryside

**Indicator**
‘Ecotones’ established (forest edge…) of significant value for wild flora and fauna (kilometres)

**Scheme**
Woodland Grant Scheme (WGS) & Farm Woodland Premium Scheme (FWPS)

**Answer**
N/A Defra baseline study

**References to data sources**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Less damage to soil and growing stock from silviculture or harvesting operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Volume of growing stock subject to reduced damage thanks to assisted equipment or infrastructure (m3/year)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A Defra baseline study</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
This question is not applicable for energy crops

**References to data sources**
Hill, B. et al (2002), Defra
To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance of their health and vitality?

Criteria
Prevention of calamities (particularly pests and diseases) through appropriate forest structure and silvicultural practice

Indicator
Area where improved forest structure or silvicultural practice relevant to the prevention of calamities has been introduced (ha)

Scheme
Energy Crop Scheme (ECS)

Answer
N/A Defra baseline study

Explanation of Sources and calculations
This question is not applicable for energy crops

References to data sources
Hill, B. et al (2002), Defra
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance of their health and vitality?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Production potential protected or restored from damage arising from natural hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Area protected or restored from damage arising from natural hazards (including fire) (ha)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Energy Crop Scheme (ECS)</td>
</tr>
<tr>
<td>Answer</td>
<td>N/A Defra baseline study</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
This question is not applicable for energy crops

**References to data sources**
Hill, B. et al (2002), Defra
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance of their health and vitality?

Criteria

Less damage to soil and growing stock from silviculture or harvesting operations

Indicator

Volume of growing stock subject to reduced damage thanks to assisted equipment or infrastructure (m3/year)

Scheme

Woodland Grant Scheme (WGS) (WGS)

Answer

Information not available, obtaining it would result in disproportionate costs

Explanation of Sources and calculations

There is no quantitative data on volume of growing stock subject to reduced damage. However, all assisted work has to be carried out in accordance with the UK Forestry Standard (i.e. for sustainable forestry management). The UKFS has 6 Standard Notes - SN1 - General Forestry Practice, SN2 – Creating New Woodland, SN3 – Creating ‘New Native Woodland’, SN4 – Felling and Restocking Planted Woodland, SN5 – Managing Semi-Natural Woodland, SN6 – Planting and Managing Small Woods. These notes cover all aspects of sustainable forestry management including soil and water protection. Beneficiaries can also obtain more detailed information from a series of “Guidelines” produced by the FC covering – conservation, landscape, recreation, archaeology, soil and water.

References to data sources

FC.1998. The UK Forestry Standard
Chapter VIII. Forestry

To what extent have the assisted actions contributed to the ecological functions of forests: by maintenance of their health and vitality?

**Criteria**  Less damage to soil and growing stock from silviculture or harvesting operations

**Indicator**  Volume of growing stock subject to reduced damage thanks to assisted equipment or infrastructure (m³/year)

**Scheme**  English Woodland Grant Scheme (EWGS)

**Answer**  No information available.

**Explanation of Sources and calculations**

**References to data sources**
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.1-1.1.

To what extent has the income of the rural population been maintained or improved?

Criteria
To what extent has the income of the rural population been maintained or improved

Indicator
Share of farming population's income generated by assisted actions (€/beneficiary, no. concerned)

Scheme
Rural Enterprise Scheme (RES)

Answer
Positive effect, 3,697 beneficiaries

Explanation of Sources and calculations
Evidence at the MTE from the survey indicates that 44% of RES beneficiaries indicated that the ERDP had resulted in some contribution to their income and a further 34% stated it had resulted in a significant contribution to their income. With 445 agreements this will result in 347 beneficiaries having their income increase. However, obtaining data that would enable a €/beneficiary calculation to be made would have resulted in disproportionate costs.

Q 72 Main ERDP Survey
What has been the effect that the ERDP has had on your Business?

<table>
<thead>
<tr>
<th>Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative effect (i.e. it has cost me money)</td>
<td>13</td>
</tr>
<tr>
<td>No effect (i.e. cost neutral)</td>
<td>27</td>
</tr>
<tr>
<td>Some contribution to income</td>
<td>131</td>
</tr>
<tr>
<td>Significant Contribution to income</td>
<td>100</td>
</tr>
<tr>
<td>Don't know</td>
<td>17</td>
</tr>
<tr>
<td>Not stated</td>
<td>10</td>
</tr>
</tbody>
</table>

At the ex post evaluation the monitoring data contains 4,439 supported projects (chapter 9 measures) which relate to 3,697 supported holdings.

References to data sources
ERDP MTE
PROBIS scheme monitoring data: RES.xls supplied by Natural England.
Chapter IX. Promoting the Adaptation and Development of Rural Areas  
Indicator ref. IX.1-1.1 (a)

To what extent has the income of the rural population been maintained or improved?

Criteria
To what extent has the income of the rural population been maintained or improved

Indicator
Share of farming population's income generated by assisted actions (€/beneficiary, no. concerned) of which (a) gross farm income from improved agriculture or transactions generated by off-farm assistance (%)

Scheme
Rural Enterprise Scheme (RES)

Answer
RES must have a relatively small impact considering the small proportion of RES aided farms relative to the large farming population.

Explanation of Sources and calculations
In the mid-term evaluation, respondents to the main ERDP survey were asked what had been the financial effect of ERDP (in this case RES), on their business. An analysis of the main ERDP survey questions 70 and 72 were cross referenced for RES beneficiaries and the resulting numbers were 298 respondents for RES of which 131 stated there had been some contribution and 100 stated there had been significant contribution. But when this proportion of the 3,697 beneficiaries (at the Ex Post Evaluation) are compared to the 173,000 full time farms (approx.) in England, their share of farming population's income is not significant.

By the time of the Ex-Post Evaluation the monitoring data shows there are 4,439 supported RES projects (chapter 9 measures) which relate to 3,697 supported holdings.

References to data sources
PROBIS scheme monitoring data: RES.xls supplied by Natural England.
**Chapter IX. Promoting the Adaptation and Development of Rural Areas**

**Indicator ref. IX.1-1.1.(b)**

To what extent has the income of the rural population been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>To what extent has the income of the rural population been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of farming population's income generated by assisted actions (€/beneficiary, no. concerned) of which b) from pluriactivity generated by off-farm assistance (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available. Not answered</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

At the time of the MTE, although there were 65 applicants who had completed the grant process, many of the projects were not into their final phase of development of the total project and therefore it is too early to ascertain, levels of pluriactivity. There was not sufficient resource at the Ex Post Evaluation to investigate this question.

**References to data sources**

PROBIS scheme monitoring data: RES.xls supplied by Natural England.
To what extent has the income of the rural population been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>To what extent has the income of the rural population been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Ratio of (costs) to (turnover) for farm-related activities (where costs = 'all inputs')</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available. Not answered</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

At the MTE, although there were 65 applicants who had completed the grant process, many of the projects were not into their final phase of development of their projects and therefore the full effect of ratio of costs to turnover cannot yet be ascertained. At the Ex Post Evaluation there were not sufficient resources to answer this question.

**References to data sources**

PROBIS scheme monitoring data: RES.xls supplied by Natural England.
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.1-2.1

To what extent has the income of the rural population been maintained or improved?

Criteria
Off-farm income maintained/improved

Indicator
Share of gross income of off-farm beneficiaries generated by the assistance (€/beneficiary, no. concerned)

Scheme
Rural Enterprise Scheme (RES)

Answer
Information not available. Not answered.

Explanation of Sources and calculations
At the MTE the following answer was given: The EU guidelines indicate that this indicator can only be calculated for the 'more or less' direct beneficiaries, and only activities that have reached their productive stage should be considered. There have been 65 RES projects who have received the last portion of their RES funding, however, this does not necessarily mean that the activity has reached its 'productive stage'. The guidelines indicate that tourism and craft activities have the potential to contribute to this indicator and ten of these projects fell into this category. It is too early to give a figure of €/beneficiary for off-farm income.

The total number of RES projects which are currently being funded or have received all their funding is 445, and of these 110 involve tourist or craft activities, which is the figure used for the number of beneficiaries concerned.

References to data sources
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.1-2.1 (a)

To what extent has the income of the rural population been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Off-farm income maintained/improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of gross income of off-farm beneficiaries generated by the assistance (€/beneficiary, no. concerned) (a) of which relating to tourism (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not answered</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations
No scheme specific survey was possible at the Ex Post Evaluation so it has not been possible to gather information relating to the impact of RES on off-farm beneficiaries.

References to data sources
**Chapter IX. Promoting the Adaptation and Development of Rural Areas**

**Indicator ref. IX.1-2.1 (b)**

To what extent has the income of the rural population been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Off-farm income maintained/improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of gross income of off-farm beneficiaries generated by the assistance (€/beneficiary, no. concerned) (b) of which relating to crafts and local products (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>5% at the MTE</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

At the MTE, of the 110 approved RES project relating to tourism or craft activities 6 were related to craft activities.

**References to data sources**

## Chapter IX. Promoting the Adaptation and Development of Rural Areas

### Indicator ref. IX.2-2.1 (a)

To what extent have the living conditions and welfare of the rural population been maintained as a result of social and cultural activities, better amenities or by the alleviation of remoteness?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Social and cultural facilities have been maintained/ enhanced, particularly for young people and young families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of rural population with access to social/cultural activities depending on facilities (%) of which..(a) farmers taking leave-days thanks to assisted relief services (% and number of days)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

The scheme monitoring data suggests there are 54 projects supported by the measure of setting up of farm relief and farm management services but no details were provided on the share of farmers taking leave-days.

**References to data sources**

RES scheme monitoring data.
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-1.1

To what extent has employment in rural areas been maintained?

Criteria
Employment of the farming population maintained/increased

Indicator
Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned)

Scheme
Rural Enterprise Scheme (RES)

Answer
15,084 FTE on 2,735 holdings

Explanation of Sources and calculations
From the RES monitoring data, 14,570 FTE of farm employment was projected to be created/sustained through the supported projects, which relate to 2,735 farm holdings. However, the progress in achieving these targets was available for only 10-15% of the supported projects. The progress data shows that 2,455 FTE, which is 103.5% of initial target of 2,371 on-farm FTE projected to be created/sustained for these projects. If same level of achievement is assumed for all other supported projects without progress being record, then it will give an estimate of 15,084 (=14569.6*103.5%) farm employment will be created/sustained by supported actions.

<table>
<thead>
<tr>
<th></th>
<th>Farm</th>
<th>Non-Farm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of jobs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>created</td>
<td>Sum of progress</td>
<td>1296.42</td>
<td>587.48</td>
</tr>
<tr>
<td></td>
<td>Sum of targets for those with progresses</td>
<td>1224.82</td>
<td>389.56</td>
</tr>
<tr>
<td></td>
<td>Sum of PROJECTFINALTARGET</td>
<td>8057.96</td>
<td>2458.11</td>
</tr>
<tr>
<td>Number of jobs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sustained</td>
<td>Sum of progress</td>
<td>1159.15</td>
<td>823.58</td>
</tr>
<tr>
<td></td>
<td>Sum of targets for those with progresses</td>
<td>1146.96</td>
<td>800.85</td>
</tr>
<tr>
<td></td>
<td>Sum of PROJECTFINALTARGET</td>
<td>6511.64</td>
<td>7596.35</td>
</tr>
<tr>
<td>Total Number of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobs created</td>
<td>Sum of progress</td>
<td>2455.57</td>
<td>1411.06</td>
</tr>
<tr>
<td>Total Number of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobs sustained</td>
<td>Sum of targets for those with progresses</td>
<td>2371.78</td>
<td>1190.41</td>
</tr>
<tr>
<td>Total Sum of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECTFINALTARGET</td>
<td></td>
<td>14569.6</td>
<td>10054.46</td>
</tr>
<tr>
<td>Total number of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>farms (based on</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPH numbers of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>holdings)</td>
<td></td>
<td>2735</td>
<td>-</td>
</tr>
</tbody>
</table>

References to data sources
RES scheme monitoring data: RES .xls.
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-1.1 (a)

To what extent has employment in rural areas been maintained?

Criteria: Employment of the farming population maintained/increased

Indicator: Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned) (a) of which from improved agriculture or transactions generated by assisted activities off-farm (%)

Scheme: Rural Enterprise Scheme (RES)

Answer: 59%-63%

Explanation of Sources and calculations

From the RES monitoring data, 1,884 jobs have been created from the current projects approved and in progress or completed to date, with 1,983 jobs sustained. Of these 1,296 jobs created relate to farms and 1159 jobs sustained relate to farms. Therefore 2455 divided by 3,867 gives 63%. However, these figures are based on progress data for those projects with their progresses being recorded. These projects only account for 10-15% of the total number of supported projects.

If based on target projection data for the supported projects, 14,570 FTEs farm employment is projected to be created/sustained, which represents 59% of the total number of FTE (24,624) projected to be created/sustained through supported projects.

Taking into consideration both actual and project data, the share of farm employment created/maintained by assisted actions is estimated to be 59%-63%, which relates to 2,735 farm holdings.

<table>
<thead>
<tr>
<th>Number of jobs created</th>
<th>Farm</th>
<th>Non-Farm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of progress</td>
<td>1296.42</td>
<td>587.48</td>
<td>1883.9</td>
</tr>
<tr>
<td>Sum of targets for those with progresses</td>
<td>1224.82</td>
<td>389.56</td>
<td>1614.38</td>
</tr>
<tr>
<td>Sum of PROJECTFINALTARGET</td>
<td>8057.96</td>
<td>2458.11</td>
<td>10516.07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of jobs sustained</th>
<th>Farm</th>
<th>Non-Farm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of progress</td>
<td>1159.15</td>
<td>823.58</td>
<td>1982.73</td>
</tr>
<tr>
<td>Sum of targets for those with progresses</td>
<td>1146.96</td>
<td>800.85</td>
<td>1947.81</td>
</tr>
<tr>
<td>Sum of PROJECTFINALTARGET</td>
<td>6511.64</td>
<td>7596.35</td>
<td>14107.99</td>
</tr>
</tbody>
</table>

Total Number of jobs created (Sum of progress) | 2455.57 | 1411.06 | 3866.63 |

Total Number of jobs sustained (Sum of targets for those with progresses) | 2371.78 | 1190.41 | 3562.19 |

Total Sum of PROJECTFINALTARGET | 14569.6 | 10054.46 | 24624.06 |

Total number of farms (based on CPH numbers of holdings) | 2735 | - | - |

References to data sources
RES scheme monitoring data: RES.xls
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref.** IX.3-1.1 (b)

**To what extent has employment in rural areas been maintained?**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employment of the farming population maintained/increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned) (b) of which from pluriactivity generated by assisted activities off-farm (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
</tbody>
</table>

**Answer** [To be completed]

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.3-1.1 (c)**

To what extent has employment in rural areas been maintained?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employment of the farming population maintained/increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned) (c) of which concerning farming population younger than 30 years of age (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and obtaining data would result in disproportionate costs</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>IX.3-1.1 (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent has employment in rural areas been maintained?</td>
<td></td>
</tr>
<tr>
<td><strong>Criteria</strong></td>
<td>Employment of the farming population maintained/increased</td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Farm employment created/maintained by assisted actions (FTE, no. of holdings concerned) (d) of which concerning women (%)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>37%</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

At the MTE: From the respondents to the RES survey in the mid-term evaluation, a total of 132 FTE jobs had been either sustained or created to date. Of these 49 were taken by females.

**References to data sources**

Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-1.2

To what extent has employment in rural areas been maintained?

Criteria
Employment of the farming population maintained/increased

Indicator
Cost per job maintained/created for the farming population (£/FTE)

Scheme
Rural Enterprise Scheme (RES)

Answer
Public cost per job (EAGGF and Defra) cost per job - £7,972
Total cost per job including match funding - £19,109

Explanation of Sources and calculations

From the monitoring data, it was projected that 24,624 FTE would be created/sustained through supported projects benefiting from a planned EU funding of £ 98,023,037.25 and an equivalent Defra funding. Based on this information, the EAGGF and Defra cost per job is £7,972. If the match funding is included, these 24,624 FTE were generated/maintained through a total funding of £470,548,747 and the cost per job is £19,109.

The progress in achieving the targets have been recorded for some (about 10-15%) of the supported projects, which indicates that 3,867 FTE have been created/sustained through an EU/Defra funding of £13,783,963 and therefore the EU and Defra cost per job is £7,130. The total funding (including match funding) for these projects was £67,762,393 and therefore the total cost per job is £17,524. The figures reported above relate to the planned cost per job at time of approval.

References to data sources
Defra probis monitoring data: RES.xls
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-2.1

To what extent has employment in rural areas been maintained?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Seasonal variation of activities is more effectively balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Workforce obtaining employment during periods of low agricultural activity thanks to assistance (FTE, no. of persons concerned)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-2.2

To what extent has employment in rural areas been maintained?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Seasonal variation of activities is more effectively balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Prolongation of the tourist season (days/year)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

Information is collected on number of visitor management plans and so far there have been 5 projects relating to these but detail on days per year is not easily accessible.

**References to data sources**
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.3-3.1

To what extent has employment in rural areas been maintained?

Criteria
Diversification of activities contributes to employment of the non-farming population

Indicator
Employment for off-farm beneficiaries maintained/created by the assistance (FTE, no. of persons concerned)

Scheme
Rural Enterprise Scheme (RES)

Answer
11,914 FTEs

Explanation of Sources and calculations
According to RES scheme monitoring data, the supported projects were targeted to generate/sustain 10,054 FTE employment for off-farm beneficiaries. However, the actual progress was not recorded for all the relevant projects. The recorded progress was 1411 FTE being created/maintained, which represents 118.5% of the target of 1190 these projects. If assuming same level of progress will be achieved for the rest of the projects, it is estimated that 11,914 FTE will be maintained/created.

References to data sources
Defra probis monitoring data: RES.xls.
**Chapter IX. Promoting the Adaptation and Development of Rural Areas**  

**Indicator ref. IX.3-3.2**

To what extent has employment in rural areas been maintained?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Diversification of activities contributes to employment of the non-farming population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Cost per job maintained/created for the non-farming population (€/FTE)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.4-1.1**

To what extent have the structural characteristics of the rural economy been maintained or improved?

**Criteria**

Productive structures linked to agriculture have been maintained or improved

**Indicator**

Share of farms enjoying agricultural improvements thanks to assisted actions (no. and % of holdings and hectares)

**Scheme**

Rural Enterprise Scheme (RES)

**Answer**

Information not available and would result in disproportionate costs to collect

---

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.4-1.1(a)**

**To what extent have the structural characteristics of the rural economy been maintained or improved?**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Productive structures linked to agriculture have been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of farms enjoying agricultural improvements thanks to assisted actions (no. and % of holdings and hectares) (a) of which land improvement (no. and % of hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.4-1.1 (b)**

**To what extent have the structural characteristics of the rural economy been maintained or improved?**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Productive structures linked to agriculture have been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of farms enjoying agricultural improvements (no. and % of holdings and hectares) (b) improved irrigation (no. and % of hectares)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>10,844 ha</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

According to the monitoring data, there are 90 projects relating to irrigation (Measure 6: Agricultural water resources management) with a total target of 10,449 hectares of land being made irrigable through live agreements or finished irrigation projects. The progress of achievement in meeting the target was recorded for some of these projects, which indicates that 3,044 hectares of land was made irrigable. This represents 103.78% of the targets for those projects with progress being recorded. If it is assumed that the same percentage of target will be achieved for the rest of the projects, then the outcome would be 10,844 (=10449*103.78%) hectares of land being made irrigable.

**References to data sources**

Defra probis monitoring data: RES.xls
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

#### Indicator ref. IX.4-1.1(c)

To what extent have the structural characteristics of the rural economy been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Productive structures linked to agriculture have been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of farms enjoying agricultural improvements thanks to assisted actions (no. and % of holdings and hectares) (c) of which relating to farm/field structure (foncière) (no. and % of holdings)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Not applicable – baseline study.</td>
</tr>
</tbody>
</table>

#### Explanation of Sources and calculations

#### References to data sources

Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.4-1.1 (d)

To what extent have the structural characteristics of the rural economy been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Productive structures linked to agriculture have been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of farms enjoying agricultural improvements (no. and % of holdings and hectares) (d) more professional farm management (no. and % of holdings)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
## Chapter IX. Promoting the Adaptation and Development of Rural Areas

### Indicator ref. IX.4-1.2

To what extent have the structural characteristics of the rural economy been maintained or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Productive structures linked to agriculture have been maintained or improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>New/improved production activities connected to agriculture including quality agricultural products</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>396 projects and 319 direct beneficiary businesses</td>
</tr>
</tbody>
</table>

#### Explanation of Sources and calculations

From the RES monitoring data, there were 396 projects (under measure 2: Marketing of quality agricultural products) and 319 beneficiary businesses involved in the improvement of quality agricultural products.

#### References to data sources

PROBIS scheme monitoring data: RES.xls supplied by Natural England.
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.4-1.3

To what extent have the structural characteristics of the rural economy been maintained or improved?

Criteria: Productive structures linked to agriculture have been maintained or improved

Indicator: Capacity-use for assisted off-farm facilities (%)

Scheme: Rural Enterprise Scheme (RES)

Answer: Information not available, and collection would result in disproportionate costs’

Explanation of Sources and calculations

References to data sources
Chapter IX. Promoting the Adaptation and Development of Rural Areas

Indicator ref. IX.4-3.1

To what extent have the structural characteristics of the rural economy been maintained or improved?

Criteria

Dynamism of rural actors promoted and potential for endogenous development mobilised in rural areas

Indicator

Evidence of improved dynamism/potential description, e.g. relevant networks)

Scheme

Rural Enterprise Scheme (RES)

Answer

Yes there is evidence.

Explanation of Sources and calculations

From the Defra monitoring data, there are two Measures relevant to provide evidence, which are Measure 2 (Marketing of quality agricultural products) and Measure 4 (Renovation of villages and conservation of the rural heritage).

There are 396 projects involved in marketing of quality agricultural products (Measure 2) with a total target of 324 collaborative projects being set up. The actual outcome was not recorded for all relevant projects. The recorded progress was that 177 collaborative projects (125.53% of a target of 141) collaborative projects being set up. If assuming the same level of achievement for the rest of the projects, then it will give us an estimate of 407 (=324*126%) collaborative projects being set up to market quality agricultural products.

There are 518 projects relating to village initiatives (Measure 4) with a total target of 723 villages initiatives being established. Again, only part of the projects have their progress recorded as total of 164 village initiatives having been established, which represents 112% of the total target (146 village initiatives). If use this percentage to extrapolate, 812 (=723*112%) villages are estimated to be established through the renovation of villages and conservation of the rural heritage.

The area case studies of the MTE give the best account of any increased dynamism attributable to RES.

References to data sources

PROBIS scheme monitoring data: RES.xls supplied by Natural England.
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.5-4.1**

To what extent has the rural environment been protected or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Increased knowledge/awareness about rural environmental problems and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Rural actors having improved exchange of or access to information concerning environmental activities (number, %)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.5-4.1 (a)**

To what extent has the rural environment been protected or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Increased knowledge/awareness about rural environmental problems and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Rural actors having improved exchange of or access to information concerning environmental activities (number, %) (a) concerning agricultural techniques/practices (no. and %)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
### Chapter IX. Promoting the Adaptation and Development of Rural Areas

**Indicator ref. IX.5.4.1 (b)**

To what extent has the rural environment been protected or improved?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Increased knowledge/awareness about rural environmental problems and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Rural actors having improved exchange of or access to information concerning environmental activities (number, %) (b) of which concerning non-farming activities (no. and %)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available and would result in disproportionate costs to collect</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
To what extent has the programme helped stabilise the rural population?

**Criteria**
Age profile of population benefiting from assistance contributes towards maintaining/promoting a balanced population structure

**Indicator**
Share of persons working on beneficiary farm / forest holdings and aged (i) <30 years (%); (ii) 30-39 years (%); (iii) >40 years (%)

**Scheme**
All

**Answer**
[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation Questions

Indicator ref. X.1-2.1

To what extent has the programme helped stabilise the rural population?

Criteria
Age profile of population benefiting from assistance contributes towards maintaining/promoting a balanced population structure

Indicator
Ratio of (female) to (male) for persons benefiting from assistance

Scheme
All

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme helped stabilise the rural population?

Criteria
Age profile of population benefiting from assistance contributes towards maintaining/promoting a balanced population structure

Indicator
Evidence of positive influences of the programme on reduction of rural population (description, including change in farming population and other rural population)

Scheme
All

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.2-1.1

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria
Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator
Employment maintained/created in directly/indirectly benefiting farm/forestry holdings (FTE).

Scheme
All

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
Survey analysis: ERDP Cross Cutting 2.1.xls
Numbers of Schemes: Beneficiaries ERDP schemes split farm_forestry from monitoring data.doc
Survey Data: ERDP Beneficiaries.xls
Employment: ERDP Employment – survey results.xls
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria

Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator

Employment maintained/created in directly/indirectly benefiting farm/forestry holdings (FTE) (a) of which holders (%)

Scheme

All

Answer

[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.2-1.1 (b)

To what extent has the programme been conducive to securing employment both on and off holdings?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Employment maintained/created in directly/indirectly benefiting farm/forestry holdings (FTE) (a) of which non-family labour (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>[To be completed]</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.2-1.1 (c)

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator Employment maintained/created in directly/indirectly benefiting farm/forestry holdings (FTE) (a) of which women (%)

Scheme All

Answer [To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation Questions

Indicator ref. X.2-1.1 (d)

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator Employment maintained/created in directly/indirectly benefiting farm/forestry holdings (FTE) (a) of which concerning full-time employment (%)

Scheme All

Answer [To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation Questions

Indicator ref. X.2-1.1 (e)

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria
Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator
Employment maintained/created on directly/indirectly benefiting farm/forestry holdings (FTE) (e) of which concerning gainful activities other than the production of basic agricultural/forestry products (%)

Scheme
All

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.2-1.1 (f)

To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria

Employment is created or maintained, directly or indirectly by the programme, on farm/forestry holdings.

Indicator

Employment maintained/created on directly/indirectly benefiting farm/forestry holdings (FTE) (f) of which indirectly as a result of supplier effects (%)

Scheme

All

Answer

[To be completed]

Explanation of Sources and calculations

References to data sources
<table>
<thead>
<tr>
<th>Questions</th>
<th>Indicator ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent has the programme been conducive to securing employment both on and off holdings?</td>
<td>X.2-2.1</td>
</tr>
</tbody>
</table>

**Criteria**

Employment is created or maintained, directly or indirectly by the programme, in enterprises (other than holdings) in rural areas or in branches connected with agriculture.

**Indicator**

Employment maintained/created in directly/indirectly benefiting enterprises (other than holdings) (FTE).

**Scheme**

All

**Answer**

[To be completed]

**Explanation of Sources and calculations**

**References to data sources**
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to securing employment both on and off holdings?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employment is created or maintained, directly or indirectly by the programme, in enterprises (other than holdings) in rural areas or in branches connected with agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Employment maintained/created in directly/indirectly benefiting enterprises (other than holdings) (FTE) (a) of which women</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>[To be completed]</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
To what extent has the programme been conducive to securing employment both on and off holdings?

Criteria
Employment is created or maintained, directly or indirectly by the programme, in enterprises (other than holdings) in rural areas or in branches connected with agriculture.

Indicator
Employment maintained/created in directly/indirectly benefiting enterprises (other than holdings) (FTE) (b) of which young people (under 30)

Scheme
All

Answer
[To be completed]

Explanation of Sources and calculations

References to data sources
### Chapter X. Cross Cutting Evaluation

#### Indicator ref. X.2-2.1 (c)

#### Questions

To what extent has the programme been conducive to securing employment both on and off holdings?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employment is created or maintained, directly or indirectly by the programme, in enterprises (other than holdings) in rural areas or in branches connected with agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Employment maintained/created in directly/indirectly benefiting enterprises (other than holdings) (FTE) (c) pluriactivity of part-time farmers</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>Unable to answer – disproportionate cost</td>
</tr>
</tbody>
</table>

#### Explanation of Sources and calculations

The ERDP Main Survey and the Ex Post Evaluation Survey did not ask about the role of off farm jobs in creating or maintaining the reported jobs created and sustained. Other sources of this information are not available.

#### References to data sources

None
## Chapter X. Cross Cutting Evaluation

### Questions

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>X.3-1.1</th>
</tr>
</thead>
</table>

To what extent has the programme been conducive to maintaining or improving the income level of the rural community?

**Criteria**

Income of the farming population maintained or improved directly or indirectly by the programme

**Indicator**

Income of directly/indirectly assisted farming population (Euro/person, no. concerned)

**Scheme**

All

**Answer**

[To be completed]

### Explanation of Sources and calculations

### References to data sources
To what extent has the programme been conducive to maintaining or improving the income level of the rural community?

<table>
<thead>
<tr>
<th><strong>Criteria</strong></th>
<th>Income of non-farming population maintained or improved, directly or indirectly, by the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator</strong></td>
<td>Income on directly/indirectly assisted non-farming population (euro/person, number concerned)</td>
</tr>
<tr>
<td><strong>Scheme</strong></td>
<td>All Schemes</td>
</tr>
<tr>
<td><strong>Answer</strong></td>
<td>[To be completed]</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
To what extent has the programme been conducive to maintaining or improving the income level of the rural community?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Income of non-farming population maintained or improved, directly or indirectly, by the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Income on directly/indirectly assisted non-farming population (euro/person, number concerned) (a) of which relating to rural tourism (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>[To be completed]</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

References to data sources
**Chapter X. Cross Cutting Evaluation**

**Indicator ref.** X.3-2.1 (b)

**Questions**

To what extent has the programme been conducive to maintaining or improving the income level of the rural community?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Income of non-farming population maintained or improved, directly or indirectly, by the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Income on directly/indirectly assisted non-farming population (euro/person, number concerned) (b) of which relating to local crafts/products (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>Rural Enterprise Scheme (RES)</td>
</tr>
<tr>
<td>Answer</td>
<td>No data and collecting would result in disproportionate costs</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

**References to data sources**
Chapter X. Cross Cutting Evaluation  
Indicator ref. X.3-2.1 (c)

Questions

To what extent has the programme been conducive to maintaining or improving the income level of the rural community?

Criteria  
Income of non-farming population maintained or improved, directly or indirectly, by the programme

Indicator  
Income on directly/indirectly assisted non-farming population (euro/person, number concerned) (c) as a result of supplier and multiplier effects

Scheme  
Rural Enterprise Scheme (RES) and PMG.

Answer  
Difficult to calculate at a programme level. Estimated to be £68.2m for PMG

Explanation of Sources and calculations

To get a true answer to this question, it would be necessary to survey non-farming population within the environs of beneficiaries, however, this is a costly exercise to do and difficult to complete. The non-farming population of rural areas are hard to define although there are standard definitions for England – but the population is very large.

Some estimates are made here for the PMG scheme. Supplier and multiplier effects have been estimated in terms of income at country level, using previously estimated multipliers and programme impacts on income and employment. At this point in the programme, the evidence available on impacts is very limited; in order to provide an answer, case study data on income from the previous programme – this should treated as very provisional. In order to answer the question more fully in the Ex-post evaluation, records should be maintained on business turnover.

Income effects are based on an assumed link between investment and turnover (sales) of 7 case studies – this showed a range from 5% for larger businesses to 50% small business. Using these ratios, and the spread of PMG awards, the total turnover (gross sales) for assisted businesses has been estimated at 10 times the grant award. Programme was £54.3m and it is estimated that this relates to an equivalent business turnover of £543m.

Previous Evaluation of Processing and Marketing Grants by SQW (1998) indicated the following multipliers at country level:

Supplier multipliers – (from survey) - 1.3
Income multiplier (Treasury) - 1.3

It is necessary to allow for additionality and displacement and these have been based on previous evaluation country level figures.

1994-99 programme deadweight = 51%
1994-99 programme displacement = 59%  

Supplier effect = £543m x 51% x (1-59%) x (1-1.3) = £34.1m
Multiplier effect = £543m x 51% x (1-59%) x (1-1.3) = £34.1m

On this basis these income multipliers, the gross benefit is £68.2m

References to data sources

Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.4-1.1

To what extent has the programme improved the market situation for basic agricultural/forestry products?

Criteria
Productivity has been improved and/or costs reduced in key production chains thanks to the programme

Indicator
Ratio (turnover) to (cost) in key benefiting production chains (filières)

Scheme
ECS/RES/PMG

Answer
For RES and PMG there is no data available. Costs have been reduced significantly by the actions of the ECS, establishment costs have probably been reduced by 50% across all holdings.

Explanation of Sources and calculations
During the period 2001 – 2003 unsupported miscanthus establishment costs approximately £2,500 and unsupported SRC cropping costs approximately £2,250. The ECS payments of £920 and £1,000/ha reduce these costs by approximately half.

Moreover, the majority of these high costs are due to lack of volume in the marketplace. As ECS encourages cropping through subsidy, so the volume created will drive down unit costs.

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme improved the market situation for basic agricultural/forestry products?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Market positioning (quality etc.) has improved for key production chains (filières) thanks to the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Change in added value per unit of basic agricultural/forestry product for benefiting production chains</td>
</tr>
<tr>
<td>Scheme</td>
<td>ALL</td>
</tr>
<tr>
<td>Answer</td>
<td>Unable to answer this question but the indication is that there is little change in added value per unit of output.</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

Only PMG addresses this indicator. The Defra monitoring system (PROBIS) does not capture turnover and cost details – either at application or completion of the project. The basis for information to answer this question relies on detailed costings data at individual project level on a before and after basis. This is only available for a limited number of PMG case studies in the PMG evaluation and is not considered to be a reliable basis for answering the question. It was recommended at the MTE that this data should be captured electronically for each project relevant to this question but this has not been implemented.

Seven case studies were considered in the evaluation of PMG (Elliott et al, 2003), though not all were funded. They are not representative of the population of assisted businesses and demonstrate a wide range of possible figures when answering the question. The main conclusion is that these projects involve an expansion of existing value-adding activity, rather than enhancing it. In some cases, efficiency gains in the production process allow businesses to reduce the end-price in a bid to win extra orders. The value to primary producers is not improved in most situations unless they are processing their own raw materials.

The same analysis applies to forestry products.

References to data sources

Defra monitoring data (PROBIS)

Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme improved the market situation for basic agricultural/forestry products?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Market positioning (quality etc.) has improved for key production chains (filières) thanks to the programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of agricultural product subject to quality improvement at any level along production chains to programme (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>PMG &amp; RES</td>
</tr>
<tr>
<td>Answer</td>
<td>0.23%</td>
</tr>
</tbody>
</table>

Explanation of Sources and calculations

The best evidence remains that from the MTE:
Gross Output from farming in England in 2002 was €18,856 million (Defra, 2003). The cumulative number of projects assisted to December 2002 was 79 and the average turnover – based on the PMG Evaluation survey (Elliott J et al, 2003) – is estimated at €13 million. On the basis that these businesses are primary processors, an estimated 50% of this figure represents raw material purchased. Taken as a percentage of gross agricultural output, the share of gross sales represented by assisted business is 0.03%. It is assumed that the entire basic product bought by these businesses is safeguarded by the assistance.

Adjusting for the situation at the Ex Post Evaluation there are 269 assisted projects likely to have a turnover of €44 million which is 0.23% of €18,856 million.

Projects funded under RES ‘marketing of quality agricultural products’ represent a value-adding or diversified activity. There were 327 collaborative projects and the increase in the value of marketed products was reported as £123 million.

References to data sources

Defra ERDP Annual Reports
Probis Scheme Monitoring
Chapter X. Cross Cutting Evaluation  
Indicator ref. X.4-2.3

Questions

To what extent has the programme improved the market situation for basic agricultural/forestry products?

Criteria  
Market positioning (quality etc.) has improved for key production chains (filières) thanks to the programme

Indicator  
Evidence of better marketing positioning (description)

Scheme  
OFS/OELS/RES/PMG

Answer  
Insofar as the OFS/OELS offers conversion grants to farmers and growers to produce organic food, they may be able to take advantage of additional premiums after the land and stock are fully converted. However, the evidence for better marketing position is mixed – unit value of production is improved in most cases but reduced output volume can offset this with high distribution costs for this still minor sector. The overall market for organic food has gained critical mass and subsequent access to multiple retail outlets. However there have also been periods of oversupply e.g. milk and lamb, which has temporarily undermined the organic market to some extent.

With PMG and RES there is no doubt that assisted businesses are in a better marketing position due to assistance but when this is taken to production chain level, the scale of the impacts are very small. In addition, a high level of displacement reduces the impact further. The main benefit is that assisted businesses might innovate and lead the wider industry through adoption of new technology – again there is limited evidence of this in PMG or RES project descriptions.

Explanation of Sources and calculations

The objective of OFS was to increase the area of land managed organically and to this extent it was successful (CRER, 2002). OELS has continued the expansion of the production of organic food. The premise that additional production per se will improve the market position of the sector is less clear. There is certainly an argument on the basis of Infant Industry that economies of scale in the supply chain and distribution are important to reduce the price to consumers and allow the market to expand. However, in terms of product quality and establishing effective and efficient supply chains, there is little evidence of impact. There is also some evidence of periodic market distortion e.g. milk (MDC, 2002) and lamb (Soil Association, 2002).

Additional analysis is based on the recent evaluation of the PMG Scheme and on the RES survey undertaken as part of this evaluation. The answer also relies on the context of a substantial food processing industry, which is rationalising and adapting to new technology in the absence of grant assistance.
References to data sources
Probis Scheme Monitoring
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme improved the market situation for basic agricultural/forestry products?

Criteria

There is a positive development in the turnover and price for key production chains

Indicator

Change in annual gross sales for key benefiting production chains

Scheme

PMG/RES

Answer

Negligible

Explanation of Sources and calculations

The best evidence remains the surveys of beneficiaries of PMG and RES carried out at the MTE.

There was no evidence from the PMG or RES surveys that there was any material increase in the gross value of basic agricultural/forestry products in key production chains at programme level. Instead, at project level, assisted businesses either displaced or replaced other processing activity. The production chains operate in a very competitive environment with imports widely available and businesses are continually looking to expansion and new technology to maintain or improve their market position. Therefore, an industry level, the value of gross sales will be largely unchanged.

One exception is organics, which has been experiencing substantial market growth and the value of gross sales has been increasing. However, only a limited proportion of this is related to assisted businesses.

References to data sources

Probis monitoring data.


Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme improved the market situation for basic agricultural/forestry products?

Criteria

There is a positive development in the turnover and price for key production chains.

Indicator

Evolution in price per unit of standardised product for key benefiting production chains.

Scheme

Processing and Marketing Grant (PMG).

Answer

The indication is that price per unit of standardised product in established businesses is reduced or at best maintained in order to facilitate expansion into new markets. New products and markets can contribute to unit price increase but the PMG scheme has a low level of innovation.

Explanation of Sources and calculations

The Defra monitoring system (PROBIS) does not capture price per unit of standardised product – either at application or completion of the project. The basis for information to answer this question relies on detailed costings data at individual project level on a before and after basis. This is only available for a limited number of PMG case studies and is not considered to a reliable basis for answering the question. It was recommended at the MTE that such data should be captured electronically for each project, relevant to this question but this has not been implemented.

Seven case studies were considered in the evaluation of PMG (Elliott et al, 2003), though not all were funded. They are not representative of the population of assisted businesses and demonstrate a wide range of possible figures when answering this question. The main conclusion is that these projects involve an expansion of existing value-adding activity, rather than enhancing it. In some cases, efficiency gains in the production process allow businesses to reduce the end-price in a bid to win extra orders. The value to primary producers is not improved in most situations unless they are processing their own raw materials.

However, the main issue is the scale of the PMG funding relative to the food processing industry. PMG aids only a tiny proportion of businesses. See Indicator VII.3-1.2 which estimates the proportion at 0.23%.

References to data sources

Ex Post Evaluation Indicator VII.3-1.2
**Chapter X. Cross Cutting Evaluation**

**Questions**

<table>
<thead>
<tr>
<th>Indicator ref.</th>
<th>X.5-1.1</th>
</tr>
</thead>
</table>

To what extent has the programme been conducive to the protection and improvement of the environment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share of entirely/mainly intended for environment protection or enhancement (% of programme costs; % of projects)</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>90% of costs, 94% of projects</td>
</tr>
</tbody>
</table>
Explanation of Sources and calculations

Total programme costs = £1574.9 million, amount intended for environmental protection = £1414.7 million (90%)

100% of the following schemes - agri-environmental schemes, ECS, HFA (£269.1 million) plus 153 of the RES projects £3.5 million (planned) which had a sole objective of environmental protection. These add up to 84,393 projects in total.

0% of VTS £13.8 million and 0% PMG (£34.9 million).

<table>
<thead>
<tr>
<th>Scheme Total</th>
<th>Aiming at Environmental Protection/Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total value paid (million £)</td>
</tr>
<tr>
<td>Agri-environment</td>
<td>961.1</td>
</tr>
<tr>
<td>Forestry</td>
<td>181.0</td>
</tr>
<tr>
<td>HFA</td>
<td>269.1</td>
</tr>
<tr>
<td>ECS (target)</td>
<td>876*</td>
</tr>
<tr>
<td>RES (target)</td>
<td>3.5*</td>
</tr>
<tr>
<td>VTS (target)</td>
<td>0.0</td>
</tr>
<tr>
<td>PMG (target)</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>1,414.7</td>
</tr>
<tr>
<td>% of all schemes</td>
<td>90%</td>
</tr>
</tbody>
</table>

*: Target data were due to incomplete information on actual numbers.

Total number of projects in programme = 89,932 - made up of ELS+HLS+OELS (22,390), CSS (13,253), ECP (2,550), ESA (8,702), OFS (2,631), FWPS (1,683), WGS (19,278), EWGS (278), RES (4723), PMG (292), ECS (876) HFA (12,599, based on CPH 2001-2005), VTS (677, training providers only - no data on individual trainees). All except RES, VTS and PMG are entirely/mainly for environmental protection or enhancement. Of the 4723 RES projects, 153 had environmental protection or enhancement as a direct objective. No project in PMG has a direct aim to protect/improve the environment. Therefore, the total number of projects with a direct contribution to the environment protection/improvement is 84,393, which is 94% of the total number of beneficiary projects (89,932).

In addition, 541 conservation and environment training courses/workshops were provided under the VTS, but this figure does not necessarily relate to single projects.

References to data sources

Probis monitoring database; Aesis database and Genesis database. Programme financial data from Defra.
**Chapter X. Cross Cutting Evaluation**

**Questions**

**To what extent has the programme been conducive to the protection and improvement of the environment**

**Criteria**
The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects

**Indicator**
Share actions focusing on production and development generating positive environmental spin-offs (% of programme costs; % of projects)

**Scheme**
All

**Answer**
7% of programme costs, 4% of projects

**Explanation of Sources and calculations**

Of the 89,932 projects under the programme, 94% (84, 393) had positive environmental effects as a primary aim (X.5-1.1). The remaining 5,539 had the potential for environmental spin-offs. Of these 149 RES projects (£4.5 million) had environmental benefits as a co objective, which include agricultural diversifications relating to organic produce, water resource management projects and village renovation and rural heritage conservation projects with elements of environmental protection/improvement; and, 53 PMG projects (£7.5 million) contributing to environmental protection, improvement in animal health and welfare or better use or elimination of by-product/waste. As regards VTS, there may be some additional environmental ‘spin-offs’ from the training provided, but it has not been possible to quantify this. Therefore 4% (149+53) of the 5,539 projects resulted in environmental spin-offs.

<table>
<thead>
<tr>
<th>Environmental spin-off effects</th>
<th>Non-environmental targeted (Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total value</td>
</tr>
<tr>
<td>RES</td>
<td>4.5*</td>
</tr>
<tr>
<td>VTS</td>
<td>0.0</td>
</tr>
<tr>
<td>PMG</td>
<td>7.5*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12.0</strong></td>
</tr>
<tr>
<td>% of non-environmental targeted projects*</td>
<td>7%</td>
</tr>
</tbody>
</table>

* Target data were used due to incompleteness of information.

The 5,539 schemes which do not have environmental benefits as a primary aim are:
- 677 VTS projects (£13.8 million)
- 239 PMG projects (£34.9 million)
- 4,570 RES projects (£112 million)

Total 5,539 projects (£160.7 million)

The costs where environmental spin-offs has been identified is £12 million which equals 7% of non-environmental targeted programme costs or 1% of total programme costs.

Total programme costs = £1574.9 million
References to data sources

Probis database.
Chapter X.  Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria
The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects

Indicator
Share actions focusing on production and development generating positive environmental spin-offs (% of programme costs; % of projects) (a) of which thanks to cleaner technology (%)

Scheme
All

Answer
45% of costs, 18% of projects

Explanation of Sources and calculations
There are 36 PMG projects with an objective of reducing emissions with a total cost of £5.47 million representing % of the programme costs linked to environmental spin-offs (£12 million) and 45% of the projects (202) where environmental spin-offs have been identified.

References to data sources
Probis monitoring data
## Chapter X. Cross Cutting Evaluation

### Indicator ref. X.5-1.2 (b)

#### Questions

**To what extent has the programme been conducive to the protection and improvement of the environment**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share actions focusing on production and development generating positive environmental spin-offs (% of programme costs; % of projects) (b) of which thanks to improved agricultural practices, land-use patterns, livestock etc (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>7% of costs, 16% of projects</td>
</tr>
</tbody>
</table>

### Explanation of Sources and calculations

There are 33 RES farm diversification projects relating to organic production which are regarded as having environmental spin-off effects with a total cost of £0.87 million representing 7% of the programme costs linked to environmental spin-offs (£12 million) and 16% of the projects (202) where environmental spin-offs have been identified.

### References to data sources

Probis monitoring data.
To what extent has the programme been conducive to the protection and improvement of the environment

Criteria
The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects

Indicator
Share actions generated negative environmental effects (% of programme costs; % of projects)

Scheme
All

Answer
There is no quantitative data on negative environmental effects in relation to any of the schemes.

Explanation of Sources and calculations
There are likely to have been isolated incidents of negative impacts caused by some of the schemes, but no data is available to quantify this. Most schemes have safeguards built in to ensure that negative environmental effects are avoided as much as possible.

As regards woodland creation under the WGS (and therefore FWPS), the Forestry Commission always consult Defra if the proposed planting is within an ESA. The applicant is also required to get permission if the proposed planting is within an SSSI or National Nature Reserve. The FC also require an EIA for some types of afforestation, converting woodland to another land use and constructing forest roads and quarries. The thresholds for projects requiring an EIA reflect site sensitivity. It is also a condition of all WGS contracts that the woodlands are managed in accordance with the UK Forestry Standard.

The FC carry out environmental assessments for all ECS plantings over 5ha.

As regards CSS and ESA, environmental monitoring and R & D have identified occasional cases where changes in land use or management operations as a direct result of the scheme measures have reduced landscape coherence or constituted a risk of damage to historic features. Where this has occurred it has been as a result of localised issues of implementation of scheme options rather than through poor design of scheme options. Work on ELS has lead to concern with the balance of options in agreements but does not point to environmental damage. Of more concern are the low rates of transfer from the old AES schemes to ES (30.19% for CSS and 24.39% for ESA).

All RES business plans submitted state what the environmental effects of the projects are, but the outcomes are not recorded.

References to data sources
Guide to the Woodland Grant Scheme (WGS). FC 2002
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects

Indicator

Share actions generated negative environmental effects (% of programme costs; % of projects) (a) of which during the establishment/investment/construction phase (%)

Scheme

All

Answer

There is no data available to quantify the share of actions which have generated negative environmental effects.

Explanation of Sources and calculations

However, during the construction phase of some RES schemes, there can be expected to be some negative environmental effects in the short term, although this may be more than compensated for by environmental gains in the longer term. The following types of projects are examples of this (there have been a number of projects in each of the categories listed):

- The creation of golf courses
- The creation of fishing lakes
- The construction of reservoirs

There have also been many RES projects which involve the construction of new buildings. These projects will invariably generate negative environmental effects during the construction phase and the extent of this will vary from project to project depending on the environmental value of the existing site, the scale of the building works and the extent and quality of any associated landscaping.

As regards CSS and ESA, arable reversion has very occasionally caused an increase in soil erosion in the implementation phase but numbers of cases are not available.

References to data sources

To what extent has the programme been conducive to the protection and improvement of the environment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>The combination of supported actions focusing on production/development and/or on the environment generates positive environmental effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Share actions generated negative environmental effects (% of programme costs; % of projects) (b) of which during the operational phase (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>All</td>
</tr>
<tr>
<td>Answer</td>
<td>There is no data available to quantify this.</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**

As regards CSS and ESA, environmental monitoring and R & D have identified occasional cases where changes in land use or management operations as a direct result of the scheme measures have reduced landscape coherence or constituted a risk of damage to historic features. Where this has occurred it has been as a result of localised issues of implementation of scheme options rather than through poor design of scheme options.

A requirement of the business plan submitted to support RES applications is to state what the environmental effects of the project are. The outcomes however, are not recorded on the Probis database.

**References to data sources**
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Land use patterns (include the location/concentration of livestock) have been maintained or have developed in a way which is environmentally beneficial

Indicator

Share of area within the programme with beneficial (or prevented negative) land-use changes (%)

Scheme

All

Answer

Up to 67%

Explanation of Sources and calculations

Total programme area = 6,188,375 ha.

Of this the following is beneficial (or prevented negative) land use changes:

100% of – CSS (783,422 ha), ESA (765,926 ha), ECP (47,470 ha), OFS (1,265,194 ha), (ELS 3,014,571 ha), HLS (70,313 ha), OELS (104 ha); + RES (114,608 ha, land for environmental improvement under “Measure 9- Environment protection and improvement of animal welfare”) + all non-cultivated/semi-natural land within the total HFA area of 1,404,593 ha). However, the percentage of area of non-cultivated/semi-natural land within HFA area is not known so this will over estimate the contribution of HFA land. Data for WGS and EWGS are not available.

Total area of farm land within the zone (England) = 9,291,462 ha (Defra June Survey, 2007)

Share of area within the programme with beneficial (or prevented negative) land-use changes is up to 67%.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS</td>
<td>783,422</td>
</tr>
<tr>
<td>ESA</td>
<td>765,926</td>
</tr>
<tr>
<td>ECP</td>
<td>47,470</td>
</tr>
<tr>
<td>OFS</td>
<td>1,265,194</td>
</tr>
<tr>
<td>ELS</td>
<td>3,014,571</td>
</tr>
<tr>
<td>HLS</td>
<td>70,313</td>
</tr>
<tr>
<td>OELS</td>
<td>104,325</td>
</tr>
<tr>
<td>WGS</td>
<td>-</td>
</tr>
<tr>
<td>EWGS</td>
<td>-</td>
</tr>
<tr>
<td>HFA</td>
<td>Unknown from a total of 1,404,593 ha</td>
</tr>
<tr>
<td>ECS</td>
<td>22,546</td>
</tr>
<tr>
<td>RES</td>
<td>114,608</td>
</tr>
<tr>
<td>Total area under scheme</td>
<td>6,188,375</td>
</tr>
<tr>
<td>Total area of farm land in England</td>
<td>9,291,462</td>
</tr>
</tbody>
</table>
References to data sources
Aesis database; Probis database.
FC Grants & Licenses
Chapter X. Cross Cutting Evaluation  

Indicator ref. X.5-2.1 (a)

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Land use patterns (include, the location/concentration of livestock) have been maintained or have developed in a way which is environmentally beneficial

Indicator

Share of area within the programme with beneficial (or prevented negative) land-use changes (%) (a) permanent crops (grassland, orchards, woodland…) (%)

Scheme

All

Answer

Approximately 23%

Explanation of Sources and calculations

Total area within the programme = 6,188,375 ha.
Share under permanent crops:
Grassland- 1,383,018 ha in total in which grassland under HFA cannot be identified and therefore total will be underestimated);
Orchards- 3,630 ha in total;
Woodlands-10,330 ha in total;

Total = 1,396,978 ha =23% of 6,188,375 ha.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area under scheme</th>
<th>Grassland</th>
<th>Orchard</th>
<th>Woodland</th>
<th>Arable</th>
<th>Semi-natural</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS</td>
<td>783,422</td>
<td>251,635</td>
<td>2,111</td>
<td>845</td>
<td>114,104</td>
<td>287,213</td>
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<tr>
<td>ESA</td>
<td>765,926</td>
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<td>0</td>
<td>7,330</td>
<td>20,184</td>
<td>278,570</td>
</tr>
<tr>
<td>ECP</td>
<td>47,470</td>
<td>53</td>
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<td>0</td>
<td>0</td>
<td>47,200</td>
</tr>
<tr>
<td>OFS</td>
<td>1,265,194</td>
<td>417,875</td>
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<td>502,815</td>
<td>343,175</td>
</tr>
<tr>
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<td>3,014,571</td>
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<td>95,012</td>
<td>25,264</td>
</tr>
<tr>
<td>HLS</td>
<td>70,313</td>
<td>16,364</td>
<td>190</td>
<td>2,155</td>
<td>6,632</td>
<td>26,025</td>
</tr>
<tr>
<td>OELS</td>
<td>104,325</td>
<td>16,224</td>
<td>0</td>
<td>0</td>
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<td>225</td>
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<tr>
<td>WGS</td>
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<tr>
<td>EWGS</td>
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<td>-</td>
<td>-</td>
<td>699</td>
<td>-</td>
<td></td>
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<tr>
<td>HFA</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>Total (ha)</td>
<td>6,051,221</td>
<td>1,383,018</td>
<td>3,630</td>
<td>10,330</td>
<td>759,110</td>
<td>1,015,498</td>
</tr>
</tbody>
</table>

References to data sources

Aesis and Genesis databases
FC Grants & Licences
Chapter X. Cross Cutting Evaluation

Indicator ref. X.5-2.1 (b)

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Land use patterns (include the location/concentration of livestock) have been maintained or have developed in a way which is environmentally beneficial

Indicator

Share of area within the programme with beneficial (or prevented negative) land-use changes (%) (b) arable land (organic farming, rotation) (%)

Scheme

All

Answer

13%

Explanation of Sources and calculations

Total area within the programme = 6,188,375 ha.

Arable land in total is 759,110 ha (see detailed break-down in the table below)

Arable land in HFA, RES (cannot identify, therefore total will underestimate)

Orchards entered under “permanent crops” indicator – X.5-2.1 (b)

Total = 759,110ha = 13% of total area within the programme.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area under scheme</th>
<th>Grassland</th>
<th>Orchard</th>
<th>Woodland</th>
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<th>Semi-natural</th>
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<td>HFA</td>
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</tbody>
</table>

References to data sources

Aesis and Genesis databases
Chapter X. Cross Cutting Evaluation

Indicator ref. X.5-2.1 (c)

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Land use patterns (include. the location/concentration of livestock) have been maintained or have developed in a way which is environmentally beneficial

Indicator

Share of area within the programme with beneficial (or prevented negative) land-use changes (%) (c) non-cultivated or semi-natural land (%)

Scheme

All

Answer

39%

Explanation of Sources and calculations

There is 1,404,593ha in the HFA scheme (2005) and much of this is non-cultivated or semi-natural land. Area of semi-natural land in other schemes is 1,015,498 ha. Therefore, the total area of non-cultivated or semi-natural land is 2,420,091 ha representing 39% of the total area under the programme.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area under scheme (ha)</th>
<th>Grassland</th>
<th>Orchard</th>
<th>Woodland</th>
<th>Arable</th>
<th>Semi-natural</th>
</tr>
</thead>
<tbody>
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<td>53</td>
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<td>0</td>
<td>0</td>
<td>47,200</td>
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<tr>
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<td>225</td>
</tr>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>17,007</td>
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<tr>
<td>EWGS</td>
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<td>-</td>
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<td>699</td>
<td>-</td>
</tr>
<tr>
<td>HFA</td>
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<td>1,404,593</td>
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<td>Total (ha)</td>
<td>6,051,221</td>
<td>1,383,018</td>
<td>3,630</td>
<td>10,330</td>
<td>759,110</td>
<td>2,420,091</td>
</tr>
</tbody>
</table>

References to data sources

Aesis and Genesis databases
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria
Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator
Share of water resources subject to reduced depletion (%)

Scheme
WGS, FWPS, EWGS, RES and PMG

Answer
Share is negligible but data not available, collection of data would involve disproportionate costs

Explanation of Sources and calculations

In WGS and FWPS the total areas planted are as follows:
Total of agricultural land = 35,433 ha
Total of brown field sites planted = 7,829 ha
Area of water bodies protected (Indicator VIII.2.C-2.1(b)) = 42,041 ha

The whole issue of woodlands and water is complicated since woodlands can be both detrimental (interception and water uptake) and beneficial (via regulation of stream flows and preventing flooding).

RES. Under measure 6 (Agricultural Water Resources Management), 7 projects have involved making land more irrigable and four schemes aim to increase summer water levels.

At the MTE PMG Monitoring data indicates that 8 projects (from 79) resulted in reduced pollution emissions, energy and water use and waste production. Elliott J et al (2003) in their survey of successful applicants asked which scheme objectives related to their project. Twenty-four of 45 (53%) indicated that ‘Protect the environment’ did apply but none ticked this box as a main scheme objective.

It has been assumed from this and from the case studies (7) that all environmental improvement is a collateral effect of investing in new facilities and technology and the need to comply with current and anticipated standards.

However, given the scale of the programme in relation to the food processing industry the percentage share of water resources protected is negligible.

For further information, see VIII.2.C-2.1 (b)

References to data sources

FC Grants & Licenses
Probis monitoring database
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria
Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator
Share of water resources subject to reduced depletion (%)

Scheme
WGS, FWPS, RES

Answer
Data not available, collection of data would involve disproportionate costs

Explanation of Sources and calculations
In WGS and FWPS the total areas planted are as follows:
Total of agricultural land = 35,433 ha
Total of brown field sites planted = 7,829 ha
Area of water bodies protected (Indicator VIII.2.C-2.1(b)) = 42,041 ha

The whole issue of woodlands and water is complicated since woodlands can be both detrimental (interception and water uptake) and beneficial (via regulation stream flows and preventing flooding).

RES. Under measure 6 (Agricultural Water Resources Management), 53 projects have involved making land more irrigable with a total of 10,449 ha (target data) made more irrigable through these projects.

PMG. New technology will be more resource efficient with regard to water but the scale of the PMG budget is such that the country level impact will be negligible. This is based on the limited scale of PMG funding relative to the food processing industry.

As the forestry growing stock is increasing, this will INCREASE depletion of water sources although there may be other benefits related to regulating stream flow, reducing flooding etc
For further information, see VIII.2.C-2.1 (b)

References to data sources
FC Grants & Licenses
Probis monitoring database
Chapter X. Cross Cutting Evaluation  
Indicator ref. X.5-3.2

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria  Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator  Share of water resources reduced/ stabilised pollution levels

Scheme  All

Answer  29% of land

Explanation of Sources and calculations

Under CSS, ESA, OFS, ELS, HLS and OELS, there are 2,717,902 ha of land subject to reduced input from plant protection products, livestock or fertilisers. Of this, a total of 393,164 ha of land overlie aquifers. It is not possible to calculate the share of water affected, however, because the agreement holders are widespread across the whole of England, it could be argued that all catchment areas benefit, even though the degree to which they benefit may be small. With a total area of land in England of 9,291,462 ha, the land subject to reduced inputs represents 29%.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area with reduced inputs</th>
<th>Of which overlie aquifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS</td>
<td>713,436</td>
<td>71,262</td>
</tr>
<tr>
<td>ESA</td>
<td>641,549</td>
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<td>OFS</td>
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<td>ELS</td>
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<td>OELS</td>
<td>99,352</td>
<td>16,267</td>
</tr>
<tr>
<td>Total</td>
<td>2,717,902</td>
<td>393,164</td>
</tr>
</tbody>
</table>

However, it should be pointed out that woodland creation under the WGS will make use of herbicides as they are generally used for weed control during the establishment phase. After the first 3-5 years however, no further applications of herbicides are likely to be applied.

For full information on WGS figures, see VIII.2.C-2.1 (a, b & c)

References to data sources

Defra:
AESIS and Genesis database
Income foregone prescriptions
Defra OFS prescription database
Defra 2007 June Agricultural Census
Standards of Good farming Practice
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria
Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator
Share of water resources reduced/ stabilised pollution levels (a) of which related to basic agricultural (or forestry) production.

Scheme
All

Answer
100%

Explanation of Sources and calculations
Under CSS, ESA, OFS, ELS, HLS and OELS, there are 2,717,902 ha of land subject to reduced input from plant protection products, livestock or fertilisers. Of this, a total of 393,164 ha of land overlie aquifers. All of this land is related to basic agricultural/forestry production.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Area with reduced inputs</th>
<th>Of which overlie aquifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS</td>
<td>713,436</td>
<td>71,262</td>
</tr>
<tr>
<td>ESA</td>
<td>641,549</td>
<td>62,457</td>
</tr>
<tr>
<td>OFS</td>
<td>919,864</td>
<td>213,033</td>
</tr>
<tr>
<td>ELS</td>
<td>304,693</td>
<td>27,143</td>
</tr>
<tr>
<td>HLS</td>
<td>39,008</td>
<td>3,002</td>
</tr>
<tr>
<td>OELS</td>
<td>99,352</td>
<td>16,267</td>
</tr>
<tr>
<td>Total</td>
<td>2,717,902</td>
<td>393,164</td>
</tr>
</tbody>
</table>

For full information on WGS figures, see VIII.2.C-2.1 (a, b & c)

References to data sources
Defra:
AESIS and Genesis databases
Income foregone prescriptions
Defra OFS prescription database
Defra 2002 June Agricultural Census
Standards of Good farming Practice
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.5-3.3

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator

Trend in annual greenhouse gas emission (tons of carbon equivalents (approximate estimates)

Scheme

WGS, FWPS, EWGS and ECS

Answer

Upward trend.

Explanation of Sources and calculations

See Answer to Indicator VIII.1.B-1.1

The evidence from the MTE is:

WGS/FWPS - The average annual net carbon storage from assisted new woodlands is expected to rise from 0.1MtC/yr in 2000 to 0.2 – 0.3MtC/yr in 2012, assuming planting levels are maintained at current levels. Beyond 2012, the forest sink is expected to increase, through new woodland planting by 0.2 – 0.3 MtC/yr, rising to 0.4 – 0.6MtC/yr in 2020.

In addition to this, there has been small annual increase in carbon sequestration (over the last three years), through the planting of energy crops under the ECS. There will be additional pollution mitigation when crops are harvested and burnt, replacing fossil fuels. One of the objectives of the ECS is to reduce carbon emissions by 33,420 - 147,040 t/yr from short rotation coppice and by 9,980 – 43,920 t/yr. from miscanthus

Using this data, this results in a increase in carbon sequestration of 0.02MT/yr

The effect of the programme on trends in nitrous oxide and methane emissions were felt to be impossible to calculate (Defra Baseline study).

Calculated from FC figures for Carbon sequestration from new planting in the UK, adjusted to reflect the proportion from assisted new plantings in England.

Total carbon storage in England’s woodlands is expected to peak in 2005 and then, despite the increase in new woodlands, it is predicted to reduce each year until 2016. This is due to the large amount of woodlands planted in the 1960’s, which will be felled between 2005 and 2016.

References to data sources

FC. 2002. UK Indicators of Sustainable Forestry
Chapter X. Cross Cutting Evaluation

Questions

To what extent has the programme been conducive to the protection and improvement of the environment

Criteria

Unsustainable use or pollution of natural resources has been avoided or minimised

Indicator

Trend in annual greenhouse gas emission (tons of carbon equivalents (approximate estimates), (a) of which from carbon dioxide (%))

Scheme

WGS, FWPS & ECS

Answer

100%

Explanation of Sources and calculations

WGS/FWPS -. The average annual net carbon storage from assisted new woodlands is expected to rise from 0.1 MtC/yr in 2000 to 0.2 – 0.3MtC/yr in 2012, assuming planting levels are maintained at current levels. Beyond 2012, the forest sink is expected to increase, through new woodland planting by 0.2 – 0.3 MtC/yr, rising to 0.4 – 0.6MtC/yr in 2020.

In addition to this, there has been small annual increase in carbon sequestration (over the last three years), through the planting of energy crops under the ECS. There will be additional pollution mitigation when crops are harvested and burnt, replacing fossil fuels. One of the objectives of the ECS is to reduce carbon emissions by 33,420 - 147,040 t/yr from short rotation coppice and by 9,980 – 43,920 t/yr. from miscanthus

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References to data sources

FC. 2002. UK Indicators of Sustainable Forestry
<table>
<thead>
<tr>
<th>Chapter X.</th>
<th>Cross Cutting Evaluation</th>
<th>Indicator ref.</th>
<th>X.5-3.3(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To what extent has the programme been conducive to the protection and improvement of the environment

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsustainable use or pollution of natural resources has been avoided or minimised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>Trend in annual greenhouse gas emission (tons of carbon equivalents (approximate estimates), (a) of which from nitrous oxide (%)</td>
</tr>
<tr>
<td>Scheme</td>
<td>WGS, FWPS &amp; ECS</td>
</tr>
<tr>
<td>Answer</td>
<td>Information not available, obtaining data will result in disproportionate costs</td>
</tr>
</tbody>
</table>

**Explanation of Sources and calculations**
Defra baseline study stated that the net effects would be impossible to calculate.

**References to data sources**
Defra Baseline Study 2003
To what extent has the programme been conducive to the protection and improvement of the environment

**Criteria**
Unsustainable use or pollution of natural resources has been avoided or minimised

**Indicator**
Trend in annual greenhouse gas emission (tons of carbon equivalents (approximate estimates), (a) of which from methane (%))

**Scheme**
WGS, FWPS & ECS

**Answer**
Information not available, obtaining data will result in disproportionate costs

**Explanation of Sources and calculations**
Defra baseline study stated that the net effects would be impossible to calculate.

**References to data sources**
Defra Baseline Study 2003
Chapter X. Cross Cutting Evaluation

Questions

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

The assisted actions are concerted and complimentary so as to produce synergy through their interaction on different aspects of rural development problems/opportunities

Indicator

Frequency of groups/combinations of actions/projects

Scheme

All

Answer

19.7% of beneficiaries have two schemes, 4.4% have three schemes, 0.9% have four or more schemes and 75.0% have only a single scheme.

Explanation of Sources and calculations

Pooling all the schemes for which CPH numbers are available (which excludes WGS and EWGS), the following are the most frequently occurring schemes and combinations of schemes on individual holdings.

Scheme and Combinations of Schemes and Numbers of Beneficiaries

<table>
<thead>
<tr>
<th>Schemes</th>
<th>Total Schemes</th>
<th>Schemes</th>
<th>Total Schemes</th>
<th>Schemes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS</td>
<td>17704</td>
<td>ECS/ELS</td>
<td>187</td>
<td>ELS/FWPS/HFA</td>
<td>42</td>
</tr>
<tr>
<td>HFA</td>
<td>6991</td>
<td>ECS</td>
<td>179</td>
<td>CSS/FWPS/RES</td>
<td>41</td>
</tr>
<tr>
<td>CSS</td>
<td>5719</td>
<td>CSS/ESA</td>
<td>138</td>
<td>CSS/ECS</td>
<td>40</td>
</tr>
<tr>
<td>ESA</td>
<td>4761</td>
<td>ELS/HFA/HLS</td>
<td>137</td>
<td>CSS/HFA/OFS</td>
<td>40</td>
</tr>
<tr>
<td>RES</td>
<td>2376</td>
<td>S</td>
<td>131</td>
<td>OFS/RES</td>
<td>40</td>
</tr>
<tr>
<td>FWPS</td>
<td>2340</td>
<td>ELS/ESA/HFA</td>
<td>123</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>CSS/ELS</td>
<td>2312</td>
<td>FWPS/HFA</td>
<td>121</td>
<td>ELS/FWPS/RES</td>
<td>36</td>
</tr>
<tr>
<td>ESA/HFA</td>
<td>1700</td>
<td>HFA/RES</td>
<td>111</td>
<td>ELS/FWPS/HFA</td>
<td>36</td>
</tr>
<tr>
<td>ELS/HFA</td>
<td>1554</td>
<td>ESA/FWPS</td>
<td>101</td>
<td>ELS/OF</td>
<td>35</td>
</tr>
<tr>
<td>CSS/HFA</td>
<td>767</td>
<td>CSS/ELS/ESA</td>
<td>94</td>
<td>CSS/OF</td>
<td>33</td>
</tr>
<tr>
<td>OFS</td>
<td>664</td>
<td>FWPS/RES</td>
<td>87</td>
<td>FWPS/OF</td>
<td>33</td>
</tr>
<tr>
<td>ELS/FWPS</td>
<td>627</td>
<td>CSS/ESA/HFA</td>
<td>78</td>
<td>ELS/EESA/LHS</td>
<td>32</td>
</tr>
<tr>
<td>CSS/FWPS</td>
<td>503</td>
<td>CSS/OELS</td>
<td>71</td>
<td>ELS/HA/OFS</td>
<td>31</td>
</tr>
<tr>
<td>ELS/HLS</td>
<td>493</td>
<td>ESA/RES</td>
<td>71</td>
<td>ELS/FWPS/HLS</td>
<td>28</td>
</tr>
<tr>
<td>ELS/OF</td>
<td>440</td>
<td>CSS/ECS/ELS</td>
<td>70</td>
<td>CSS/EESA/FWPS</td>
<td>25</td>
</tr>
<tr>
<td>OELS</td>
<td>411</td>
<td>HFA/OF</td>
<td>61</td>
<td>CSS/EESA/FWPS</td>
<td>25</td>
</tr>
<tr>
<td>ELS/ESA</td>
<td>374</td>
<td>PMG/RES</td>
<td>61</td>
<td>CSS/FWPS/OF</td>
<td>25</td>
</tr>
<tr>
<td>CSS/ELS/FWPS</td>
<td>308</td>
<td>A</td>
<td>57</td>
<td>ELS/EESA/FWPS</td>
<td>23</td>
</tr>
<tr>
<td>CSS/ELS/HFA</td>
<td>307</td>
<td>ESAHFA/RES</td>
<td>53</td>
<td>ECS/Elsa/FWPS</td>
<td>22</td>
</tr>
<tr>
<td>OELS/OF</td>
<td>267</td>
<td>ELS/HFA/RES</td>
<td>50</td>
<td>ELS/EHD/RES</td>
<td>22</td>
</tr>
<tr>
<td>CSS/RES</td>
<td>216</td>
<td>ELS/OELS</td>
<td>48</td>
<td>CSS/ECS/Elsa/FWPS</td>
<td>21</td>
</tr>
<tr>
<td>CSS/OF</td>
<td>204</td>
<td>ELS/OF</td>
<td>48</td>
<td>CSS/ECS/Elsa/FWA</td>
<td>21</td>
</tr>
<tr>
<td>PMG</td>
<td>204</td>
<td>CSS/HFA/RES</td>
<td>46</td>
<td>CSS/Elsa/HFA/RES</td>
<td>21</td>
</tr>
<tr>
<td>CSS/ELS/RES</td>
<td>196</td>
<td>CSS/Elsa/ELS</td>
<td>44</td>
<td>ECS/FWPS</td>
<td>21</td>
</tr>
</tbody>
</table>
References to data sources
File: Chapter 10 6-1 AllSchemeData_CPH.xls
Chapter X. Cross Cutting Evaluation

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria
The assisted actions are concerted and complimentary so as to produce synergy through their interaction on different aspects of rural development problems/opportunities.

Indicator
Frequency of groups/combinations of actions/projects, (a) at different levels of agricultural/forestry production chains.

Scheme
All

Answer
Some evidence found.

Explanation of Sources and calculations
Combinations of RES and PMG with land-based schemes are indicative of actions at different levels in the production chain. The table below shows the most frequently occurring such combinations, which all involve RES.

Occurrence of Land-based Schemes and RES

<table>
<thead>
<tr>
<th>Schemes</th>
<th>Benefic.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS/RES</td>
<td>440</td>
</tr>
<tr>
<td>CSS/RES</td>
<td>216</td>
</tr>
<tr>
<td>HFA/RES</td>
<td>111</td>
</tr>
<tr>
<td>FWPS/RES</td>
<td>87</td>
</tr>
<tr>
<td>ESAHFA/RES</td>
<td>53</td>
</tr>
<tr>
<td>ELS/HFA/RES</td>
<td>50</td>
</tr>
<tr>
<td>CSS/HFA/RES</td>
<td>46</td>
</tr>
<tr>
<td>CSS/FWPS/RES</td>
<td>41</td>
</tr>
<tr>
<td>CSS/ELS/FWPS/RES</td>
<td>36</td>
</tr>
<tr>
<td>CSS/OFS/RES</td>
<td>33</td>
</tr>
<tr>
<td>CSS/ELS/HFA/RES</td>
<td>21</td>
</tr>
</tbody>
</table>

References to data sources
File: Chapter 10 6-1 AllSchemeData_CPH.xls
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.6-1.1 (ii)

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

The assisted actions are concerted and complimentary so as to produce synergy through their interaction on different aspects of rural development problems/opportunities

Indicator

Frequency of groups/combinations of actions/projects, (b) different aspects of particular bottlenecks

Scheme

All

Answer

There is some evidence of bottlenecks for potential beneficiaries.

Explanation of Sources and calculations

There were cases of gaps between schemes. For example, in relation to organic farming, the OFS was closed in November 1999 due to budgetary constraints and reopened in January 2001 as part of the ERDP under the Rural Development Regulation (RDR) (1257/1999). ESA scheme closed to new applications on 31/3/2004 and the CSS closed to new applications on 31/3/2004. The successor to these last two schemes, Environmental Stewardship opened on the launch on 3/3/2005. While there may have been justifiable reasons for these gaps they created bottlenecks from the point of view potential beneficiaries. In addition, in the early stages of ES problems with IT systems and maps created difficulties for applicants. Project based schemes closed on 30/6/2006 and there have been long gaps between their close and the start of similar schemes under RDPE.

References to data sources
Chapter X. Cross Cutting Evaluation  
Indicator ref. X.6-1.1 (iii)

Questions

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

The assisted actions are concerted and complimentary so as to produce synergy through their interaction on different aspects of rural development problems/opportunities

Indicator

Frequency of groups/combinations of actions/projects, (c) jointly creating critical mass (%)

Scheme

All

Answer

Some evidence, not quantified due to disproportionate cost

Explanation of Sources and calculations

As reported under X.6-1.1, we estimate that a high proportion of ERDP beneficiaries are multiple Scheme beneficiaries and it may therefore be that critical mass is being achieved at the individual level. In this respect the situation has changed since the MTE due to the much higher participation in ERDP, particularly through the impact of ELS.

Consultation evidence – particularly from the regional consultations – suggested that targeting statements – particularly for CSS and HLS – were effective in terms of focusing effort and achieving a level of critical mass within individual Schemes. Indeed, there was a suggestion that targeting statements ought to be extended to other parts of ERDP – notably the project-based Schemes – and in an integrated way.

From our Regional Consultation, there was some evidence of synergy between ERDP and the activity of other programmes. This seemed to work best on the land-based side of the programme where ERDP activity was far better established. For the PBS, there was at the MTE a much greater sense of new organisations delivering a wide range of new Schemes / initiatives and the interface was therefore more complex: Examples were cited of both gaps and overlaps / duplications. At the Ex Post consultations the PBS had become much better established but had then closed in 2006.

For data analysis see X.6-1.1

At the Ex Post Evaluation and the MTE regional consultations were conducted in three English regions: East Midlands, Yorkshire and the Humber and South West. Individual consultations were completed with DEFRA/RDS in each region, together with a range of other partners such as the Countryside Agency, the Regional Development Agency, etc.

References to data sources

At the Ex Post – Regional Consultations.
At the MTE: Regional Overview Report and detailed Regional Reports for East Midlands, Yorkshire and the Humber and the South West.
Chapter X. Cross Cutting Evaluation

Questions

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

The uptake involves those having the biggest need &/or potential for rural development (needy, capable, initiating good projects..) e.g. due to (i) publicity (ii) eligibility criteria, (iii) premium differentiation &/or (iv) procedures for selection of projects as well as (v) the absence of delays and bureaucratic costs.

Indicator

Main types of direct beneficiaries and operators (e.g., holdings, enterprises, associations, networks; owners/holders, processors/marketers; arable/pastoral; small/large) involved in the programme (typology)

Scheme

All

Answer

At the MTE the majority of beneficiaries were farmers, which were estimated to be 70% of beneficiaries, of the others, 22% were landowners applying for WGS grants. Farm beneficiaries are likely to be larger than average and in an LFA. They are also likely to be a cereals or general cropping farm. They are least likely to be a horticulture, pigs or poultry farm.

Explanation of Sources and calculations

The majority of beneficiaries are farmers (based upon beneficiary having a CPH number). As the tables below demonstrate, uptake of ERDP (relative to the population) has been high for some farm types – notably cereals, general cropping, dairy and upland cattle and sheep. It has been relatively low in the unsupported sectors of pigs and poultry, and horticulture. The incidence of uptake is also relatively much higher among small and medium farm holdings (measured in ESUs) than it is for very small or very large holdings.

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Defra June Survey Data 2007</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Holdings</td>
<td>Percentage</td>
</tr>
<tr>
<td>CEREALS</td>
<td>23,565</td>
<td>11%</td>
</tr>
<tr>
<td>GENERAL CROPPING</td>
<td>8,565</td>
<td>4%</td>
</tr>
<tr>
<td>HORTICULTURE</td>
<td>8,940</td>
<td>4%</td>
</tr>
<tr>
<td>SPECIALIST PIGS &amp; POULTRY</td>
<td>8,645</td>
<td>4%</td>
</tr>
<tr>
<td>DAIRY</td>
<td>10,649</td>
<td>5%</td>
</tr>
<tr>
<td>GRAZING LIVESTOCK (LFA)</td>
<td>13,025</td>
<td>6%</td>
</tr>
<tr>
<td>GRAZING LIVESTOCK (LOWLAND)</td>
<td>32,768</td>
<td>16%</td>
</tr>
<tr>
<td>MIXED</td>
<td>9,285</td>
<td>4%</td>
</tr>
<tr>
<td>OTHER TYPES</td>
<td>92,724</td>
<td>45%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>208,166</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Farm Size Profile</th>
<th>Defra June Survey Data 2007</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Holdings</td>
<td>Percentage</td>
</tr>
<tr>
<td>very small (&lt;5 ha)</td>
<td>92,947</td>
<td>45%</td>
</tr>
<tr>
<td>small (5&lt;20 ha)</td>
<td>40,134</td>
<td>19%</td>
</tr>
<tr>
<td>medium (20 &lt;50ha)</td>
<td>27,179</td>
<td>13%</td>
</tr>
<tr>
<td>large (50 &lt;100ha)</td>
<td>21,309</td>
<td>10%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>208,166</td>
<td>100%</td>
</tr>
</tbody>
</table>

References to data sources
ERDP monitoring data.xls; Defra June Survey (2007).
Chapter X. Cross Cutting Evaluation

Questions

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

The uptake involves those having the biggest need &/or potential for rural development (needy, capable, initiating good projects..) e.g. due to (i) publicity (ii) eligibility criteria, (iii) premium differentiation &/or (iv) procedures for selection of projects as well as (v) the absence of delays and bureaucratic costs.

Indicator

Evidence of discouraging, unnecessary delays or costs (description)

Scheme

All

Answer

Evidence that application process was burdensome and payment schedules too long.

Explanation of Sources and calculations

The best evidence remains that from the MTE when many beneficiary interviews were carried out:

From our interviews with beneficiaries that were undertaken as part of the sub-regional case studies, there was a sense that application processes were quite lengthy and – in some cases – payment schedules were also long.

Again from our consultations with beneficiaries, it appeared that most of successful applicants hired the services of an intermediary to complete the requisite application forms; this was explained partly in terms of the complexity of application processes and partly in terms of the added credibility provided by a third party provider. Although successful applicants were able to re-coup the costs, unsuccessful applicants were not. This in turn meant that the process of applying itself constituted a significant risk.

The principal data source was the beneficiary interviews that were conducted in the context of eight sub-regional case studies. These were undertaken in eight areas of England: Fens, Forest of Dean, Cumbria, Northumberland, Harborough, Surrey, Shropshire Hills and South Yorkshire.

References to data sources

Discussion of these issues can be found in our Overview of Sub-Regional Case Studies and in the individual Case Study Reports from the MTE.
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.6-3.1

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria
Leverage effects have been maximised through eligibility, premium differentiation or selection of projects

Indicator
Leverage rate = \{total spending by direct beneficiaries on assisted actions\} to \{public co-financing\}

Scheme
All

Answer
The information is not available and collection would result in disproportionate cost

Explanation of Sources and calculations
The private costs of agri-environment schemes which constitute the bulk of the Programme are unknown.

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.6-4.1

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria

Dead weight have been avoided

Indicator

Evidence of dead-weight (description and approximate quantification)

Scheme

All

Answer

[To be completed]

Explanation of Sources and calculations

References to data sources
Chapter X. Cross Cutting Evaluation

Questions

Indicator ref. X.6-5.1

To what extent have the implementing arrangements contributed to maximising the intended effects of the programme?

Criteria
Beneficial indirect effects (especially supplier effects) have been maximised

Indicator
Evidence of actions/projects resulting in beneficial indirect effects (description)

Scheme
All – but especially PMG.

Answer
New survey information awaited:

From the MTE Main Survey of beneficiaries, 38% of respondents claimed that ERDP had had a beneficial financial effect on their suppliers. Patterns of response varied across the different Schemes but the highest incidence of beneficial supplier effects was observed with respect to PMG (71%) and RES (63%)

Additionally 21% said there were beneficial effects to their customers and 3% said that there were beneficial effects to their competitors.

From our case studies at the MTE, there were examples of other beneficial indirect effects – albeit difficult to quantify (e.g. neighbours expressing appreciation following the planting of woodland; people in the village gaining access to the land through the restoration of footpaths, etc.)

Explanation of Sources and calculations
PMG Evaluation case studies (7 from a population of 85) offer some speculative evidence of indirect effects, although these have not been quantified. An analysis of project titles also offers evidence of the type of projects and whether they might rely on local suppliers.

Monitoring data indicates that only 40 projects (from 79) involve an increase in amount of locally produced/sourced raw material purchased. While this is a high proportion (51%), it represents a negligible proportion of the industry.

References to data sources
Probis monitoring data.
Defra

Ex Post Evaluation of England Rural Development Programme

Editors  S Milne and M Temple
Checker  J Dwyer
Approver  B Lascelles

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1 Summary

The England Rural Development Programme (ERDP) was drawn up by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1999 to implement the Rural Development Regulation (RDR) of the European Union (EU) (Council Regulation (EC) No. 1257/1999). The ERDP brought together previously disparate rural development activities under one umbrella programme [Section 2.1]

Implementation: ERDP supported two broad areas of activity: ‘land-based’ schemes to support positive environmental management, and ‘project-based’ schemes to stimulate socio-economic and environmental adaptation within and beyond farming, in rural England. In general, the land-based schemes were mostly well established under previous programmes and were thus simply brought into the ERDP framework in 2000. These included Farm Woodland Premium Scheme (FWPS), Woodland Grant Scheme (WGS), Environmentally Sensitive Areas (ESA), Countryside Stewardship (CSS) and Organic Farming Scheme (OFS). By contrast, the socio-economic schemes were newly created for ERDP, although they drew heavily on past experience from similar programmes: Vocational Training Scheme (VTS), Rural Enterprise Scheme (RES), Processing and Marketing Grant (PMG) and Energy Crops Scheme (ECS) [Section 2.3].

Changing policy and institutional background: Since the Mid Term Evaluation (MTE) was published (ADAS & SQW, 2003) several national policy evaluations, reforms, reviews and strategies have influenced the further development and delivery of the programme. These have involved a significant degree of institutional reorganisation, in addition to the reform and relaunch of significant elements of the ERDP schemes and wider rural and agricultural policies. Recent changes have seen WGS and FWPS combined into the English Woodland Grant Scheme (EWGS), and the launch of Environmental Stewardship, comprising Entry Level Scheme (ELS), Higher Level Scheme (HLS) and the Organic Entry Level Scheme (OELS). CSS, ESA and OFS are closed to new business [Section 2.2]

1.1 Ex Post Evaluation terms of reference

Hyder Consulting (UK) Ltd with sub-consultants ADAS UK Ltd and the Countryside and Community Research Institute (based at the University of Gloucestershire) are appointed as independent evaluators. The evaluators are to produce an Ex Post Evaluation (EPE) that meets the requirements of the Rural Development Regulation, its Implementing Rules (Council Regulation (EC) No 1257/1999 and Commission Regulation (EC) No 817/2004) and associated EU Commission guidance. The set of common evaluation questions defined for the MTE must again be applied in the context of the Ex Post Evaluation. This report therefore follows guidance issued for the MTE\(^1\), at the European Commission’s direction\(^2\). The Ex Post Evaluation (EPE) is funded under the technical assistance component of the Rural Development Programme for England (RDPE), 2007 – 2013 [Section 2.4].

1.2 Methodology

The evaluative method was largely driven by the questions of the European Commission. These were mapped against available evaluations and data to show the gaps in information. A survey

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\(^1\) [http://ec.europa.eu/agriculture/nur/eval/eval2_en.pdf](http://ec.europa.eu/agriculture/nur/eval/eval2_en.pdf)

was designed to fill the gaps in the data. Three regional focus groups were held in Yorkshire Humber, East Midlands and the South West, attended by public sector and non-governmental organisations. Detailed consultation interviews were also completed [Section 3]

1.3 Achievements

The ERDP had two priorities at a Programme level:

Priority A: Creation of a productive and sustainable rural economy

Priority B: Conservation and enhancement of the rural environment

Priority A objectives were to assist projects which contribute to more diverse and competitive agricultural and forestry sectors, the creation of new jobs, new products and market outlets, encouraging collaborative marketing and provision of targeted training. Output indicators were applied where impact indicators were not available. The first result (in italics) provides information from the MTE. The second result (in bold) refers to the situation at the close of the ERDP in 2006 [Sections 4.3 to 4.6].

- To increase farm revenues from diversified sources by 25% on full time farms in England by end 2006: Not answered in MTE. [To be completed] EPE
- To assist 6,000 – 7,000 projects under the Rural Enterprise Scheme by 2007: 1,079 from monitoring-MTE. 3,028 from monitoring (ERDP Annual Report 2006 page 38)
- To assist 370 businesses with Processing and Marketing Grants by 2007: 79 from monitoring-MTE. 248 from ERDP Annual Report 2006 page 38
- To assist 200 village initiatives through the Rural Enterprise Scheme by 2007: 33 from monitoring-MTE. 548 from monitoring (ERDP Annual Report 2006 page 38)
- To create 4,000 – 6,000 Full Time Equivalent jobs through the Rural Enterprise Scheme: 1,799 from monitoring-MTE. 14,553 from monitoring (Defra ERDP Annual Report 2006 page 38)
- To create 2,200 Full Time Equivalent jobs through Processing and Marketing Grants by 2007: 2,105 from monitoring-MTE. 8,393 from monitoring (ERDP Annual Report 2006 page 38)
- To provide 48,000 full cost equivalent training days for people in farming and forestry by 2007 to support successful delivery of measures under this Programme: 14,256 from monitoring-MTE. 156,000 from monitoring (ERDP Annual Report 2006 page 38)
- To increase by 21,000 Ha the area of agricultural land planted with trees by 2007: 9,623 ha from monitoring-MTE. 30,921 ha. from monitoring (ERDP Annual Report 2006 page 39)

Evidence collated within answers to the common evaluation questions suggested that costs were reduced in key production chains e.g. ERDP assistance reduced ECS costs by approximately half (indicator X.4-1.1).

Priority B had objectives to increase significantly the area covered by the schemes operated under the agri-environment measures, and to maintain the sustainable management of an appropriate size of the Less Favoured Area.

- To deliver by 2007 the 5-year 2010 Biodiversity Action Plan targets for creation of field margins through the Countryside Stewardship Scheme: 17,326 ha by the end of 2002 from monitoring-MTE. Scheme closed; target met (ERDP Annual Report 2006 page 39)
- 60% of farmed land in England to be covered by an Entry Level Environmental Stewardship agreement by 2007: Scheme launched after MTE. 39% of farmland in England (ERDP Annual Report 2006 page 39)
- To achieve an additional 525,000 ha of land under a combination of Countryside Stewardship and Environmental Stewardship (Higher Level) agreements by 2007: 304,000
ha by the end of 2002 from monitoring-MTE. Achieved (ERDP Annual Report 2006 page 40).

- 40,000 ha of land converted or converting to organic farming by 2007 by:
  (a) Attracting, retaining and transferring 280,000 ha of fully organic land and land converted and under agreement within the OFS to the organic strand of the Environmental Stewardship scheme (OELS) in 2005: N/A in MTE. **168,045 ha (OELS) by end of 2006 (ERDP Annual Report 2006 page 41), which is 60% of 280,000.**
  (b) Increasing the area of land under conversion and under agreement within the OELS by 20,000 ha per annum in 2005 and in each year thereafter. **N/A in MTE. Not reported in ERDP Annual Report**

- To maintain at least the current areas of land in either ESA or Environmental Stewardship agreements: **Target achieved to maintain at least the current areas of land under ESA-MTE. Transfer rate to ES was 24.39%. 377,072 ha of existing land under agreement retained within ESA until the close of the programme (ERDP Annual Report 2006 page 40).**
- To maintain extensive grazing on 1.4 million ha in the Less Favoured Areas: **Achieved-MTE.**
- To increase by 10% the proportion of land in higher ESA tiers by 2004: **Achieved-MTE. Scheme closed (ERDP Annual Report 2006 page 40)**

### 1.4 Financial effectiveness

The ERDP had an overall budget of approximately £1.6bn from European Agricultural Guidance and Guarantee Fund (EAGGF) and UK Treasury.

![Figure 1 Comparison of total budgeted and actual spend by ERDP chapter](image)

The ERDP was funded 29.3% by EAGGF, 11.9% by modulation (which indirectly also came from EAGGF) and 58.8% by the UK Treasury. The modulation funds were concentrated on Chapter 6 Agri-environment spending which received £186.6 million or 99.7% of the total modulated funding [Sections 4.1 and 4.2].

### 1.5 Conclusions

The process of drawing up and implementing the ERDP was an innovation in consultation and partnership for integrated rural development which most stakeholders, whatever their
reservations, saw as a constructive development when compared to previous exercises [Section 5.1.1].

Socio-economic schemes varied in performance against targets, with shortfalls in the number of businesses reached by RES and PMG but jobs created exceeded targets, as did the number of training days. It should be noted that these figures are based on the ex-ante judgement of likely jobs created by projects at the time of awarding the grant; and not upon actual ex-post impact [Section 5.1.1].

The financial effectiveness of ERDP schemes has varied with project based schemes generally becoming more effective as the programme progressed and the agri-environmental schemes apparently less effective, at least in the short-term. The socio-economic schemes were negatively influenced by the foot and mouth epidemic in 2001. Woodland schemes have been effective in meeting their targets [Section 5.1.3]. To firmly establish effectiveness it would be necessary to have more output based objectives and measure their achievement.

The evidence for the wider effectiveness of the socio-economic aspects of ERDP (mainly the project-based schemes) is weak, but this is largely due to a significant lack of evaluation evidence rather than any demonstrable weaknesses in performance. Based upon simple output indicators, scheme performance appears positive, and this is supported by a range of stakeholder opinion as expressed in interviews and discussions. However, the relatively small scale of socio-economic support in ERDP by comparison to the size of the rural economy and the apparent impact of wider policy and market developments during the period suggest that at the macro level, ERDP impacts will be modest. Results from the EPE survey should help to increase our understanding of the nature and significance of these impacts [Section 5.1.2].

Given the emphasis of expenditure within ERDP, an enhanced environment should have been the main impact of the programme. The evidence for this at present relates mainly to investment elements within the programme (both in the land management and in the wider rural economy schemes). The lasting benefit of ongoing environmental management under the agri-environment and woodland schemes is likely to be significant simply in view of the ongoing commitments under these schemes. The initial level of transfer from closed agri-environment schemes to the new Environmental Stewardship schemes has been low, but numerous, interrelated factors affect whether land is transferred to new schemes, and further research has been published (e.g. Defra and Natural England, 2008) [Section 5.1.2].

Judged by targets and programme outputs, ERDP appears to have performed reasonably well, but this ignores the varying efficiency with which inputs were transformed into net benefits. Very limited evidence is available upon which to draw conclusions about value for money. The challenge of identifying the counter factual for a widespread scheme with high take up is also acknowledged. The better measurement of results and impacts of programme expenditure, using quantitative methods where appropriate alongside qualitative evaluation, will enable the assessment of net benefits [Section 5.1.3]. Target setting needs to be both bottom up and top down to ensure stakeholder support, and needs increasingly to look beyond simple outputs, to capture programme results and impacts. Target setting should be needs related and the process should help motivation and ownership by delivery bodies and stakeholder groups.

The ERDP Programming Document explained that priority would be given to measures which contribute to the delivery of more than one objective … or are combined… to achieve additional benefits (paragraph 6.1.51). There was limited integration between schemes at the level of individual beneficiaries but this partly because the spend was so concentrated upon agri-environment schemes. Expenditure was heavily concentrated on attempting to deliver positive environmental outcomes with 94% of projects and 90% of expenditure concentrated upon these. However, the benefits of integration at a more strategic level were apparent, and efforts to encourage a more integrated approach to the targeting and cumulative impact of programme funding developed throughout the programme period [Section 5.1.4].
Sustainability, or lasting effects, arising from ERDP is underpinned by several factors including the optimum blend of advice and promotion and a high standard of business planning from beneficiaries. Collective direction, with a sufficient volume of activity to raise the profile with well-established schemes, is important in developing cumulative benefits from rural development. Strategic planning and promotion of landscape and filière-scale outputs is important in ensuring the resilience of programme gains [Section 5.1.2].

Facilitation includes advice, skills enhancement, and business support. It is applicable throughout the project lifecycle: from promotion, to application screening, the application itself, and subsequent implementation. ERDP schemes vary in the amount of facilitation in both amount (simple resource cost) but also in type, timing and quality (which may be independent of simple resource cost). Evidence from the consultations and other research highlights the importance of facilitation, but stresses that it is expensive and must be delivered at an optimum level in order to maximise the impact [Section 5.1.5]. Rural development programmes should try to induce permanent changes in behaviour, not just changes which revert when the funding ends.

It is apparent that Defra have not yet designed and implemented a robust system for the monitoring of running costs. The evaluators are therefore unable to draw meaningful conclusions about efficiency of the ERDP delivery. The limited evidence available suggests that running costs vary considerably. Initial high running costs of new agri-environment schemes include the costs of new technology; greater efficiencies should be demonstrated further into the new programming period. It is recognised that whilst costs should be controlled, complex schemes such as HLS are more expensive to run than simple schemes such as HFA [Section 5.1.3].

The ERDP experienced many changes to its own operations [Section 4.5], and in a broader rural development context in England [Section 2]. The impact of such changes exposed weaknesses in the management of new or complex schemes. Defra and its agencies were not alert and rapidly responsive to implementation problems and factors affecting beneficiary perceptions, accessibility and uptake. This is particularly pertinent when many different and challenging developments were due to occur over the same time period [Section 5.1.6].

Valuable lessons have also been learned from the implementation arrangements. At the beneficiary level, an apparent decline in the relationship between farmers and government agencies has been reported in consultations and elsewhere. Whilst this may not be directly related to ERDP design or implementation, it may have affected the ERDP’s effectiveness. The relationship between government agencies, stakeholders and other intermediaries is extremely important to the successful delivery of RD programmes. Indeed, ERDP represented a new beginning in some forms of consultation which were favourably discussed in consultation interviews. Problems encountered during ERDP reflect the real difficulties of change management and the importance of better planning to reduce adverse impacts on the businesses and groups who are the customers for rural development, not least because these impacts will, in turn, affect programme outcomes. Finally, consistency of objectives and scheme implementation is extremely important: consistent messages and continuity of aid enable relationships, trust and respect to develop between the ERDP management, and its beneficiaries [Section 5.1.6].

3 Key production chains