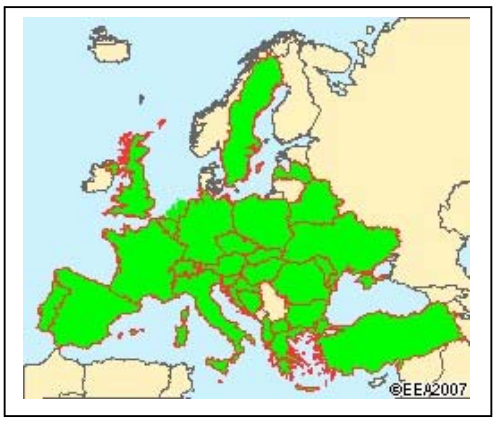
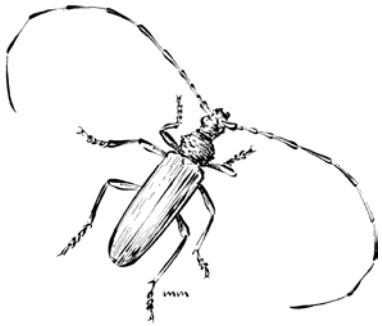
Great capricorn beetle *Cerambyx cerdo*

Habitats Directive – Annex II & IV





Cerambyx cerdo has its distribution area in the Western Palearctic and is present almost all over Europe, North Africa and Asia Minor*.

	AT	BE	BU	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IR
Present														
	IT	LV	LT	LU	MA	NL	PL	PT	RO	SL	SV	SE	UK	
Present														

SPECIES INFORMATION

ECOLOGY

- The great capricorn beetle is a large beetle with a thin body and very long antennae which are longer than the body;
- It completes its life cycle in 3-5 years. Females can lay up to 300 eggs. The eggs are laid in deadwood part of living, very old and unshaded trees (usually injuries on the trunk or in branches of very old trees) between May and September and larvae appear around 10 days later;
- During the first year, the larvae stay under the bark and in the second year they go deeper into the wood, on which they feed;
- At the end of the last stage, the nymph makes a gallery that opens to the outside but the adults remain sheltered in the chamber during the winter;
- The adults emerge between May and September depending on local climatic conditions and latitude. They mate a few days later and live for 3-5 weeks;
- Adults are weak flyers and very rarely fly more than 500 meters from their tree;
- Adults are generally active at twilight. They feed on the sap that appears on injuries in the bark and on mature fruit.

HABITAT REQUIREMENTS

- The great capricorn beetle is a saproxylic (wood-eating) species that usually lives in deadwood of standing veteran oak trees (*Quercus sp)* and other deciduous species such as chestnuts, birch, willow, ash, elm, walnut, hazel, carob, beech, hornbeam etc…In parts of its range, the range of possible host trees is much more restricted, i.e. to white oaks (Quercus robur and Q. petraea).

- Generally it is found on forested hills at low altitude. It is linked to the decay phase of trees and thus very rarely found in forests today. Instead, it is most abundant in old natural open semi-natural forests and in veteran trees in man-made environments, such as on orchards, traditional farmland and in landscape parks;
- The species normally selects old and decaying trees, such as oaks that are over 100 years old and have a diameter larger than 40cm.

THREATS

The species is declining across Northern Europe but is still relatively common in South France, Spain and Italy. Nevertheless, even here, the rate of decline is worrying. Main threats area as follows:

- Habitat loss:The loss of natural and semi-natural forests containing old and decaying trees and their replacement with young or non-native plantations is a major problem for saproxylic beetles in general and the great capricorn beetle in particular;
- Lack of veteran and decaying trees: is a problem even in semi-natural forests as dead and decaying wood is often removed for safety reasons (especially in parks and urban habitats) or as part of standard forest management practices and for reasons of forest health protection;
- Lack of tree continuity: Because the great capricorn beetle usually flies only very short distances it is essential that there is a range of trees of all ages present so that when the 200+ year old trees are finally gone the species has other old trees to move into. A continuity in age classes is important for the long term survival of the species;
- Shading of the trunks of habitat trees by regeneration of the surrounding trees and shrubs, especially in stands that used to be grazed or coppiced;
- Proliferation of exotic shrub species like Eastern Black Cherry (Prunus serotina) and planting of shade-loving trees, especially conifer species, in the vicinity of the habitat trees often has the same effects and is as detrimental to habitat tree quality;
- Forest sanitary measures: In some parts of Europe, the great capricorn beetle is considered a pest as the larvae channels are thought to further weaken already aging trees and damage the wood. In some parts of its range, foresters sometimes attempt to eradicate the species by injecting trees with insecticides.

FOREST MANAGEMENT PRACTICES FAVOURABLE TO CAPRICORN BEETLES

Forestry practices that are favourable for great capricorn beetles include:

- Maintain natural and semi-natural forests: with a diverse age structure, autochtonous tree species and a sufficient number of mature and decaying old trees at different stages of senescence;
- Adjust forestry practices: In managed forests measures should be taken to ensure there is a sufficient continuum of trees of different ages and that habitat trees are left in place. Exotic trees should be thinned out. It is also recommended to maintain unexploited areas where trees can age naturally and die. 1-10 dead or decaying trees per 5 ha (trees >35 cm diameter) is recommended by the Office National des Forets (France);
- Increase amount of deadwood: artificially by creating snags and leaving logs and/or a proportion of tree trunk standing after felling; some studies have indicated that there should be a minimum of around 30m³ of dead wood per ha or 3-8% of the total volume of wood present;
- Prevent persecution: through appropriate management of the forest to ensure a balance of all tree ages and structure and avoiding unnecessary forest sanitation. It is important to dispel concerns that the great capricorn is a major pest species. It only uses trees that area already aged and predisposed in some way;
- Maintain grazing: in wooded pastures, forest glades and parklands with old trees to maintain open vegetation and prevent scrub invasion.

OTHER SPECIES BENEFITING FROM THESE CONSERVATION MEASURES

Like every species, the great capricorn beetle has particular habitat requirements that are unique to its lifecycle. However, several of the measures mentioned above would also benefit other species listed in the Habitats and Birds Directives that are typical of these habitats. Retention of veteran deciduous trees is the key management measure for several other species, such as:

Other saproxylic insects:
Stag beetle, *Lucanus cervus,*
Rosalia longicorn, *Rosalia alpina,*
Violet Click Beetle, *Limonius violaceus*
Hermit beetle, *Osmoderma eremita*

Avian species:
Tawny Owl, *Strix aluco*
Middle Spotted Woodpecker, *Dendrocopos medius*
Short-toed Treecreeper, *Certhia brachydactyla*
White-backed Woodpecker, *Dendrocopos leucotos*
Grey-headed Woodpecker, *Picus canus*
Syrian Woodpecker, *Dendrocopos syriacus*
Red-breasted Flycatcher, *Ficedula parva*
Collared Flycatcher, *Ficedula albicollis*

Mammals:
Bechstein's bat, *Myotis bechsteinii*
Barbastelle bat, *Barbastella barbastella*
Pine Marten, *Martes martes*
Greater mouse-eared bat, *Myotis myotis*

OBLIGATIONS ARISING FROM THE HABITATS DIRECTIVE

The great capricorn beetle is protected under the EU Habitats Directive 92/43/EEC. It is listed in annexes II and IV. As a result, Member States must take the following measures to ensure its conservation:

General requirements

Member States must undertake measures that are designed to maintain or restore the great capricorn beetle at a '*favourable conservation status'* in the EU (cf Article 2).

The conservation status of a species is taken as 'favourable' when:
- populations are maintaining themselves over the long term and are no longer showing signs of continuing decline;
- their natural range is not being reduced;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

Protecting the species

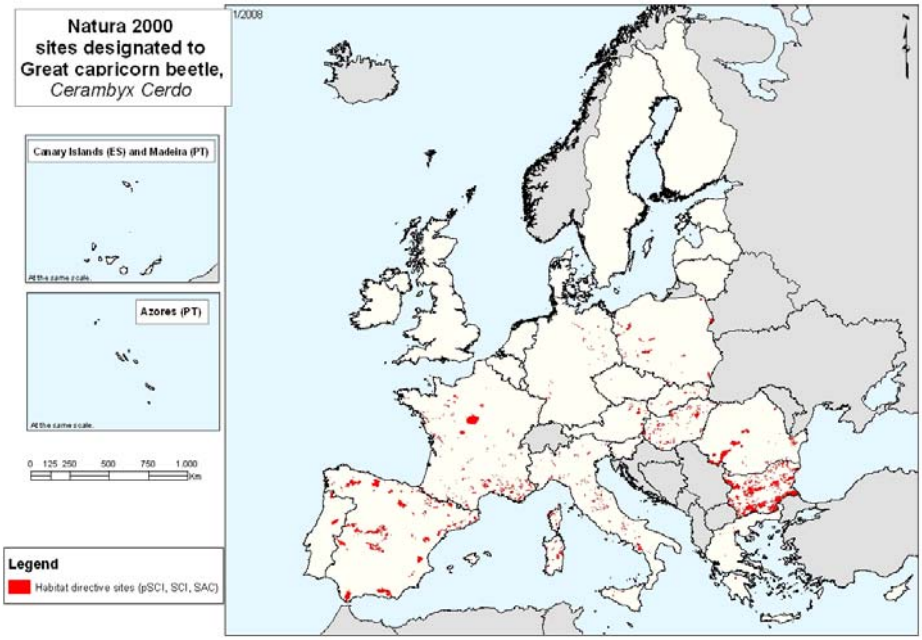
Member States shall take the requisite measures to establish a system of strict protection for the great capricorn beetle, and in particular to prohibit the following (cf Article 12):
- deliberate killing or capture by any method;
- deliberate disturbance, particularly during breeding, rearing, hibernation and migration;
- deliberate destruction or taking of eggs in the wild;
- deterioration or destruction of breeding sites or resting places;
- the keeping, sale and transport of specimens taken from the wild.

Derogations to the above are allowed in some special circumstances provided that no satisfactory alternatives exist and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status (Article 16).

Protecting core habitats for the species under Natura 2000

Because the great capricorn beetle is listed in Annex II of the Habitats Directive, Member States must, in addition to the general provisions referred to above, designate sites under Natura 2000 to maintain and restore the species to a favourable conservation status (cf Articles 1 and 3).

As of November 2008, a total of 1207 Sites of Community Importance (Natura 2000 sites) have been designated in the EU where the great capricorn beetle is recorded being present.



Managing Natura 2000 sites

Within these sites Member States must take appropriate steps to avoid the deterioration of habitats of the great capricorn beetle as well as any significant disturbance. Member States shall also take positive measures to conserve and, if necessary, restore the species to a favourable conservation status. This means establishing the necessary conservation measures corresponding to the ecological requirements of the species involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans (Cf Article 6).

In practice management plans are very often developed for each SCI within Natura 2000. Management plans are useful documents in that they:

- identify the conservation needs of the habitats and species present in that site so that it is clear to all what is being conserved and why;
- analyse the socio-economic and cultural context of the area and the interactions between different land uses and the species and habitats present;
- provide an open forum for debate amongst all interest groups and help build a consensus view on the long term management of the site;
- help find practical management solutions that are integrated into other land use practices.

Assessment and approval of plans and projects that may significantly affect Natura 2000 sites:

The EU Nature Directives support the principle of sustainable development. Their aim is to set the parameters by which the economic activities can take place whilst safeguarding Europe's biodiversity. Thus, any plans or projects that may affect the species and habitats for which the sites are designated must be first assessed to determine whether the project is likely to have a significant effect on the species and habitat types for which the site has been designated.

If the impact is not considered significant the project can go ahead. If the effect is expected to be significant then alternative less damaging options must be fully explored and selected. In exceptional cases projects with significant negative impact on Natura 2000 sites can still go ahead if no viable alternatives exist and if they are considered to be of overriding public interest. In such cases, compensation measures will need to be taken in order to ensure that the ecological coherence of the Natura 2000 Network is not compromised (cf Articles 6 (3) & (4) of the Habitats Directive which apply to SPAs classified under the Birds Directive).

Protecting and managing landscape features outside Natura 2000

With a view to improving the ecological coherence of the Natura 2000 Network, Member States shall endeavour, in their land use planning and development policies, to maintain and restore landscape features which are of major importance for wild fauna and flora (cf Article 10). Such features could be linear structures (e.g. small rivers with their banks, hedgerows or rough herbaceous vegetation at field boundaries, lines of old trees) that act as dispersal corridors or small ponds etc acting as stepping stones. Preservation and proper management of these landscape features could be of great value for the migration, dispersal and genetic exchange of species with isolated populations.

GREAT CAPRICORN BEETLE CONSERVATION THROUGH RDP AND CAP

The obligations arising under the Habitats Directive for the great capricorn beetle can be integrated into agricultural and rural development policy in the following manner:

Cross compliance

One of the 19 Statutory Management Requirements (SMR) of the CAP on mixed farming and forestry holdings receiving single farm payments under the CAP concerns the respect of the following articles of the Habitats Directive which are relevant for the great capricorn:

- Article 6: within Natura 2000 sites take the necessary conservation measures to restore and maintain the species and habitat types for which the site is designated and prevent their deterioration, destruction or significant disturbance.

In addition to meeting the SMRs, farmers must also keep farms in good agricultural and environmental conditions (GAEC) which requires a minimum level of maintenance through compulsory standards for:

- Retention of landscape features including where appropriate, hedges, ponds, ditches, trees (in line, in group or isolated) and field margins;
- Avoidance of encroachment of unwanted vegetation on agricultural land;
- Protection of permanent pasture.

Member States can also voluntarily set standards for[1]:

- Minimum livestock stocking rates or/and appropriate regimes;
- Establishment and/or retention of habitats;
- Prohibition of the grubbing up of olive trees;
- Maintenance of olive groves and vines in good vegetative condition.

Measures under Rural Development Programmes funded from EAFRD:

The following measures could be used to benefit great capricorn beetles:

- **Natura 2000 payments** (Article 46 of EAFRD) - annual payments per hectare of forest to private forest owners or associations in order to compensate for costs incurred and income foregone resulting from the restrictions on the use of forests due to the implementation of Habitats and Birds Directives in the area concerned;

[1] *These standards are however compulsory for those Member States who had already set a minimum requirements for these standards before 1 January 2009 or where national rules addressing the standard are applied in the Member State.*

- **Forest-environment payments** (Article 47 of EAFRD) per hectare of forest to cover forest-environmental commitments going beyond the relevant mandatory requirements. This could include maintaining or increasing the amount of dead wood on the ground, diversifying the forest structure to allow a continuum in age of trees from young to very old;
- **Support for non-productive investments (**Article 49 of EAFRD) in forests: (a) linked to the achievement of commitments undertaken pursuant forest-environment payments, for instance thinning out or removing exotics or other environmental objectives; (b) which enhance the public amenity value of forestz and wooded land of the area concerned;
- **Conservation of rural heritage** (Article 57)**:** for instance to cover the cost of drawing up management for Natura 2000 sites, undertaking habitat restoration measures, launching awareness campaigns on great capricorn beetle conservation requirements amongst farmers.

In addition the following could also be used:

- **Training and information** (Article 21): e.g. could help make forest-environment and agri-environment schemes more effective and train forest owners/managers, farmers and experts in the Farm Advisory Services on conservation and management requirements linked to wildlife such as great capricorn beetles;
- **Farm Advisory Services (FAS)** (Articles 24 and 25): to advise foresters and farmers on how to apply cross compliance rules, e.g. those set for the Habitats and Birds Directives that are beneficial, inter alia, for great capricorn beetles:
- **LEADER** (Article 61): integration of great capricorn beetle conservation into area-based local development strategies and enhancement of dialogue and collaboration between foresters, farmers, conservationists and other rural stakeholders in the area concerned.

EXAMPLES OF CAPRICORN BEETLE FRIENDLY MEASURES UNDER RDP

The following provide some examples of how countries have introduced support for beetle friendly forest management through the Rural Development Regulations for 2000-2006 and 2007-2013. No scheme is focussed specifically on the great capricorn but several can benefit the species indirectly. Further details are provided in the Wildlife and Sustainable Farming Initiative: http://circa.europa.eu/Public/irc/env/swfi/library?l=/species_reports&vm=detailed&sb=Title

Germany

An ecological forestry scheme has been introduced under forest-environment measure (EAFRD) in the 2007-2013 period. It supports actions to increase ecological stability of forests by support of contractually defined usage and cultivation agreements which lead to a sustainable conservation and improvement of protective and ecological roles of forests.

Beneficiaries are owners of forest areas who can enter the scheme as natural and legal persons of private law or associations thereof, and municipalities. Forest areas have to be located within a) designated Natura 2000 areas or b) in special protection areas pursuant to Federal State law.

If a Natura 2000 management plan exists, the agreement follows the recommended development measures in the management plan for the improvement of the conservation status of forest biotope species. Applicants commit to maintain achieved forest conditions for a fixed time horizon which goes beyond the final payment date.

Measures are differentiated by:

- Measures to maintain and develop ecologically valuable forest biotopes (this measure is available since 2005);
- Temporary nature-conservation related usage restrictions;
- Maintenance and re-introduction of traditional ways of forest utilisation, like coppicing;
- Restoration of previously drained wetlands in forests.

Payments are calculated on the basis of:

- Renunciation of cutting potentially exploitable (='ready-for-harvest') trees for a period of 20 years;
- Temporary renunciation of conducting any forestry operations, to protect scarce species during brooding and rearing time.

Hungary

In Hungary, private forests represent almost 9% of the territory of the country. 207,000 ha of private forests were designated as Natura 2000 sites.

Natura 2000 payments

These payments offer potential to finance appropriate management of forests which takes into account the conservation objectives of Natura 2000 sites and the statutory land use provisions regarding forests in these areas and need to be incorporated into the forest management plans. The conditions for forest exploitation on a Natura 2000 area are to be defined in the district forest plans and in the yearly forest plans. The special requirements of the individual Natura 2000 habitats may also appear in the forest maintenance plans.

The collection of data in Natura 2000 forests and updating them is only possible through the assistance of the owners and managers, and this measure also supports this. The forester must continuously contribute to data collection on species and habitats protected under the EU Nature Directives. The beneficiaries (private persons, municipalities and their associations) must be registered with the forestry authority and must have a forest management plan approved by the forestry authority. The minimum size of eligible area is 0.5 hectare and the minimum size of the lot shall be 0.3 ha.

Forest-environment payments

The Rural Development Programme of Hungary includes eleven targeted schemes within the Forest-environment measure; one of them is of particular relevance for great capricorn beetle: *Ensuring special forest habitats, and the conditions for natural forest regeneration*. The Hungarian RDP acknowledges that nowadays the vast majority of the wood stock in the country is often of the same age. Important stand components are missing such as understocked areas, old trees, trees with irregular shaped trunk and crown, standing and laying deadwood, mainly the thick deadwood and trunk stubs, and the root system of fallen wood.

This measure is aimed at favouring the creation and maintenance of microhabitats (keeping old trees with cavities, preserving nesting places and conserving deadwood). It also supports forest management activities such as: removal of the undergrowth, voluntary preservation of tree groups, natural forest regeneration, bush regulation. The term of the support is 7 years for creating microhabitats and 5 years for control of undergrowth. The smallest area of land which can be supported is 1 ha. Forest-environmental yearly payments are between 40€ per hectare (minimum payment) and 200€ per hectare (maximum payment).

Training and information actions

As forest-environmental schemes do not have any antecedents in the Hungarian regulations and the funding system is complex, the successful implementation of the measure should be facilitated by information, training and professional advisory systems provided for the forest owners. This may be carried out under the measure "*Vocational training and information actions*" included in the Hungarian RDP, which clearly states the connection between this measure and the efficient implementation of the Natura 2000 payments and forest-environmental payments.

United Kingdom

England: Forest-environment measure (225)

Rationale
A number of adverse trends affecting the biodiversity of woodland, including a decline in the abundance and diversity of ground flora, birds and butterflies, have been identified. Although there are a number of causes of the decline, the cessation of traditional forms of woodland management and increased grazing by deer are thought to be important causal factors. Intervention under RDP is available to support regular management operations to reverse such decline and to enhance the biodiversity interests. Such management goes beyond and above required statutory minimum (the UK Forestry Standard). Support for the management of existing woodland is primarily delivered under the English Woodland Grant Scheme (EWGS). The aid provided by EWGS includes:

Forest-environment payments – an area-based standard grant paid in five annual instalments and called Woodland Management Grant (WMG). The eligible landowner must assess, consider and record the existing and potential environmental and social values of his forest. Woodland properties above a minimum size are also required to be certified to the UK Woodland Assurance Standard (UKWAS). This requires a full management plan to be prepared. The work that may be undertaken under the scheme is kept under review and modified as required, but initially will include:

- management to benefit biodiversity interest;
- sustainability monitoring;
- soil and ground water protection;
- woodland light management (canopy);
- woodland open space management (floor);
- management of deadwood habitat;
- management of veteran trees;
- management of features of archaeological and cultural heritage interest;
- maintenance of woodland boundaries;
- grey squirrel control;
- controlling non-native species;
- managing the impacts of deer.

The EWGS requires the applicant to specify the work from the above list that will be undertaken as necessary, to meet the needs of the woodland, as determined by the assessment or management plan. Where the resources available for this measure will not permit all applications which meet the general eligibility criteria for WMG to be funded, applications will be selected by limiting eligibility to those supporting specified targeted environmental and biodiversity priorities. The priorities will be selected to specifically enhance biodiversity or preserve high-value forest ecosystems or reinforce the protective value of forests with respect to soil erosion, maintenance of water resources and water quality and natural hazards.

The Forestry Commission will determine the priorities with reference to the UK Forestry Strategy and delivery policies and the objectives of national and regional action plans, such as Biodiversity Action Plan, Habitat Action Plans and Regional Forestry Action Plans. The priority criteria for funding will be published as eligibility criteria for WMGs in EWGS literature. Examples of the priorities that may be used to select applications include:

- woodland within Sites of Special Scientific Interest (SSSIs) (including woodlands in Natura 2000 sites);
- ancient woodlands and their sites;
- semi-natural woodlands;
- semi-nature and native woodland habitats;
- protected or threatened woodland species.