

# **EXECUTIVE SUMMARY**

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**European Commission**

**Studies in the Field of the Common Fisheries Policy and Maritime Affairs**

**Lot 4: Impact Assessment Studies related to the CFP**

**Regional social and economic impacts of change in fisheries-dependent communities**

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### Problem Definition

1. With Axis 4 of the EFF, the Common Fisheries Policy has widened its scope to address socio-economic development of local and regional communities which depend on the fisheries sector. However, there is currently a scarcity of knowledge about how policy changes (both within the sector and more widely) have affected coastal communities dependent on fisheries in recent years, how important other factors have been as drivers of change, or indeed how communities have adapted and responded to change. This study explores such issues.

### Methodology

2. Twenty-four case study locations were selected in agreement with the Commission to represent a diversity of communities within fisheries dependent areas across the maritime states of the European Union. This diversity includes differing conditions in the case study locations in terms of: development (increasing, decreasing and diversifying); size; population; dependency on the fisheries sector; and geography (e.g. mainland and island locations).
3. The approach applied in each of the 24 case study locations for this impact assessment was to:
  - Compile existing statistical data and socio-economic indicators to provide a broad picture of economic and social impacts on local and regional coastal communities brought about by the fisheries sector, disaggregated into catching, processing, support services, and aquaculture sub-sectors.
  - Interpret the case studies within a coherent methodological framework to deliver a quantitative and qualitative assessment and description of the evolution of a number of key social aspects over the last ten years. This provided the basis for drawing some conclusions about the economic importance of fisheries in the case study locations, and for summarising and presenting information about the role of fisheries and other activities.
4. The case studies that were selected are shown in Table 1.

Table 1. Case study locations selected for the study

No.	Region	Country	Specific location
1	Atlantic	United Kingdom	Stornoway
2	Atlantic	Ireland	Killybegs
3	Atlantic	France	Lorient
4	Atlantic	Spain	Celeiro
5	Atlantic	Spain	Costa da Morte
6	Atlantic	Portugal	Ria de Aveiro
7	Atlantic	Portugal	Peniche
8	Mediterranean	Spain	Carboneras
9	Mediterranean	France	Sète
10	Mediterranean	Italy	Oristano
11	Mediterranean	Italy	Mazara del Vallo
12	Mediterranean	Greece	Amvrakikos
13	Black Sea	Bulgaria	Burgas
14	Black Sea	Romania	Danube Delta
15	Baltic	Estonia	Lake Peipsi
16	Baltic	Latvia	Kolka
17	Baltic	Poland	Wladyslawowo

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No.	Region	Country	Specific location
18	Baltic	Poland	Darlowo
19	Baltic	Germany	Rügen Island
20	North Sea	Denmark	Hirtshals
21	North Sea	Germany	Bremerhaven
22	North Sea	Netherlands	Urk
23	North Sea	Belgium	Ostende
24	North Sea	United Kingdom	Grimsby

5. Data collection across the diverse set of locations presented a number of challenges, and interpretation was sometimes required (see individual case studies for details) for reasons that included aggregation of data in local reports, boundary changes, and mismatches between the area of the case study location and administrative boundaries.

### Organisation of the report

6. The report is organised into the following sections:
- **Main report**, providing an overview of the study and presenting a synthesis of the results from the 24 individual case studies together with conclusions about the development and diversification within the case study locations.
  - **Annex A** – Details of the data collection template that was applied in each case study location.
  - **Annex B** – Individual case study reports from the cases studies located in the Atlantic region.
  - **Annex C** – Individual case study reports from the cases studies located in the Mediterranean region.
  - **Annex D** – Individual case study reports from the cases studies located in the Black Sea region.
  - **Annex E** – Individual case study reports from the cases studies located in the Baltic region.
  - **Annex F** – Individual case study reports from the cases studies located in the North Sea region.

### Results

7. Collectively the locations studied represent some 8% of the total EU fleet in terms of, landed quantities and values, and around 11% of the total catching sub-sector employment.
8. Geographically the case study locations represent a diversity of situations. The locations include sites with access to more open ocean areas (e.g. Costa da Morte, Killybegs and Lorient) while others are situated in more enclosed areas such as the Mediterranean, Black and Baltic Seas. Four of the case study locations (Mazara del Vallo, Oristano, Stornoway and Rugen Island) were situated on islands. The case studies include a range of rural, peri-urban and urban locations.

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### *Population and demographics*

9. The population size varied considerably across the case study locations, with the largest (Sete) having a population of 212,000 and the smallest (Kolka) a population of just 1,097. Populations within locations have also been changing. Where declines in population were experienced it was often the case that younger members of the local population have left in search of greater and/or more rewarding employment opportunities. This movement of people of employable ages away from the area has in many cases contributed to an aging of the local population. In a number of cases out-migration is creating very real concerns about long-term viability and the difficulties of maintaining schools and other services, and concerns that the employment these represent would become less secure.
10. No clear picture emerged from the case studies about the most important type of non-fisheries sector activities, in part because of the large range of alternative activities included, but also due the aggregate nature of the available data. The tertiary sector (services, retail and tourism) has been growing in importance in many of the case study locations.
11. The importance of non-fisheries sector activity may be expected to increase in many of the case study locations in the future (examples include offshore oil and gas, renewable energy and, in many case study locations, tourism). Many of these alternatives are linked to the maritime location and to local traditions.

### *Fisheries sector*

12. Within the fisheries sector general differences were observed between regions with fewer, but larger vessels operating from the Atlantic, North Sea and Baltic ports, and large numbers of small vessels operating in the Mediterranean and Black Sea locations. To some extent this reflects the differing maritime geography of the regions. Across the locations, high fuel prices, reduced catching opportunities, and increasing focus on environmental management are all encouraging changes towards more selective and fuel efficient catching methods. For the small artisanal fleets, the increased management of inshore stocks are expected to restrict catching opportunities in the short- to medium-term.
13. The majority of case studies report that key target species in terms of volume and value are below full reproductive capacity. A number of small pelagic stocks such as mackerel, sprat, herring and sardine are reported to be stable. The only ports reporting key stocks of demersal species in good health are those targeting the recently recovered North Sea plaice fishery. Long Term Management Plans (LTMPs) are being introduced for an increasing proportion of key European stocks and existing LTMPs are showing some encouraging results. There is also expected to be a transition to Maximum Sustainable Yield (MSY)-based targets in fisheries management. For a number of key shellfish and inshore fish stocks there are gaps in management, and scientific assessment of stocks, and output controls remain limited by the continued lack of scientific stock assessment.
14. Despite these varied scales of port infrastructure there are few reports that infrastructure is a constraining factor for the fishing sectors. There has been significant public expenditure, including the use of FIGG funds, over the last ten years and it appears that the scale of port infrastructure is generally adequate. Future needs and support should be considered on a case by case basis.

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15. Overall, landings volumes have generally remained stable over recent years, while prices have generally shown some increases, in particular for small pelagic species, although for demersal species the increased prices have not compensated for the decrease in landed volumes. There has been increased substitution of key demersal species, often in the form of cheaper imports. Alaskan Pollack and *Pangasius* imports for example have increased to make up for shortfalls in supply from cod and plaice fisheries. The level of market substitution has increased recently with the economic crisis, resulting in price driving demand, and these cheaper imports pushing down the price for traditional species.
16. There has been a clear trend across the case study locations towards reduced employment levels in the catching sub-sector. The ability of the case study regions to adapt to reduced employment depends on creating alternative work opportunities. It should be noted that in most of these cases the alternative employment opportunities are not necessarily readily available or appropriate to the skill sets of fishers. In some instances, fishermen and their fishing vessels can be alternatively employed in fishing tourism, but this opportunity tends to be more seasonal in nature and would only support a small fraction of commercial fishing operators. At the same time, many locations highlighted the lack of recruitment into the catching sub-sector as a problem requiring urgent attention. Often this is associated with a negative perception of fisheries as hard work for small rewards and/or an uncertain income.
17. The historical basis for establishment of processing was almost invariably the presence of local landings, which have declined in many areas. In many of the case study locations there is an increasing 'disconnect' between the development of the processing sub-sector and that of the catching sub-sector, as well as some evidence of both consolidation and diversification in the processing sub-sector.
18. The ancillary sub-sector comprises a set of both upstream services (e.g. gear manufacture and repair, boatbuilding maintenance of port infrastructure, etc.) and downstream activities (e.g. transport and marketing facilities). It was difficult to assess the contributions of the sub-sector in many locations, in part because often, the fishing industry represents only a part of the customer base, although for some it may represent an important part. It is difficult to draw firm conclusions about the likely future development given the diversity of cases that were included in the study. However responses from local informants suggested that if investments in tourism, aquaculture and offshore renewable energy increase, this would provide opportunities for the ancillary sub-sector.
19. Aquaculture activities were present in 11 out of the 24 case study sites, with the majority sited around the Atlantic coast and in the Mediterranean. In terms of the species cultured, aquaculture activities across the locations included shellfish (predominantly mussels and oysters) and finfish (mainly seabream and seabass) with limited production of other species – clams, carp, turbot and pike-perch. Aquaculture-fisheries links are important in the Baltic with hatchery production of salmon in particular making important contributions to the coastal fisheries.
20. Given potential competition from imported fish, and possible conflict over sites with other maritime activities, development of aquaculture is likely to continue to focus on enhancing and improving productivity, and increasing quality and value of production. The particular challenges and constraints are likely to be different across the countries of the EU, requiring a regional approach to support and manage aquaculture development.

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21. The data collected pertaining to public investment in the fisheries sector allowed a number of conclusions to be drawn about the level and focus of public intervention over the last seven to ten years;
- Total sector support in the case study locations was around Euro 50 million per year;
  - Roughly half of public sector support was comprised of fleet support and half of non-fleet support;
  - While most case study locations displayed a mix of fleet and non-fleet support, some focussed almost solely on fleet support, while others focussed strongly or exclusively on non-fleet support;
  - There was no clear pattern in the type of fleet support provided. Some case study locations received support almost solely for decommissioning, while in others fleet funds covered a range of support for temporary cessation, modernisation, construction and decommissioning;
  - Subsidies as a percentage of sector turnover varied, and represented significant proportions in some cases (up to 457%). Subsidies were generally higher in the Mediterranean, Baltic and Black Sea regions than in the North Sea and Atlantic regions; Support for aquaculture was generally limited to Mediterranean locations; and
  - In some cases public support has been dominated by just one or two major infrastructure developments while in other case study locations support was distributed to larger numbers of smaller projects.
22. Drawing firm conclusions from the case studies about the effectiveness of public support is difficult, given that it was not within the scope of the case studies to conduct full ex-post impact assessments of such support. To the extent that such support was intended to result in an environmentally, economically and sustainable fisheries sector, data presented in this report on poor stock status and declining catch volumes, and on declining levels of employment in many locations, suggest that public support has not achieved its main objectives.

### Situation within regions

23. Locations along the Atlantic coast are strategically well positioned to access the offshore fisheries (including deep water fisheries) at the edge of the continental shelf with the associated fishing fleets being characterised by larger, more powerful vessels. These large vessel fleets have all declined in number as capacity reductions have been sought (often using public support for decommissioning) or, in the case of pelagic fisheries with the consolidation of quota amongst fewer operators. This has led to reduced employment opportunities in the catching and ancillary sub-sectors, but comparatively good income levels for those remaining within these fisheries. The recent poor status of many Northeast Atlantic stocks, other than small pelagics, means that landings have decreased leaving processors once dependent on local landings, now struggling to compete with processors better positioned to receive imports and serve European population centres.
24. The Mediterranean is a semi-enclosed sea that is bordered by numerous EU and non-EU states, which has contributed to many of its marine resources being over-exploited. The lack of strong international fisheries conservation and management measures in the Mediterranean remains an issue that affects in particular those locations from which the fleets are fishing shared stocks. However, the situation is improving. Many coastal locations are characterised by large numbers of artisanal

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vessels targeting mixed demersal and shellfish stocks. In comparatively few ports there are large vessel fleets targeting large pelagics (tuna and swordfish) and demersal stocks (hake) throughout the Mediterranean. These have had to be significantly reduced in recent years and a number of fleets have switched from trawling to static gear such as gillnets or longlines. Many areas show a growing, but ageing population with retirees being attracted to the coastal locations and those from rural inland locations attracted to service sector opportunities in coastal towns.

25. The Black Sea region shows similar traits to the Mediterranean with weak governance of this fully enclosed sea surrounded by accession states and non-EU states, which has exacerbated problems with industrial pollution, the effects of exotic species and over-exploitation of fisheries in this complex ecosystem. The fisheries sector contributed less than 0.1% of regional GDP in 2005 which is proportionally less than the other marine regions. Shipping and the petrochemical industry remain the most important sectors in the maritime economy of the region and tourism has been increasing in importance in a number of areas.
26. Overall there are estimated to be in the region of 12,000 vessels in the EU fishing fleet in the Baltic and across the region efforts are being made to adjust fishing capacity to stock sizes. Economically the most important species of the Baltic Sea are cod and salmon. Sprat and herring are now caught in the largest amounts. Catching sub-sector employment across the region is reducing. The processing sub-sector has also declined as the shortfall in landings has not been replaced by more imports due to the isolated nature of many ports, or by aquaculture production which is limited in the region.
27. The North Sea region is bordered by the most prosperous Member States in the EU with above average GDP per capita and lower unemployment. Overall therefore, while the value of North Sea fisheries may high be compared to most of the other regions (other than Atlantic), their contribution to GDP is comparatively low. In many coastal locations, including some of the case studies such as Bremerhaven and Grimsby, other maritime sectors have overtaken fishing (shipping and food processing respectively). In addition, the catching sub-sector across the region has reduced substantially in recent years. The processing sub-sector in the study locations have been able to adjust to sourcing fish from non local sources and the effect has been that the processing sub-sector has maintained or increased production and diversified even where the catching sub-sector has been declining.

### Conclusions

28. Overall the variation exhibited in the case studies makes it difficult to generalise for fisheries-dependent locations as a whole. The diversity across the case studies illustrates the richness of European coastal communities and the varied role that fisheries play within them. As such, aggregate numbers and indicators can obscure heterogeneity, and serve to simplify what is a complex and dynamic set of local realities. The study did however identify a number of important drivers influencing status and trends.

### *Development in response to change*

29. It has been possible to classify the case study locations into five categories of fisheries-related development based on the pattern of development and diversification that the locations exhibited (see Table 2), and whether this was within or outside the fisheries sector.

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Table 2 Development and diversification in fisheries-dependent locations

<b>Increased efficiencies in existing fisheries</b>	<b>Diversification into new fisheries</b>	<b>Expansion of other fisheries subsectors</b>	<b>Diversification outside fisheries</b>	<b>Alternative sectors</b>
Killybegs	Stonoway – shellfish	Amvrakikos - aquaculture	Lorient	Port facilities and logistics
Celeiro (purchasing fishing rights in Gran Sol fleet)	Killybegs - boarfish	Grimsby - processing	Grimsby  Aveiro (existing fish processing units want to diversify their production)	Food processing
Sète  (investment in structuring infrastructures to organise the fishing industry and other maritime sectors)		Ostende – processing	Carboneras  Aveiro	Tourism and heavy industry
Urk (re-flagging vessels)		Bremerhaven – processing	Peniche  Aveiro	Tourism
Aveiro – better organisation of small scale fishing operations to find mechanisms to increase final value of fresh fish		Wladyslowo - processing	Stornoway  Aveiro (shipyards have now stated to produce parts for the wind and wave energy production)	Renewable energy
		Hirtshals - processing	Killybegs  Aveiro	Oil and gas
		Aveiro – processing	Danube Delta  Aveiro	Eco-tourism
			Aveiro	Manufacturing



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30. This table helps to highlight the positive and significant regional development role that fisheries can play. While the term 'dependency' has somewhat negative connotations, fisheries can represent an important local resource. Furthermore, in remote locations fisheries can have an important role as an 'indigenous industry' in contrast to other sectors such as tourism and manufacturing that may require resources from outside the locality. In these places there is a strong association with the sector and it plays a strong role in future visions of the local population.

### *Drivers of change*

31. The different histories and contexts of the case study locations have given rise to different trajectories within which, a number of key drivers of change have contributed both to opportunities and constraints for adaptation, and to the vulnerability of the local populations in the case study locations. These drivers include the following:

### *Environment and stock management*

32. The natural characteristics, in terms of geography and the species, have enabled adaptation within fisheries, including expansion into new primary sub-sectors such as aquaculture. Management in the different areas has further influenced the performance of different case study locations. Recent EU actions have started the recovery process for a number of key stocks, although in some cases this recovery is too recent to have had an impact on the locations studied, or on the data that are available for these locations. For many stocks, particularly inshore stocks, there is insufficient knowledge, even for key species in volume and value terms to determine the health of the fishery. There is also a need to address the issue of shared stocks, particularly in the Mediterranean where the stock status is less well established and levels of exploitation are higher. Even for the more profitable and modern segments, where there is a high degree of capital investment, or investment required, the risks can be significant.

### *Economy*

33. Economic vulnerability refers to the amount and sources of pressure and competition faced by those in fishing enterprises as they run their operations and sell their products. For the catching sub-sector economic vulnerability is evident through increased operating costs such as higher fuel prices, price constraints, limitations to switching species, vulnerability to changes in quotas (and access to quotas), and loss of quayside space, which once lost to other sectors, is difficult to get back. There are also indirect costs to the sub-sector arising from the poor state of stocks and the poor image of the fisheries sector. For the processing sub-sector in terms of economic viability, a stable supply of fish with low stock prices and low employee wages are important. The status of stocks in EU waters and measures to rebuild stocks directly impacts these businesses, and growth in importing fish is seen across Europe.

### *Public policy*

34. EU policy on capacity reduction has had significant impacts across many locations, particularly those with important catching sectors. Reduction of fleet capacity has usually been attended by a reduction in catching sub-sector employment. For fishing-dependent locations a reduction in fleet numbers have inevitably had some short-term negative consequences, particularly with regards to social impacts. Such impacts are likely to also attend consolidation of fishing rights under transferrable

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rights-based management systems generating both winners and losers. As has been seen in past examples around Europe, the effects of fleet consolidation may also lead to fewer, wealthier, operators within a sector. While these wealthier individuals may remain within the location, this redistribution can also have consequences for the wider community. The overall reduction in fleet size, which is projected to continue under either the existing EFF policy or future rights-based management policies, will certainly have impacts on individual locations.

35. Public intervention has not appeared to have had such a significant impact on non-fleet sub-sectors such as processing, marketing and aquaculture. It may be the case that given extensive infrastructure developments over the years in many locations, and declining fleet numbers (see earlier data), that many locations now have sufficient levels of fisheries infrastructure and that the need for public sector support for further investments is reduced, despite the generally high levels of additionality related to such support.

### *Society*

36. The degree and consequence of impacts of change are a function of the characteristics of the individual location and the local population. While many of the adaptations to change are being made at the household or individual level (migration, changes in occupation etc), these are modified by the incentives, opportunities and constraints that are created within particular locations. A critical point therefore is vulnerability and the local ability to cope with and absorb any negative impacts. In the more remote locations there is a great deal of concern over the effects of declines (e.g. due to increasing costs) and consolidation in the fisheries sector and a lack of alternative opportunities. Where this had led to people of working age moving away from the location, this has affected local services (e.g. schools). If these services cannot be maintained, community networks are affected and it becomes a less attractive place to live.
37. In addition to the collective culture within a location, the study identified that the role of individuals can be critical. Individuals are capable, even within severely restricted social spaces, of formulating decisions, acting upon them, and innovating or experimenting. This can result in very positive outcomes if a local innovator or entrepreneur creates opportunities for the wider local population, but it can also be less positive. Individual actors will often work to advance their own cause, and outcomes can reflect the political influence of those involved.
38. The diversity highlighted by the case studies suggests that there is no single investment or policy that can be highlighted as being necessarily more effective than others, partly as a result of the way that these policies and investments are translated into practice at the local level. However, much of the positive development, diversification and adaptation have emerged through drivers and actions at the local level, with local actors able to seize opportunities to adapt and diversify. This suggests that investments in the development and strengthening of local capacity and organisation and the linkages to resource management, including making these transparent and accountable, could provide an opportunity for more flexible and locally driven adaptation that allows for the particular local circumstances and history.
39. The very different roles that fisheries (and the different fisheries sub-sectors) play within locations and the very different development trajectories they can exhibit, also suggests that supporting and developing local planning and investment could provide opportunities for development and diversification.