ESPON Action 2.1.5: Territorial Impacts of European Fisheries Policy

First Interim Report, December 2004

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1 Introduction

1.1 Background

The Second and Third Report on Economic and Social Cohesion from January 2001 and February 2004 respectively, presented for the first time a third territorial dimension of the cohesion in addition to economic and social cohesion. Territorial cohesion calls for policies that reduce disparities and promote a more balanced and sustainable development of the European territory in line with the European Spatial Development Perspective (ESDP). Territorial cohesion also calls for a better coordination of territorially relevant decisions. This imply among others, to identify the need for further studies of territorial impacts of structural as well as sector policies. The European fisheries policy is regarded as one of the sector policies which have great implications for employment, cohesion, regional economic strength and so on. The purpose of ESPON Project 2.1.5 is to strengthen the knowledge of territorial cohesion through an analysis of territorial impacts of the Common Fisheries Policy (CFP).

Fishing and aquaculture are two of the most important sectors which use and produce living resources (European Environment Agency 2002), and both sectors have undergone profound changes in the past. Changes in the European Fisheries Policy (CFP) where adopted in late 2002 and a number of measures will be implemented in near future. The main aim is to strengthen the competitiveness of the sector and to ensure its sustainability. The policy includes the following elements:

- Conservation of fish stocks
- Restructuring of fishing and fish farming
- Organisation of the market for fish and associated products and agreements on fishing with third countries (European Commission 2004).
- Agreements on fishing with third countries (European Commission 2004).[1]

These changes are likely to affect the fishing industry, and particularly employment in number of ways. The most important changes are:

- Multi-annual management plans for all stocks
- Reduction in quotas
- Reduction in the fishing fleet
- Limitation on how, when and where fishing can take place
- Limitation on financial support for modernizing and building of new vessels

[1] A new partnership for cohesion. Third report on economic and social cohesion.

The past years have witnessed significant changes in the fishery policies and fisheries sector not only in the EU but also in the EFTA area (Norway and Iceland). The CFP, however, is not a part of the EEA agreement. Fisheries and aquaculture plays a varying role in the economy of the different European countries and regions, and impacts from structural changes and policy regulations accordingly will vary in different parts in Europe. A main tendency the past years has been a concentration of fishing activity in urban centres but in many cases seafood industries are still located in areas outside commuting distance to a larger city, and with few alternative income sources. In some parts of Europe, the fishing industry still plays an important role in an otherwise underdeveloped rural economy. The Third Cohesion Report points out that CFP will have significant effects on a number of regional economies, and especially in Spain and Portugal.

Employment in the aquaculture sub-sector has increased in the past years and this development is expected to continue. Aquaculture, therefore, may represent an important factor of the reinforcement of territorial and socio-economic cohesion in some regions. Aquaculture also plays an increasing role in the supply of seafood, and the challenges within this industry differ from those in the fishing industry. The aquaculture industry is more regionally concentrated; it is located in the coastal zone and competes with or has impacts on other activities and interests in the coastal zone. Balancing of the different interests has to be solved through the concept of integrated coastal zone management (ICZM). Processes of restructuring, reduction, expansion and development are therefore occurring side by side and in various combinations within the seafood industry in Europe. The effect of this will vary between regions and the territorial impacts on short and long term will also be different. The changes, the diversity of effects, the potentials and the spatial impacts constitute the thematic frame for the project on fisheries and aquaculture.

1.2 Level of analysis and time period

Generally, the importance of the fisheries sector becomes clearer when analysed at lower regional level or at the local level.[2] One conclusion after the first data search, however, is that the data sources for fishery socio-economic data for the European Countries (including EU and EFTA) are very different and heterogeneous, and there is a general problem of geographical breakdown (see also appendix 2).

There will however be some need within the project for studies on geographical levels that are smaller than the NUTS3 level. There may be tree possible ways to conduct such example studies for the project:

- By using information from evaluations of Interreg IIIB projects (see appendix 3)
- By using relevant research projects already completed
- By making analysis based on statistics from countries with relevant data on lower geographical levels

There are also some specific challenges with regard to the time period for the impact analysis. The planned reference period for the project is from 1990 – 2003/2004. Changes in CFP, however, did not take place before late 2002 and many measures are just implemented or about to be implemented. At the same time data for many of the indicators will at best be available up to 2003/2004) within the project period. It will

[2] Regional Socio-economic Studies on Employment and the level of Dependency on Fishing. Norwegian Institute for Urban and Regional Research (NIBR)

therefore be difficult to relate impacts directly to changes in the CFP. That will only be possible within a few years to come, and then one still have the problem of separating impacts from CFP and other relevant factors. However, structural changes have taken place in the fisheries and aquaculture, and policy measures have been carried out within the fishery policy during the past years in many European countries, so it should be possible to analyse the impact of almost *similar* type of changes which are assumed to follow from CFP. Fleet reduction and quotas, for instance, have been introduced before CFP. What the project could do is to analyse what territorial impacts such changes did have in the past, and to make best possible assessment whether is it reasonable to assume that impacts from changes in CFP will resemblance earlier impacts from more or less similar changes?

The first Interim Report is organised as follows: Section 2 presents the aim of the projects and its relation to other ESPON impact studies. Section 3 gives an overview of the methodology of the impact analysis (TIA) which will be used in the project. Section 4 describes indicators and necessary data, availability and comparability of data at the Community level. Section 5 presents hypothesis on territorial impacts of the relevant measures of the investigated policy. Section 6 gives a draft description of European Fisheries Policy, including the feasible development within this policy area in the short term.

2 Aim of the project

This section first gives an overview of Impacts studies which the project will be related to and what data that are available for this impact study. Second, it focuses on the main impact variables in the study, and on how impacts may vary between regions and areas. Finally, it briefly mentioned the concept of coastal regions and the data on what the classification will take place.

2.1 Territorial impacts studies and data availability

Changes in European Fisheries Policy will naturally affect the European seafood industry in particular. However, the project is on *territorial impacts*, and these will accordingly have to be defined much wider than impacts on fisheries and aquaculture as such. Regions and areas in which the seafood industry is of great importance will nevertheless be subject to the most thoroughly analysis in the project. The main territorial impacts which will be examined are outlined in paragraph 2.2.

The project will also relate closely to and build upon other ESPON impact studies. The conclusion of our first data search and assessment of the ESPON study 2.1.3 (The Territorial Impact of the CAP and the Rural Development Policy), is that implementation studies should be prioritised in the project. The final report from ESPON 2.1.3 includes more than 300 pages but only 10-20 pages contain socio-economic impact studies. The first interim report from 2.1.3 also seem to be more ambitious concerning the abilities to carry out socio-economic impacts studies on region level than what was actually possible to accomplish. The socio-economic impact studies at regional level presented in the final report agreed on using three main variables: Population data (mainly changes of the number of population), unemployment rates and GDP per capita.

This project will include three major types of concepts and methodology and the overall research question is how the changes of CFP impacts on the following variables:

- The position of coastal regions in the territorial systems of higher level (EU, the actual countries);
- The position of the coastal regions in overall policies and particularly in structural policy;
- The restructuring processes inside the coastal regions.

The challenge of these three issues is to be able to examine the relations between the implementation of fisheries policy changes, and changes in the territorial systems and socio-economic structures. The intention is to solve that problem by putting high effort on developing adequate concept of coastal regions that will include concrete studies of where the policies changes in the fisheries are implemented. With regard to the

restructuring process inside coastal regions, there are several problems related to the levels on which socio-economic data is available , i.e. if data on NUTS 4 or 5 is available for our purpose. One of the challenges of the project is to examine the opportunities for doing territorial analyses inside NUTS 3 regions. Another problem can be the opportunity for including aquaculture in studies at this level. According to the 1998 Commission study on fishery dependency, aquaculture data is only available on nuts 2.

2.2 Impacts in different regions and areas

Changes in European Fisheries Policy (CFP) involve capture fisheries, processing and aquaculture. These sub-sectors have different dynamics, different technologies, and different use of territory. Fishing and aquaculture, however, are both elements in what may be called European Seafood Industry. They are often located in the same regions and they are subjected to the same sector policy. Changes in CFP, however, are only one of several external factors which may have territorial impacts on coastal regions and fishery dependent area. The second interim report will elaborate more on how the project will deal with methodology questions for territorial impact analysis.

The analysis of territorial impacts of changes in CFP, will concentrate on the following elements:

- Impacts on employment, social cohesion and demography
- Impacts on regional economic strength
- Impacts on environment and coastal zone management

The most central impacts resulting from changes in the CFP will probably be connected to a decrease of landed fish resources. The project will examine these impacts with regard to territorial balance and cohesion on different geographical levels. *Changes* in CFP will not affect all regions in the same way, and to the same extent. However, a large majority of fisheries dependent regions are in objective 1 or objective 2 areas (or similar outside the EU). Accordingly, a starting point for our study will be to identify and categorise the diversity of coastal regions in Europe, cf. 2.3.

The study of territorial/ spatial impacts will be done with references to the aims of cohesion, territorial balanced and sustainable development and also ESDP-perspectives focusing on polycentric development (cf. ESPON 1.1.1). In particular, the project will study:

- The position of coastal regions in developing of the territorial system of EU and the specific countries. Of particular importance is CFP impacts on the disparities between regions within EU and inside the different nations.
- The position of the coastal regions in the overall Community policies (as the ESDP) and the structural policies (as the Cohesion fund, ERDF, ESF). Questions related to the coastal regions' in-/out phasing in different types of regional policy measures, are of specific importance in the study. Cf. those questions mentioned above and the need for specific policies interventions in fisheries regions as "restructuring of the fisheries sector outside the objective 1 area".
- The territorial development inside coastal regions. The project will examine the possibility for doing intra regional/area analyses on different levels. For instance by using data on Nuts 4 or 5 for spatial analyses on Nuts 3 level, and data on nuts

3 level for analysing spatial changes on nuts 2/1 level. The analyses will be related to ESPD perspectives as polycentric development and a balanced rural-urban development.
- Demographic-, social- and economic changes inside the coastal regions and if possible inside different types of coastal regions in order to identify the regions which most negatively and positively affected by changes in European fisheries policy.

2.3 Coastal regions and classification

A definition of appropriate indicators to identify coastal regions and a typology of such regions will first be presented in the Second interim report (see also section 3 in this report). For now, we will only state that typologies made at NUTS3 level, must take into account the heterogeneity *within* territories on this level compared to territories at lower geographical levels. At the same time typologies on NUTS3 level will also reduce the heterogeneity *between* territories so that variation in territorial impacts may not be exposed. We also like to mention that since Iceland takes part in the project, there is a need for an update of typologies from other ESPON projects relevant for making the coastal typology.

The classification will be based on data on:

- Geographical location, area and distance characteristics
- Type of structural dependency (cf. EU commission report 1999)
    - Coastal regions dependent on small scale marine harvesting
    - Off shore based fisheries catching
    - Fish processing
    - Marine aquaculture
- Position in the EU and national policy system
    - structural policies in the EU
    - targeting position in the national policies
- Relation with the implementation of the new European Fisheries Policies

3 Methodology for impact analysis

This section gives a brief and schematic overview of the methodology which will be used in the project with reference to the TIA manual. The second interim report will outline the full presentation of the method to be applied for the territorial impact assessment.

3.1 TIA as methodology for impact analysis

The overall framework for the methodology is founded on:

(i) the tender document of the project, where its thematic scope and context have been decided and the general objectives have been addressed
(ii) the Territorial Impact Analysis (TIA) as elaborated by ESPON project 3.1

There has not been established a common assessment methodology within the ESPON impact studies. According to ESPON project 3.1 this is due to the very different character of the spatial dimension and implications of the different policy areas, and the different theoretical state of the art of applied research and planning in the different areas. ESPON 3.1 also state that "Current techniques are not sufficient to meet the challenge presented by the desire to consider the spatial implications of different policy interactions" (page 400 in the draft for the final report).

The project mentions the following deficiencies for TIA of EU policies and programmes for subject matter to be assessed and for assessment criteria:

- the EU policy programmes concerned are still far away from actually taking into account territorial objectives despite having clear potential territorial impacts
- they show a dramatic lack of territorial differentiation of data on policy implication
- the elaboration of spatial development goals in the wake of ESDP is still going on, and has hardly achieved results operational for assessment application so far

Among key concepts there are however two with a "genuine territorial dimension"; 'territorial cohesion' and 'polycentric development'. We will not elaborate further on these concepts in the first interim report.

The ESPON 3.1 studies, found it feasible to develop a common methodological approach (the TIA manual) instead of a common assessment policy for the ESPON impact projects. In the draft for the final report from ESPON 3.1, the TIA manual is regarded as a kind of check-list and it contains the following elements:

Scoping

1. **Reference to policy interventions**
   Question to be answered: What is causing the impact?

2. **Hypothesis on cause-effect-relations**
   Question to be answered: What is changed by the intervention(s)?

3. **Regional scale of observation**
   Question to be answered: What is the level of observation and analysis?

4. **Reference to past and future**
   Question to be answered: What has happened, what may happen in the future?

Analysing

5. **Interventions and effects measured**
   Question to be answered: What is registered, measured, appraised?

6. **Quantitative/qualitative appraisals**
   Question to be answered: By what kind of indicators is the topic described?

7. **Technique of analysis**
   Question to be answered: How is the analysis performed?

Assessing

8. **Goals referred to**
   - Polycentric spatial development (at the European, transnational, national and possible lower levels)
   - Cohesion (economic, social and territorial)
   Question to be answered: What goals are referred to?

9. **Applied meaning of 'spatial/territorial'**
   Question to be answered: What concept of 'spatial/territorial' is applied?

10. **Territorial coverage of outcome**
    Question to be answered: What do the results look like?

The relation to the TIA will be presented in the second interim report. This time schedule implies that project 2.1.5 can be based on the TIA manual which will be presented in the final report from project 3.1.

As the impacts of CFP only roughly can be isolated from the effects of other measures of influences, we will consider carrying out the analysis in accordance with suggestions in ESPON 3.1. This may imply a:

- Compilation of the policy measures in certain regions, recording what spatial development goals they follow
- The structural status/changes in these regions evaluated against the chosen spatial development goals

4 Data and Indicators

This section first outlines some general comments on data sources and geographical breakdown of data and indicators. Second, it examines different sources for statistical information which the project will be based on. Finally, it presents a list of suggested indicators and its related data sources, geographical level and sampling period.

4.1 Introduction

As mentioned in paragraph 2.2, the analysis on territorial impacts of changes in CFP will concentrate on employment, social cohesion, demography, regional economic strength, environment and coastal zone management. This means partly to carry out the analysis based on fishery specific statistics, and partly to utilise statistics gathered by and analysed by other ESPON projects. Comparability with other impact studies are important in this respect, and this implies sharing of statistical information, and when relevant, also to use data from common periods.

In developing indicators it is important to bear in mind that they should:

- Be limited in number;
- Be easy to read, relevant and consistent.

Data sources for European fishery statistics (including EU and EFTA countries) are very different and heterogeneous. With the development of an integrated approach to fisheries management, involving socio-economic aspects, Eurostat has checked the possibility to collect economic data for the fisheries sector without imposing additional costs on national services[3]. This was done by reviewing the availability of fishery-related data in such other domains as industrial statistics, regional statistics and employment statistics received by Eurostat within the Community's Statistical Programme (which also includes non member countries). The results show that even if the fisheries sector is present in these domains, there is generally a lack of required detailed data for fishery analyses. This is mostly due to the low contribution of fisheries to the economies of the Member States

The geographical breakdown is very important for an analysis, as certain regions are highly dependent on fisheries, even if the fisheries sector has a very limited impact on the economies of the EU or EFTA country as such. Measures applied under the CFP, therefore, could have a significant effect on the communities of these regions. Regional figures can provide a deeper insight of the regional strength and weaknesses. A jointly financed study by DG-FISH and Eurostat has proposed socio-economic indicators for fishery dependent regions. They are reported in Annex 1 (and they are of relevance for the coastal typology to be presented in the second interim report). A study identifying

[3] At the beginning, the only fishery statistics collected were largely centred on the data for capture fisheries and more specifically on the data for biological resource management.

fishery dependent regions in Europe based on employment figures are reported in annex 2. The regionalisation of the figures can vary between countries included in the project. Some countries have longer time series, and with an advanced specification for several industries and regional levels, whereas while other countries only have figures at the national level, or not lower than NUTS 2.

4.2 Sources for statistical information to be collected for ESPON 2.1.5

The fishery relevant data for the project will generally be submitted from Eurostat (Fish of the NewCronos data base) and/or FAO. The project will also benefit from the data assessment and - organisation that was carried out in the study "Regional Socio-economic studies on employment levels of dependency of fishing" (www.megapesca.com/fishdep/eufishindex.htm). This study has organised a list of data sources used for studying of fisheries dependent regions, and it also discusses the level/scale problems. The quality of the fisheries statistics is co-ordinated by the Co-ordinating Working Party on Fishery statistics.

The current availability of fishery data in the Eurostat's NewCronos database is shown in table 4.1. The specific Eurostat web-page address is: http://europa.eu.int/comm/eurostat/newcronos/reference/display.do?screen=welcomeref&open=/&product=EU_agriculture_forestry_fisheries&depth=1&language=en).

The contents of the data base have been maximised in terms of the length of the time series and the country coverage. Eurostat's Fishery statistics CD-ROM is a copy of the NewCronos software and data on fishery statistics.

Table 4.1 *Availability of fishery statistics in Eurostat's NewCronos database.*

Data on	Updated at	NUTS level	Countries
Catches by fishing region	2003	0	EU-25+ EFTA+ Bulgaria + Romania
Landings	2003	0	EU-15 + EFTA
Aquacolture production	2003	0	EU-25+ EFTA+ Bulgaria + Romania+ Turkey+ Croatia
Global production by fishing region	2003	0	EU-25+ EFTA+ Bulgaria + Romania
Fleet	2003	0	EU-15 + EFTA+ Malta+ Slovenia
Employment	2003	0	EU-25+ EFTA+ Bulgaria + Romania+ Turkey+ Croatia
Intra and extra EU trade	2003	0	EU-25+ EFTA+ Bulgaria + Romania+ Turkey
World trade	2002	0	EU-25+ EFTA+ Bulgaria + Romania+ Turkey+ Croatia
Supply balance sheet	2001	0	EU-25+ EFTA+ Bulgaria + Romania+ Turkey+ Croatia

Source: Irepa, 2004

To get hold of employment data for the fisheries on NUTS 3 and higher levels can become a difficult part of the project. As we understand the situation now, our only/most likely opportunity is to use the Megapesca study from 2000 on regional socio-economic studies on employment and the level on dependency on fishing (www.megapesca.com/fishdep/eufishindex.htm).

Megapesca seems to have difficulties with following up these studies. The 15 country studies of the 2000 study were undertaken by individual companies in each country under individual contracts with the EURO, and the contracts included confidentiality clauses. In our project we will use all information which is openly published on the above mentioned

website. A further collection of data from the individual companies that performed the Megapesca studies will be too resource demanding within the frame of this project.

4.3 Suggested indicators

As mentioned in the introduction to this chapter, we want to develop a limited number of indicators that are easy to read, and that are relevant and consistent. Table 4.2 shows primarily level indicators, and some change indicators that we will consider use in the impact analysis, and for the coastal typology. Level indicators that are available for several years can be utilised to develop change indicators. For the sake of readability, we therefore, have limited the listing of possible change indicators based on listed level indicators in the table. As it is difficult to get a comprehensive overview of the relevance of ESPON indicators for the first interim report, we will possibly include some additional indicators than those listed in table 4.2. Amongst others, we have to make some decisions concerning the relevance of different classifications and typologies for developing the coastal typology.

Table 4.2 *Suggested indicators for ESPON project 2.1.5.*

Proposed indicators	Data sources	Geographical level	Sampling interval and period
GDP per capita in PPP or PPS	ESPON	NUTS2	1999
GDP per capita growth	ESPON	NUTS2	1999
GDP per occupied person	ESPON	NUTS2	1999
Fishery GDP/ Global GDP	National statistical resources	NUTS3 at best	1997-2001 at best
Aquaculture GDP/Global GDP	Uncertain	If available, geographical level as above	If available, probably same period as above
Concentration of GDP (Change of a region's share of EU 27+2 GDP in percent)	ESPON	NUTS2	- 1999
Current fishery investment rate	National statistical resources	NUTS3 (Norway)	1997-2001
Age composition of the fleet	National statistical sources	NUTS2-NUTS3	Differs according to nation
Fleet specific fishing power	National statistical sources	Mostly NUTS2 or 3, also NUTS0	Differs according to nation
Fishing days	Irepa Observatory	NUTS2 Statistics for Italy only	1997-2004
Fleet specific effort	Irepa Observatory	NUTS3 Statistics for Italy only	1997-2004

Tons of harvest	National statistical sources	NUTS2, NUTS0	Differs according to nation
Size composition of harvest	National statistical sources	NUTS2-NUTS3	Differs according to nation
Unit cost of effort	Irepa Observatory	NUTS2 Statistics for Italy only	1997-2004
Revenues per unit of effort	Irepa Observatory	NUTS2	1997-2004
Direct and indirect fishery employment	National statistical sources	NUTS2	Differs according to nation
Percentage of harvest that remains in coastal area	Uncertain	?	?
Per capita non-export harvest	National statistical sources	NUTS0 Statistics for Denmark only	1996-2002
Unemployment	ESPON	NUTS2	1998-2001
Youth unemployment (unemployed <25 years per 1000 inh. 15-24)	ESPON	NUTS2	1998-2001
Employment	ESPON	NUTS3	2001
Employment in primary sector	ESPON	NUTS3	2001
Employment in tertiary sector	ESPON	NUTS2	1999
Population growth	ESPON	NUTS3	1990-2000
Reproduction potential (20-29 years in 2020 per 20-29 years in 2000)	ESPON	NUTS3	1990-1999
Migration as defined by ESPON 1.1.4	ESPON	NUTS 3	1990-2000
Population density	ESPON	NUTS 3 (2)	1999
Concentration of population (Change of region's share of EU 27+2 pop. in percent	ESPON	NUTS	1990-2000
Ageing (share 65+)	ESPON	NUTS2	2000
Labour force replacement ratio (ages 10-19/55-	ESPON	NUTS2	2000

64)			
Percentage of stocks outside safe biological limits[4]	ICES, GFCM	NUTS 0	1960-2000. Annual from 1994.
Catches by major species and areas	National sources, FAO, ICES, Eurostat	Some national sources NUTS2 or 3, other sources NUTS 0	Differs according to nation
By-catches (mammals, birds and turtles)	ICES	NUTS 0	Differs according to nation
Aquaculture production	National sources, FAO/FIDI, Eurostat	NUTS2, NUTS0	Differs according to nation
Quality of effluent water from aquaculture	National environmental agencies	Varying?	Differs?
Regional water indicators	OECD and Eurostat (REQ2003)	NUTS3	Differs according to nation
Land use indicators	OECD and Eurostat (REQ2003)	NUTS3	Differs according to nation
Land use indicators	Corine Land cover data base	A scale of 1:100 000	From 1985?
Potential accessibility by road	ESPON	NUTS2	2001
Potential accessibility by rail	ESPON	NUTS2	2001
Potential accessibility by air	ESPON	NUTS2	2001
Potential accessibility, multimodal	ESPON	NUTS2	2001
Time to market meso scale (Accessibility by rail and road, weighted by population)	ESPON	NUTS2	2001
Time to market macro scale (Accessibility by rail and road, weighted by population)	ESPON	NUTS2	2001

[4] Only possible to identify this for a few stocks.

Settlement structure	ESPON	NUTS3	1999
Functional Urban Areas	ESPON	NUTS3	Differs according to national definitions

5 Preliminary hypotheses

This section presents a first list of hypotheses of territorial impacts related to European fisheries policy. The hypotheses refer mainly to CFP and their respective measures and to some extent also to the development of aquaculture. In developing the hypotheses we have taken related territorial impacts projects within the ESPON program into consideration. In the next months a further development of the present hypotheses and identification of supplementary hypotheses will take place.

1. The CFP will have different impacts between coastal regions, and within regions. Processes on restructuring, reduction and expansion will occur side by side and in various combinations. Impacts of CFP will be more significant the lower the geographical levels.

2. The CFP has unintended side effects in coastal regions or fishery dependent regions. Significant territorial impacts may be:
   - Economic effects such as increasing unemployment
   - Decreasing regional economic productions (GDP)
   - Population decreasing due to out-migration particularly in fisheries regions
   - Altered age composition in fisheries dependent regions, with an increasing share of elderly population. Indication of gender and age biases in fishing dependent regions
   - Change in population density in fisheries regions

3. Economic, social and demographic impacts of the CFP will vary between urban and remote areas. Socio-economic effects related to employment, migration, age structure of the labour force etc., may be less devastating in urban regions than in fisheries dependent regions and areas.

4. Territorial impacts of CFP will vary with different structures of the fishing and aquaculture industries of the regions. Impacts will differ in accordance with the extent the regions are dominated by coast fishing and small vessels, fishing in distant waters with greater vessels, landings, fishing processes or aquaculture.

5. Territorial impacts of the CFP may contradict with the aims of cohesion, territorial balanced development and polycentrism. The CFP may favour the prosperous regions and disfavour the most remote regions, i.e. favour regions which are not particularly fisheries dependent at the cost of regions which are strongly dependent on fisheries.

6. Changes in CFP may contribute to increased concentration and centralisation of the seafood industry. This will be a particular disadvantage for the most fishery

dependent and remote areas, which are often underperforming regions in an accessibility perspective.

7. Innovation is generally concentrated in cities and urban areas. If the same tendency occurs in the marine sector, the potential and the preconditions for innovation and restructuring in this sector are probably highest in regions with larger cities or in close distance to larger cities (FUA).

8. Territorial impacts of the CFP measures are dependent on how the measures in use are implemented in the various regions. Impacts will also vary by the structure of the fisheries in the respective regions and the access to alternatives, such as fishing opportunities, sources of fish raw material for processing, alternative job opportunities etc.

9. Less prosperous regions of the EU receive more CFP support through the FIFG (Financial Instrument for Fisheries Guidance) than the more prosperous regions.

10. As the restrictions on harvesting activities mainly target the fishing fleet these measures have strongest negative impacts in remote, coastal regions, while the more urban regions involved in fish processing still are able to source raw fish through e.g. import from 3rd countries.

11. It follows from hypothesis 9 and 10 that the incidence of the CFP on the regional level is not consistent with the social and economic cohesion objectives of the EU due to the unintended territorial effects of CFP. More favourable regions are able to take greater advantage of the measures included in the FIFG due to closer access to products and markets.

12. Subsidies to support incomes or costs reduction in the fisheries sectors result in an increase of the fishing effort which has undesirable effects on social and environmental sustainability. Industrialised countries are particularly concerned with overexploitation aspects, and due to biological constraints, fishing subsidies mainly aim at capacity reduction.

13. Increasing awareness of the need to assure resource sustainability and to preserve the whole marine environment, CFP measures aim at reduction of quotas and/or to the reduction of fishing effort. The changes in CFP from 2002 will contribute to a faster reduction and restructuring of the fishing fleet, both in absolute numbers, tonnage (GT) and engine power (kw).

14. Changes in CFP will probably be directed towards improvement of the marine environment and marine resources. In the long run this may lead to higher and more stable fish stocks but only if the fishing effort is sufficiently reduced.

15. Aquaculture will continue to expand, but the further development may be more regional concentrated both with regard to value added and employment.

16. A management based on ICZM principals will contribute to a further sustainable growth in aquaculture.

6 The Common Fisheries Policy and the 2002 reform

6.1 Introduction

The European fisheries sector is changing rapidly. Processes of restructuring, reduction and expansion are occurring simultaneously in the various sub-sectors as a response to numerous developments. The effects of these changes vary, clearly, among member states. Conservation of the fish stocks is probably the largest challenge to European fisheries policy due to the (too) heavy exploitation of a number of commercially important stocks, of which a number are outside what is defined as 'safe biological limits'. In the last decades the overcapacity of the EU fleet has put considerable pressure on fish stocks, best exemplified by the development and actual situation of the cod in the North Sea. Hence, a major challenge of the CFP has been and still is to improve the balance between harvesting capacities and fish resources available for exploitation. Over the last decades fish has become the single most internationally traded food in the World. The continued globalisation of the trade in fish and fish products has a major impact on the structure of the European fisheries sector. EU is the World's biggest market for fish and fish products and increasingly the European fish processing sub-sector is sourcing raw material and semi processed products from suppliers all around the globe. This development together with increased both horizontal and vertical integration within the fisheries sector impacts on the localization of the industry.

Also in Norway and Iceland have the past years been a time of radical change in the fisheries sector. After years of overexploitation of the fishing stocks, quota systems have been introduced. However, the CFP is not a part of the European Economic Area (EEA) agreement. This means that the EEA agreement does not include a common resource management regime and it does not allow for free market access either, though it provides for lover customs duties and better market access for a number of fish products.

It is in the context of this study interesting that the agreed measures within the framework of the CFP have important territorial impacts in the regions, where fishing and related activities takes place – usually coastal regions and often areas where there is little prospect of growth in alternative economic sectors. This makes the CFP and related policies (e.g. EU food safety regulations) important for coastal regions throughout Europe. The situation is most outspoken in the areas most dependent on fisheries and related activities. Such areas can – depending on the level of disaggregation - be identified in many European countries. Furthermore, the impact of the measures varies between the fisheries dependent regions, as not all regions are equally well suited to face the processes of restructuring, reduction and expansion. This means that some regions might benefit from the measures agreed while others might not. Taking into account the severity of the present situation for the EU fisheries it might be fairer to say that most

fisheries dependent regions are facing problems but some regions are facing more problems than others.

6.2 Introduction to and history of the CFP

The Common Fisheries Policy is the European Union's instrument for the management of fisheries. It was created to manage a common resource and to meet the obligation set in the original Community Treaties. Because fish are a natural and mobile resource they are considered as common property. In addition, the Treaties, which created the Community, stated that there should be a common policy in this area, that is, common rules adopted at Community level and implemented in all member states.

The first common measures in the fisheries sector date from 1970. They set rules for access to fishing grounds, markets and structures. It was agreed that, in principle, Community fishermen should have equal access to all member states' waters. However, in order to ensure that smaller vessels could continue to fish close to their home ports, a coastal band has been reserved for local fishermen who have traditionally fished these areas. Measures were also adopted for a common market in fisheries products. A structural policy was set up to coordinate the modernisation of fishing vessels and on-shore installations.

All these measures became more significant in 1976 when the member states followed the international movement and agreed to extend their rights to marine resources from 12 to 200 nautical miles from their coasts. The member states also decided that the Community was best placed to manage fisheries in the waters under their jurisdiction and to defend their interests in international negotiations. After years of difficult negotiations the CFP was born in 1983.

The CFP has to take into account the biological, economic and social dimension of fishing. It can be divided into four main areas dealing with a) conservation of fish stocks, b) structures (such as vessels, port facilities and fish processing plants), c) the common organisation of the market and d) an external fisheries policy, which includes fishing agreements with non-Community members and negotiations in international organisations.

Fish stocks need to renew themselves as fish die through both natural causes and fishing. To have enough mature fish to renew stocks, small fish must be left to grow and reproduce. The CFP sets maximum quantities of fish that can safely be caught every year. From scientific studies on the main stocks the Council of Ministers decides on the amount of fish that EU fishermen will be allowed to catch the following year. The CFP has to take into account the biological, economic and social dimension of fishing. These maximum quantities, called total allowable catches (TACs), are divided among Member States. Each country's share is called a national quota.

To limit the capture of small fish so that they can grow up, a number of technical rules have been adopted. Minimum mesh sizes can be fixed. Certain areas can be closed to protect fish stocks. Some fishing gears may be banned and more 'selective' techniques, which facilitate the escape of young fish and limit the capture of other species, may be made compulsory. Minimum fish sizes are set, below which it is illegal to land fish. Catches and landings have to be recorded in special log books.

The EU's structural policy helps the fishing sector adapt to today's needs. Funding is available for projects in all branches of fishing and aquaculture and for market and development research. Funding is available for modernisation of the fishing fleets as well as for getting rid of excess fishing capacity.

The market policy was part of the first set of common measures. The objective was to create a common market inside the Community and to match production to demand for the benefit of both producers and consumers. These original objectives have been complemented by the creation of the Community single market and the gradual opening up of world trade.

At the bilateral and multilateral levels, fisheries agreements became necessary when distant-fishing vessels from the Community lost access to their traditional grounds following the extension of fisheries zones. Fishing rights for such vessels have been negotiated with many non-Community countries in return for various forms of compensation whose nature depends on the interests of the third country concerned. The Community is also involved in negotiations with international organisations and regional fisheries organisations to ensure rational fishing.

The authorities in the member states have to ensure that CFP rules are respected. There is also a Community Inspectorate with a staff of 25 inspectors. Their role is to ensure that all national enforcement authorities apply the same standards of quality and fairness in their enforcement.

The first CFP review in 1992 showed that if there are too many vessels for the available resources, technical measures and control alone cannot prevent overfishing. The amount of fishing has to be regulated too. In order to make the Common Fisheries Policy more effective the link between its component parts was reinforced. Control measures were also developed to ensure that rules are respected throughout the sector. New technologies are being used to transmit data to the authorities and to monitor larger (but increasingly also smaller) vessels through satellite tracking systems.

6.3 The CFP and main elements of the 2002 reform

A number of measures have been implemented and others are foreseen/in the pipeline to achieve a sustainable fisheries sector, in the EU as well as in Norway and Iceland. Total allowable cactches (TAC) and quotas, fleet reduction schemes, minimum landing size and mesh limitations are some of the most important.

A description of the CFP and its reform can be structured in various ways. However, the Common Fisheries Policy has traditionally, as previously mentioned, been divided into four main areas: conservation[5], structures, markets and relations with third countries. The area of conservation is usually understood as the cornerstone of the CFP and is dealt with in the basic regulation - after 1 January 2003: Council Regulation (EC) No 2371/2002 - which the other areas of the policy have to relate to although their basic provisions are set out in separate regulations. We will in the following look at each of these four areas in turn. We will focus on some of the actual policy-elements in the area and some of the changes, which were the result of the recent and ongoing CFP reform.

[5] Incl. resources, fleet, monitoring and governance issues.

Aquaculture is in general managed by legislation not directly related to the CFP. It could be argued that aquaculture is in fact more related to agriculture than capture fisheries. However, aquaculture plays an important role *vis-à-vis* the development in the capture fisheries as one of the sub-sectors with growth potential in some of the regions that are in trouble due to the development in the capture fisheries.

Norway and Iceland, which have their own fisheries policies, will be dealt with in separate sections. Fisheries management in the Mediterranean, which is not covered by the full CFP, is also a 'special case', which will have its own section.

6.3.1 Conservation (incl. resources, fleet, monitoring and governance)

By the adoption of a new basic regulation of the Common Fisheries Policy in December 2002 the basis for the development and management in the fisheries sector in the EU was changed significantly. The regulation includes the basic provisions for the measures relating to resources, fishing fleet, monitoring/control and governance.

Resources (protection of and access to)

The objective of the conservation policy is primarily to protect the fish stocks by limiting the amount of fish taken out of the sea each year and to ensure that this is respected. This is done through a system of TACs for each stock, which the International Council for the Exploration of the Sea (ICES) gives scientific advice on[6], and national quotas, which are distributed between the member states on the basis of the core principle of 'relative stability'. This means that the quotas are calculated on the basis of a combination of 1) historic catches, 2) special provisions for coastal communities, which are heavily dependant on fishing, and 3) compensation for jurisdictional losses in catches in third countries' waters, which were the result of the creation of 200 nautical miles exclusive economic zones (EEZ) by the coastal states in the mid-70s (Holden, 1994, pp. 41-45). The member states manage their own quotas. The TAC system is supported by a number of technical measures, which are directed mainly at preventing the (by-) catching of juvenile fish or non-target species. The technical measures include: minimum mesh sizes, minimum landing sizes, rules as to what fishing gear to be used and where, seasonal bans on fishing, limitation on days-at-sea for vessels etc. (Holden, 1994, pp. 71-86). Under the heading of the conservation policy figure also the rules of access. A very important element is the core principle of 'equal access' for EU vessels to the EU waters with special provisions applied within the 12 miles zone.

One of the most important new elements in relation to the resource policy is the obligation or possibility for the Council to adopt multi-annual recovery or management plans for certain fish stocks, which are *"outside safe biological limits"*[7] or *"at/or within safe biological limits"* (Council Regulation (EC) No 2371/2002, art. 5, para. 1 and art. 6,

[6] The final decision on the TACs is taken in the Council and the decision is political, although the scientific advice is the background of the decision.

[7] 'Safe biological limits' is defined as the point where the indicators of the state of a stock predict a low risk of transgressing certain 'limit reference points', for instance values of biomass or fishing mortality rate, which are to be avoided. (Council Regulation (EC) No 2371/2002, art. 3(j) and (l)).

para. 1). Linked to this is the introduction of fishing effort (in terms of vessel days-at-sea) as a policy instrument in relation to the recovery plans.[8]

The starting point for the reform negotiations was a situation with overcapacity of fishing fleets relative to the fishing opportunities and several fish stocks in a depleted state. The management strategy that the EU adopted will among others aim at limiting the fishing effort through application of the days-at-sea instrument and closed areas for the most depleted fish stocks. This strategy will be implemented within a multi-annual catch/landing quota-system, through which the quotas are translated into days-at-sea. The reduction in capacity adjustment instruments combined with the days-at-sea instrument implies that the number of vessel days-at-sea in those fleet segments that are fishing on the stocks that are managed under recovery plans will diminish. This will expose the economic consequences of the excess capacity as is already seen in those fleets which depend on stocks for which low quotas have been set. The fact that the targets (to be) set for the recovery of the fish stocks will be related to outputs further implies that the points of reference that will be used for the setting of quotas and fishing effort allowed will be lower than the risk minimising points of reference that have been used up till now. This can in the short and medium term be expected to lead to smaller allowable catches and consequently landings. In the long run this will, however, ideally lead to larger and more stable fish stocks. However, in a more pessimistic but highly likely scenario the fishing effort will not be sufficiently reduced because of overcapacity. This will imply the continuation of the crisis management of fish stocks in many years to come.

The reduction of catch/landing quotas that will most certainly be implemented in the short and medium term implies that for economic reasons it will be necessary to reduce the capacity of important segments of the fishing fleet until the depleted fish stocks have recovered. The segments, which are under most pressure, are those exploiting depleted stocks such as most cod stocks, some sole and Nephrops stocks and hake. That the pressure is on the fleets, which exploit certain threatened stocks, can have important territorial consequences, in so far as fleets from different regions traditionally exploit different stocks. Vessels from those regions, which exploit the most threatened stocks, can consequently expect to be worse off than vessels from the regions, which traditionally exploit less threatened stocks.

Certain changes in the objectives of the basic regulation can also be considered important in relation to the conservation of the fish resources. Most notable is the commitment to the principle of sustainable exploitation[9] and the application of a precautionary approach[10] (Council Regulation (EC) No 2371/2002, art. 2, para. 1). This can *ceteris paribus* also be expected to lead to less fishing pressure in the short and medium term with negative impact in the affected coastal regions.

[8] The first multi-annual recovery plans were adopted for the most depleted cod stocks by the Council in December 2003 and did include fishing-effort limitation.

[9] 'Sustainable exploitation' is defined as "*the exploitation of a stock in such a way that the future exploitation of the stock will not be prejudiced and that it does not have a negative impact on the marine eco-systems"* (Council Regulation (EC) No 2371/2002, art. 3(e)).

[10] Application of a 'precautionary approach' to fisheries management "*means that the absence of adequate scientific information should not be used as a reason for postponing or failing to take management measures to conserve target species, associated or dependent species and non-target species and their environment"* (Council Regulation (EC) No 2371/2002, art. 3(i)).

Fleet

Among the major changes in the conservation policy from 1 January 2003 was the adoption of overall fishing fleet capacity ceilings and discontinuation of the capacity reduction programmes (Multi-Annual Guidance Programmes), which had been in place with mixed success in the past (combined with the abandoning of support to fleet modernisation that will enable an increase in fishing effort – dealt with beneath under the heading of 'Structural policy').

Monitoring and control

Control and enforcement remains after the reform largely the responsibility of the member states, as was the case before the 2002 reform. Although, the Commission's role in this area have been slightly strengthened in the new basic regulation and some movement towards more uniform control and sanctioning can perhaps be expected (Council Regulation. (EC) No 2371/2002, art. 26 and 27). The Commission has lately put forward a proposal (COM (2004) 289 final) on the creation of a Community Fisheries Control Agency, which must be seen, if adopted by the Council, as a move towards more uniform control and enforcement.

Strengthening of Community control and monitoring will benefit regions in which control is already efficient in comparison with regions where lean control is been traded for social peace (argument based on House of Lords, Select Committee on the European Union, 2003, p. 16). However, in the short term stronger control and enforcement must be expected to have negative impact on the fisheries dependent regions because of the increased difficulties in supporting the vessel with money earned on for instance 'black fish'.

Governance

A reoccurring criticism of the CFP has been its failure to include stakeholders in the decision-making process. An innovative element and response to this criticism is that the new basic regulation provides the legislative basis for the creation of Regional Advisory Councils (RAC), which should be established in order to provide advice on management in fishing zones covering areas under the jurisdiction of at least two member states. Representatives of the affected interests, be they commercial fishermen, representatives of aquaculture or processing industries, environmentalists, consumers, regional administrators, or scientists, have the right to participate in the RACs (Council Regulation (EC) No 2371/2002, art. 31 and 32). This new creation is directed at removing the feeling among the affected interests[11] that EU fisheries policy is unnecessary top-down, command control and created by faraway central institutions (Grieve, 2001, p. 13). The specifics regarding the RACs have subsequently been set out in a Commission decision in which it is stated that there can be seven of these councils: Baltic Sea, Mediterranean Sea, North Sea (operational as the first from 9 November 2004), north-western waters, south-western waters, pelagic stocks and high seas/long distance fleet (Commission Decision 2004/585/EC, art. 2(1)). It is not at this point in time possible to give a feasible prediction of the territorial impact of these councils, which have not been granted decision-making capabilities in relation to management.

[11] Especially the commercial fishermen, who to a certain extent feel that the EU does not take due account of their experience-based knowledge.

6.3.2 Structures

The structural policy for the fisheries sector relates to the Community policy for economic and social coherence and for strengthening the development. The main EU structural funds targeting the fisheries sector are 1) the Financial Instrument for Fisheries Guidance (FIFG) (1994-1999, 2000-2006 and 2007-2013 (projected)), which provides support to the development of the capture, processing, aquaculture sub-sectors, for protected areas and for harbour development and 2) PESCA, which has assisted fisheries dependent communities in getting access to other structural funds.

The basic act of the structural policy, which has been amended on numerous occasions over the years, is *Council Regulation (EC) No 2792/1999 of 17 December 19999 laying down the detailed rules and arrangements regarding Community structural assistance in the fisheries sector.* The discussion in relation to the FIFG in 2002 was on the question whether or not to continue to provide public grants for the construction and modernisation of fishing vessels, which would without any action taken be allowed under certain conditions until 2006. The most important elements of the (complex) final compromise on structural support were the introduction of a transition period until 31 December 2004 where aid could still be given for building of new vessels under 400 gross tonnes under conditions of an equivalent or larger capacity withdrawal and an overall three percent capacity decrease in 2003-2004 in the member states, which chose to utilise the possibility to give public grants to fleet renewal (Council Regulation (EC) No 2369/2002, point 9 and Council Regulation (EC) No 2371/2002, art. 13, para. 1 and 2). After the end of 2004 it is not possible to give public grants to construction of new vessels anymore. This decision could potentially have a negative impact in some fisheries dependent regions.

6.3.3 Markets

The common market policy has, as previously mentioned, since 1970 included instruments for common trade standards and norms, price intervention, producer organizations and trade with third parties. The basic act of the market policy is *Council Regulation (EC) No 104/2000 of 17 December 1999 on the common organisation of the markets in fishery and aquaculture products.* This regulation has been amended numerous times. The revised EU fish market policy includes important provisions, which aim at establishing a better balance between fish demand and supply, to improve the competitive capacity of producers and to improve consumers' access to information on the market. The instruments include requirements for producers' organizations to develop programmes to balance demand and supply, support to the establishment of industry organizations, an update of the intervention programmes and requirements for better consumer information. In relation to food safety, traceability will from 2005 be required for food products (Council Regulation (EC) No 178/2002). Dependent on the mode of implementation this may have important consequences for the supply of fisheries products to the EU in the short and medium term.

6.3.4 Relations with third countries

The last element of the CFP is the policy, which deals with relations with the outside world. The aim is to set up fisheries agreements with third countries to grant access for EU vessels and to participate in organisations, which regulate fishing outside the EEZ areas, also known as the 'high-seas'. The development of fisheries agreements with

developing countries is territorially important because these agreements are in general utilised by only a few member states, primarily Spain and Portugal, and a large number of jobs depend on them (European Commission, DG Fish, 2000, p. 12). Third country agreements are also important in relation to relocating European excess fleet capacity and thereby reducing the pressure on domestic resources.

Regional fisheries organisations

The European Union is contracting party in 11 regional fisheries organisations (RFOs), which have been created through international agreements. These organisations provide a framework for cooperation on the management of shared fish stocks and fish stocks in the high seas. The RFOs make recommendations on management and conservation measures, which must then be implemented by the contracting parties. Nevertheless, compliance cannot be guaranteed, although some RFOs have joint inspection programmes to ensure that contracting parties abide by the adopted measures.[12]

6.4 The Mediterranean Sea

The Mediterranean Sea is only fully integrated into the CFP in the areas of structural and market policies. In regards to the conservation policy, the main measure of TACs has traditionally not been applied in the area (COM (2002) 535 final, p. 4 and 9). The only specie in the Mediterranean, for which there is presently a TAC applying (since 1998), is bluefin tuna.[13]

Two RFOs are active in the Mediterranean: the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the General Fisheries Commission for the Mediterranean (GFCM) (COM (2002) 535 final, p. 10). The fact that the conservation policy of the CFP has not been extended to the Mediterranean Sea can be explained from a number of specific characteristics regarding the fisheries in these waters:

- A distinctive feature of the fisheries in the Mediterranean Sea is that most fishing takes place near to the coast within the territorial waters of the member states. The EEZs in the Mediterranean Sea is generally not extended beyond the 12 nautical miles territorial sea although some countries (for instance Spain and Malta) have claimed larger fisheries protected zones (FPZ), which opposed to EEZs only concern the fish resources. Consequently, there is a large area of international waters relative to the area under national control in the Mediterranean Sea. Connected to the fact that most stocks (excluding some highly migratory) concentrate within the 12 miles zone is the fact that relatively few fish stocks are shared between nations. The number is, however, increasing due to the development of new fisheries. Also, the perception of what fish stocks are shared is changing due to new scientific knowledge (COM (2002) 535 final, p. 4-5).
- The average size of the vessels in the Mediterranean Sea is smaller than in the rest of the European Union. The landings constitute a modest share of EU

[12] DG Fish website: http://europa.eu.int/comm/fisheries/doc_et_publ/factsheets/facts/en/pcp4_3.htm (2 December 2004).
[13] DG Fish website (TACs and quotas 2004): http://europa.eu.int/comm/fisheries/doc_et_publ/pub_en.htm (3 December 2004).

landings in terms of volume but a significantly higher share in terms of value because most of the catches are used for human consumption. The large number of fishermen (42 percent of the jobs in the capture fisheries sector in the EU15 are found in the four member states bordering the Mediterranean Sea) operating small vessels from mostly small landing sites makes control and enforcement particularly difficult in this area, even though the control provisions of the CFP apply (COM (2002) 535 final, p. 5-6).

- The GFCM has a Scientific Advisory Committee (SAC) but its role and importance is not comparable to that of ICES in regard to the North Atlantic. Consequently, the institution, which should coordinate and promote scientific activities, is not sufficiently developed (COM (2002) 535 final, p. 6).

The state of the resources in the Mediterranean Sea is problematic in so far as most species are considered to be overexploited. This, among other things, has led to low catch quality in terms of fish species and sizes in several fisheries. However, only few stocks have been reported in risk of collapse. Estimates by ICCAT and GFCM suggest that fishing effort in fisheries targeting overexploited stocks should be reduced by 15 to 30 percent (COM (2002) 535 final, p. 6). Furthermore, the total volume of catches in the Mediterranean has been declining significantly from the mid-nineties until today (Eurostat database, 3 December 2004).

This situation has led to action from the European Commission in relation to the ongoing reform of the CFP. Until now the main CFP legislation in relation to management of resources in the Mediterranean Sea has been a regulation from 1994 on technical measures (Council Regulation (EC) No 1626/94). However, due to the developments in the area in regards to fishing pressure and declining catches, the Commission has proposed a Mediterranean Sea regulation (COM (2003) 589 final), which aims at introducing for instance strengthened technical measures, stronger control measures and effort regulations in the area. The fate of this proposal is at present not predictable, but it will surely not go unaltered though the legislative system of the European Union.

A likely future development in the Mediterranean is lower caches - either because of increasing and continued overexploitation *or* because of more structured management initiatives, for instance in the form of quotas. Both scenarios can potentially lead to lower catches in the short term.

6.5 Fisheries policy in Iceland and Norway

6.5.1 Iceland

Iceland is not a member of the European Union and as a consequence of the fact that fisheries is not part of the EEA agreement Iceland has its own fisheries policy, which on several points differ from that of the EU. The Icelandic fisheries management system is based on an individual transferable quota system (ITQ). The current ITQ system, which has remained in essence the same since the beginning of the nineties, evolved from an initial individual vessel quota system first agreed on in 1983 to take effect from 1984. The last fleet segment, boats under 6 GRT, became part of the ITQ system in 2004, which means that all segments are now managed under the ITQ system (Gudmundsson, Bergsson and Sigurdsson, 2004, p. 1-3).

The Icelandic ITQ system entails that the minister of fisheries sets a TAC for individual fisheries after having received an advice from the Icelandic Marine Research Institute (MRI). The minister is not obliged to follow the advice besides on the setting of the cod TAC, which is based directly on the advice form MRI.[14] The TAC for each fishery is then divided among those holding rights to catch the specific specie. Some of the resource rent from the fisheries will from 2004/2005 be collected by means of a fishing fee, which equals 6 percent of the net catch value. This fee is projected to increase over the coming years to 9.5 percent in 2009 (Gudmundsson, Bergsson and Sigurdsson, 2004, p. 3-4).

The individual quotas are divisible and transferable but there is an upper limitation on how much of the total quota an individual (or related individuals) or an individual company can hold. Firstly, a vessel cannot hold more quotas than it can harvest. Secondly, there is an upper limit (ranging form 12 to 35 percent) as to how big a share of a certain fishery's quotas an individual or a legal entity can own (directly or indirectly). Finally, no individual can own more that 12 percent of the total TAC for all species measured in cod equivalents (Gudmundsson, Bergsson and Sigurdsson, 2004, p. 3). These restrictions aim at reducing the concentration of the fishing rights in the hands of very big companies. A mayor debate regarding the ITQ system has over the years been on whether it would result in concentration of fishing rights, which indeed seems to have been to a certain extent the case (Pálsson and Helgason, 1996, p. 58 and Gudmundsson, Bergsson and Sigurdsson, 2004, p. 12), and on whether this is a good or a bad development.

Iceland has a relatively insignificant bilateral reciprocity agreement with the European Union on redfish for capelin.[15] Iceland is contracting party to a number of RFOs and Iceland has fisheries agreements with number of countries besides the EU, including Norway.[16]

6.5.2 Norway

The management of the Norwegian fisheries has in the course of the last decades changed from 'free access fisheries' to a management regime involving (increasingly tradable) quotas and concessions.[17] Norway has, furthermore, increasingly abandoned the tradition of government subsidies (Foss, Matthiasson and Ulrichsen, 2003, p. 10).

The majority of the Norwegian capture fisheries are based on stocks, which are shared with other countries, although the majority of the catch is actually taken inside the Norwegian exclusive economic zone. The shared nature of the stocks necessitates international agreements on TACs (based on ICES advice but also sensible to political negotiations). The national regulations deal in general with distribution (through quotas) of the internationally agreed Norwegian TAC in order to secure a rational pattern of fishing. In this process it is also taken into consideration that there is a need to reduce the capacity of the fishing fleet and that the distribution between fishermen is 'fair'. A characteristic of the Norwegian fisheries management system is the (advisory)

[14] There is some room for manoeuvring in order to minimize the impacts of large changes in annual catch quotas.
[15] DG Fish website: http://europa.eu.int/comm/fisheries/doc_et_publ/factsheets/facts/en/pcp4_2n04.htm (1 December 2004).
[16] Information Centre of the Icelandic Ministry of Fisheries website: http://www.fisheries.is/agreem/index.htm (2 December 2004)
[17] Ministry of Fisheries and Coastal Affairs website: http://odin.dep.no/fkd/norsk/tema/fiskeogfangst/bn.html (2 December 2004, in Norwegian).

involvement of the fishermen themselves in this process through the Regulatory Council (Hoel, 2000).

The Norwegian management measures consist of input restrictions in the shape of licensing schemes for most fisheries, output restrictions in the shape of quotas allocated to groups of fishermen and on individual vessel level, and, finally, technical measures relating to a particular fishery, for instance minimum mesh sizes, minimum landing sizes, gear type restrictions etc. (Hoel, 2000).

The agreement with Norway is the EU's most important third party agreement in the fisheries sector. The fisheries agreements between Norway and the EU concern 1) joint management/setting of TACs and sharing of the seven main stocks straddling between the Norwegian and European Union's part of the North Sea and 2) balanced exchange of other fish stocks in each other's waters. The fish stocks, which are managed jointly, are cod, haddock, saithe, whiting, plaice, mackerel and herring. The agreements are negotiated annually and in the agreement for 2004[18] the total TAC for the seven species was set at 889,031 tons of which Norway got 297,667 and the EU got 591,364. The TACs for 2005 were recently agreed and resulted in an increase of the total TAC to 905,179 tons with 622,203 tons to the EU.[19] The EU share benefits mainly Denmark, Germany, France, the Netherlands and the United Kingdom. The balanced exchange of stocks is in the magnitude of 230,000 to 240,000 tons of various species. Norway and the EU have in recent years disagreed on a number of important issues (especially on the exploitation of pelagic stocks), which has created some tension between the two parties. Trade in fish and marine products is regulated through Protocol 9 of the EEA agreement, which gives preferential treatment of a number of products.[20]

Norway has fisheries agreements with other neighbours than the EU. Most important are the agreements on cod, capelin and haddock with Russia.[21] A significant share of the Russian catches is landed in Norway. Norway is also contracting party in a number of RFOs (Hoel, 2000).

6.6 The structure of the capture fisheries sub-sector in Europe

6.6.1 Introduction

The capture fisheries sub-sector is in economic terms not very important neither on a common EU or national scale. However, capture fisheries are in some regions very

[18] The 2004 negotiations proved difficult and the agreement was not finalised before 24 January 2004 – noticeably delayed, which resulted in a moratorium on fishing in each others waters from 1 January to 24 January. DG Fish website (press release): http://europa.eu.int/comm/fisheries/news_corner/press/inf04_03_en.htm(1 December 2004).
[19] DG Fish (press release 29.11.2004): http://europa.eu.int/comm/fisheries/news_corner/press/inf04_50_en.htm(3 December 2004).
[20] DG Fish website: http://europa.eu.int/comm/fisheries/doc_et_publ/factsheets/facts/en/pcp4_2n07.htm(1 December 2004) and DG Trade website: http://europa.eu.int/comm/trade/issues/bilateral/countries/norway/index_en.htm(2 December 2004).
[21] Agreements with other countries include the Faeroe Islands, Iceland and Greenland.

important. We will in the following sections make an introductory description of the overall structural development of EU and EFTA capture fisheries based on Eurostat data. This introduction will give us some background data for approaching the structural developments more qualitatively, which will in turn enable us to move down to greater levels of regional disaggregation and study the effects of the Common Fisheries Policy there.

Regarding capture fisheries statistics

The data in these sections are mainly taken from the Eurostat database, which includes statistics on volume of catches, volume and value of landings, the fishing fleet etc. Eurostat obtains data from national statistics and from FAO. The information, which can be obtained from statistics on capture fisheries, is of lower quality and more ambiguous than for aquaculture. There are various reasons for this. Some of these are: 1) Fishing vessels are not obliged to land in ports of the country, whose flag they are flying. When vessels land in a port of a foreign (EU) country the value of the landing (first sale) will be ascribed to the value of landings in that country, irrespective of the fact that the profit actually ends up benefiting the economy of a region in another country. The spin-off effect of the landing will benefit the country of the landing. 2) The black economy in the capture fisheries sub-sector is suspected to be considerable, which means that official statistics underestimate the *de facto* economic importance of the sub-sector (and the volume of catches). This is of course also the case for other economic sectors but the capture fisheries are particularly difficult to control.[22] 3) The data accuracy and compilation routines differ from country to country. One reason is that it is easier to control e.g. landings in a country with a small number of large vessels landing in a small number of ports like for example UK and Denmark than in a country with a large number of small vessels landing in a large number of ports, which is the situation in for instance Greece and Italy.[23]

6.6.2 The fleet

An indicator of the structural changes in the European capture fisheries sub-sector is the development of the fleet. The interesting aspect of the fleet is the development of its fishing power. The fishing power of a fleet is notoriously difficult to measure and the size of the European fleet is therefore presently measured in three units: absolute numbers, tonnage (GT), and engine power (kw). The development in engine power in terms of kilowatt is generally considered the best indicator of the development of the actual fishing power of the fleet, even though 'technological creep'[24] is not taken into consideration.

The development of the EU15 fishing fleet from 1995 to 2003 in terms of absolute numbers, tonnage and engine power is outlined in table 6.1 beneath.

[22] A related problem concerns the fact that the volume of (legal as well as illegal) discards has to be estimated, which creates a distortion of the data on the impact of fishing activities. However, this statistical problem is mostly relevant when making biological research. Discarded fish do not contribute to the economy and the problem is in this way not relevant to this study.

[23] In the context of this project it is furthermore a problem that the statistics are more focussed on volume than value. Volume is in the case of fisheries not a suitable indicator for economic importance because the kilo prices for different species can be very, very different, not least because some species are caught for industrial use.

[24] Due to so-called technological creep the fishing power of a fleet will actually increase over time even if the engine power in terms of kilowatt is kept stable. This means that if the fishing power of a fleet should be kept stable, the engine power of the fleet should continuously be decreasing.

Table 6.1 *EU15 – Indicators on the fleet*

	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Number	103633	101141	102063	100133	97751	95381	92328	90129	88122
Tonnage[25] **(1000 GT)**	1998	1985	2021	1996	1995	2007	2006	1965	1912
Power (1000 kw)	8187	7958	7973	7823	7702	7601	7472	7274	7107

Source: Eurostat database, 19. November 2004

The size of the European fishing fleet decreased in the period from 1995 to 2003 in terms of absolute numbers (15%) and tonnage (4.3%) as well as the most important indicator: engine power (decrease 13.2 percent).

The equivalent data for Iceland and Norway is outlined in table 6.2 beneath, but Eurostat has only data back to 1998.

Table 6.2 *EFTA – Iceland and Norway. Indicators on the fleet*

	1998	**1999**	**2000**	**2001**	**2002**	**2003**
Number	14183	15166	15011	13966	12589	11809
Tonnage (1000 GT)	559	566	572	598	585	579
Power (1000 kw)	2793	2893	2972	3078	3052	…

Source: Eurostat database, 9. December 2004

The Norwegian and Icelandic fishing fleet was not decreasing before 2001 in terms of absolute numbers. Reduction of the fleet in terms of tonnage and engine power came not until 2002. However, these reductions in the EU and EFTA fleets do not take into account the technological creep and the decrease in actual fishing power is therefore probably smaller than indicated by the figures. The capacity decrease is in any case smaller than what assessments during the nineties have estimated as needed to match effort with the available resources.

Fleet segment definitions

In the context of these study vessels less than 12 meters of length are defined as engaged in *small-scale coastal fishing.* This definition is similar to the definition applied by the EU in the context of the structural policy under the Common Fisheries Policy (Council

[25] The registration of the tonnage changed over a period from 1996 from Gross Registered Tonnage (GRT) to Gross Tonnage (GT), which is generally higher. This might partly explain that the tonnage does not seem to have decreased in the same regular pace as engine power.

Regulation (EC) No 2792/1999, art. 11(1)). As for the composition of the EU fleet more than 80 percent of the vessels are less than 12 meters long. Vessels above the length of 12 meters are pr. definition not engaged in small-scale coastal fishing but in *offshore fishing*. The proportion of vessels over the length of 30 meters is just above 2 percent (2003 figures). The balance between the different vessel length segments seems to be rather unaffected by the decrease in absolute numbers, indicating that the decrease has taken place in all segments (Eurostat database, 26 November 2004).

However, there are great differences between the different EU countries when it comes to the composition of the fleet. Belgium and Finland constitute the extremes. No Belgian vessels are less than 12 meters long and 48 percent of the vessels of the Belgian fleet (numbering only 125 vessels) are more than 30 meters long. In the other end of the spectrum is Finland, where more than 94 percent of the vessels are less than 12 meters long and none over 30 meters long[26] (Eurostat database, 26 November 2004).

6.6.3 Employment

Comparable data on employment in the capture fisheries sub-sector is in general scattered and of variable quality, which makes Eurostat less useful in this area. However, according to the Commission's latest data there were a total of 526,034 persons employed[27] within the entire fisheries sector in 1996/1997 (European Communities, 2004, p. 11).

It was in connection with the publication of the Commission's reform proposals in 2002 estimated that 66,000 jobs (a decrease of 22 percent) had been lost in the capture fisheries sub-sector in the period from 1990 to 1998. This suggests an employment figure of approximately 234,000 in the capture fisheries sub-sector in 1998. It was, furthermore, predicted that the reform would lead to the maximum loss of yet another 28,000 jobs over the period from 2003 to 2006 (COM (2002) 181 final, p. 3 and p. 20). It has to be kept in mind that the prediction was based on the Commission's proposals and that the final provisions eventually agreed in the Council were not as radical the measures proposed.

6.6.4 Catches and landings

The total catches of the EU25 fleet was approximately 8 million tons (live weight) in 1995. This figure had in 2002 dropped to approximately 6.8 million tonnes. (European Communities, Eurostat, 2004, p. 248) However, more interestingly to us is the economic value of the fish, since this is what regions depend on and not a certain volume of fish. For that purpose it is possible to get reasonable data on the landings in the different countries. Using statistics over landings is as earlier described not unproblematic because vessels can land in other ports than in their homeport.

The value of the landings in EU15 (by all vessels) increased from approximately € 5,990 million in 1995[28] to € 6,230 in 2003[29] (summation on the basis of individual countries'

[26] However, Finland does not fit very well to the chosen definition because many of the vessels are engaged in the Finnish speciality of inland (and not coastal) fisheries, which are also managed under the Common Fisheries Policy. Better examples are perhaps the Mediterranean member states' fleets.

[27] Including full time, part-time and seasonal workers from the catching sector, processing, aquaculture and ancillary industries such as marketing and ship repair.

[28] Finnish figures for 1997 and French figures for 1999.

[29] Portuguese figures for 2000 and Spanish figures for 2002.

data, Eurostat database, 25 November 2004). This is an increase of approximately 4 percent. However, if we take inflation into account (and calculate with an average annual inflation of just below 2 percent) the increase ought to have been more than 15 percent just to maintain *status quo*. The value of the landed catch in real terms therefore decreased, even though the average kilo price of fisheries products increased over the same period of time.

However, there are significant differences as to how the development has been in the different member states. Denmark is one of the countries where the difficulties of some segments of the European capture fisheries sub-sector has been felt most. The landings in Denmark in 1995 had a value of € 499 million in 1995. In 2003 this figure had dropped to € 390 million. In the other end of the scale is the development of the landings in Ireland, which increased from a value of € 140 million in 1995 to € 253 million in 2003.

6.6.5 Sources of regional differences in terms of problems and perspectives

That the problems in the capture fisheries sub-sector has been felt differently in the different member states and regions can be explained by reference to structural differences between countries and regions; these differences concern for instance:

- Differences in the *geographical area* in which the fishing takes place (e.g. the North Sea, the Mediterranean or third countries waters) – the regions are on this point affected unequally by the conservation provisions of the CFP.
- Differences in the *type of fishing carried* out, e.g. *small-scale coastal* or *offshore* (demersal, pelagic or industrial), and the species fished for - the regions are on this point affected unequally by the conservation provisions (and other elements) of the CFP.
- Various structural differences related to the *national implementation* of the Common Fisheries Policy.
- Differences in the impact of provisions of the Common Fisheries Policy, which are not directly linked to the state of the fish stocks, e.g. financial assistance and market regulations.

It is clear that these differences interact but they give, nonetheless, a structured initial idea of the sources of CFP-related regional differences in terms of problems and perspectives.

6.7 The structure of the aquaculture sub-sector in Europe

6.7.1 Introduction

Aquaculture is defined as *the farming of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of, or rights resulting from contractual arrangements to, the stock being cultivated*. This definition is the one used by Eurostat and in line with the definition developed by FAO and its

Coordinating Working Party on Fisheries Statistics (Eurostat database, 15 November 2004).

Products from aquaculture have different forms and different intended end uses. FAO distinguishes for instance in the statistics between finfish, molluscs, aquatic plants, crustaceans and other aquatic animals (e.g. crocodiles, turtles etc.). Of these groups finfish is the dominant followed by molluscs and aquatic plants. The majority of aquaculture products are used for human consumption but a significant part is, nonetheless, used for non-food uses (e.g. meal, oil, bait, aquarium fish etc.) (FAO, Fisheries department, 2002, p. 29).

6.7.2 Aquaculture production in Europe

Aquaculture in Europe is becoming increasingly important relative to capture fisheries. This is the case both in terms of production measured in volume and even more so in terms of value because almost all European aquaculture products are intended for human consumption - as opposed to capture fisheries where for instance Danish vessels catch considerable quantities of industrial species with a low value pr. kg (e.g. sandeel). A noteworthy point is that much of the captured industrial fish actually ends up as fodder for carnivorous farmed fish.

The tables 6.3 and 6.4 beneath show the development of European aquaculture (EU15) since 1995. In terms of volume of production aquaculture represented 13.3% of the total EU15 fish production in 1995 and 17.5% in 2001. In terms of value the production in 2001 was 33% of the value of the EU15 total fish production (European Communities, 2004, p. 16).

Table 6.3 *EU15 aquaculture production (tons live weight)*

Year	1995	1996	1997	1998	1999	2000	2001	2002
Tons	1,099,751	1,151,427	1,175,029	1,299,975	1,342,738	1,311,977	1,298,331	1,196,430

Source: Eurostat database, 9 November 2004

Table 6.4 *EU15 aquaculture production (1,000 euro)*

Year	1995	1996	1997	1998	1999	2000	2001	2002
1,000 €	1,805,332	1,839,520	2,197,715	2,284,500	2,389,449	2,849,261	3,015,392	2,738,434

Source: Eurostat database, 9 November 2004

The aquaculture production rose from 1995 to 2002 with 8.8%. Production peaked in 1999 and has been gradually declining since then. The value of the aquaculture production has been rising substantially in the same period, namely 51.7%. The value peaked in 2001. The increase can partly be explained by the scarcity of European fish products, which has driven up prices[30], but it must also be ascribed to increased farming

[30] The increase has been from € 1.20 pr. kg to € 1.39 pr. kg in the period from 2000 to 2002 (European Communities, 2004, p. 10).

of more valuable species. The average value of aquaculture products was € 2.29 pr. kg (live weight) in 2002.

The value of the aquaculture production was in EU15 approximately € 7,24 pr. capita in 2002 (2001 population figures). The EU15 aquaculture production represented 2.3% of the world production of which the Chinese production represented remarkable 71.2% (2002 figures) (Eurostat database, 15 November 2004).

The aquaculture sub-sector employed in 1998 the equivalent of 57,000 full-time persons (COM (2002) 511 final, p. 4).

Marine aquaculture

The focus of this study is on aquaculture, which takes place in the coastal zones. This is dominantly marine aquaculture of molluscs, fish and others taking place in sea water, which is defined as *"waters where the salinity is high and not subject to significant variation"* (Eurostat metadata, 25 November 2004). The development of marine aquaculture defined in this way from 1995 to 2003 in EU15 is shown in table 6.5 beneath.

Table 6.5 *EU15 marine aquaculture production (1,000 euro)*

Year	1995	1996	1997	1998	1999	2000	2001	2002
1,000 €	993,195	1,029,562	1,286,609	1,405,068	1,589,460	1,838,627	1,969,866	1,807,963

Source: Eurostat database, 25 November 2004

The value of the marine aquaculture has increased with more than 80 percent from 1995 to 2002. Marine aquaculture represented 66% of total aquaculture production by value in 2002, up from 55% in 1995.

The equivalent data for Iceland and Norway is outlined in table 6.6 beneath. Norway has the majority part of the aquaculture production in the EFTA area, which consists mostly of salmon and trout.

Table 6.6 *EFTA – Icelandic and Norwegian marine aquaculture production (1,000 euro)*

Year	1995	1996	1997	1998	1999	2000	2001	2002
1,000 €	795,161	793,052	936,263	1,028,395	1,265,557	1,507,547	1,150,386	1,229,364

Source: Eurostat database, 25 November 2004

The value of the marine aquaculture has increased with more than 50% in Iceland and Norway together. In Iceland, however, the value of the production decreased from € 8,996,000 in 1995 to € 7,482,000 in 2002. The Icelandic aquaculture production is as the figures suggest of a non-negligible size. However, the Norwegian production is of a very considerable size – also compared to the EU15 total production.

6.7.3 Challenges to and potentials of European aquaculture

The Commission's strategy for the aquaculture sub-sector[31] includes three main aims: 1) *"Creating long term secure employment, in particular in fishing dependent areas"*, 2) *"Assuring the availability to consumers of products that are healthy, safe and of good quality, as well as promoting high animal health and welfare standards"*, and 3) *"Ensuring an environmentally sound industry"* (COM (2002) 511 final, p. 21).

The overall economic goal of the Commission is continued growth in the aquaculture sub-sector and thereby the creation of 8,000 to 10,000 jobs (full-time equivalents) over the period from 2003 to 2008. These jobs should mainly be created by means of developing mollusc and cage farming in areas dependent on (capture) fisheries, which will be negatively affected by the reformed Common Fisheries Policy. Success in relation to this main target is, again according to the Commission, dependent on the ability to 1) increase the growth rate to 4 % pr. year, 2) solve conflicts for space, 3) promote market development, and 4) improve governance (COM (2002) 511 final, p. 11).

The future economic situation of the aquaculture sub-sector (at EU level as well as regionally) will, consequently, depend on its (or policy-makers) ability to address the abovementioned issues. The statistics from the most recent years (see table 6.5) show that growth in the aquaculture sub-sector is not self-evident, even though the sub-sector has the potential to supply farmed fish as a substitute to threatened wild fish species in European waters such as e.g. cod.

6.8 The fish processing sub-sector in Europe

There are over 3,000 processing enterprises in the EU15 with almost 100,000 employees. Most member states have seen a reduction in the number of processing companies in recent years, although collation of data related to the number of fish processing companies is only undertaken sporadically, making the identification of trends difficult. The criteria defining a fish processor also vary between member states and between surveys within member states, making comparison difficult. The average number of employees per processing enterprise has increased from 30.4 in 1994 to 37.8 in 2000, an indication of consolidation in the industry

The European processing sub-sector remains for the most part in contraction and consolidation due to supply shortages and competition from cheaper imports. This situation may persist for some years to come as trade barriers such as tariffs and import licences are reduced or stopped through international trade agreements. Third countries suppliers of raw material are increasingly taking advantage of their low labour costs and processing for export as processing units achieve EU quality standards. Some European trading companies are using the comparative advantages of countries outside the EU. In extreme cases EU-sourced raw material is exported out of the EU for low-cost part processing in countries such as China before being returned to the EU for finishing.

[31] The strategy is outlined in a Commission communication: COM (2002) 511 final: *"Communication from the Commission to the Council and the European Parliament: A strategy for the Sustainable Development of European Aquaculture"*. This paper constitutes presently the most important EU policy document directed solely towards the aquaculture sub-sector.

Many employment opportunities in the EU fish processing sub-sector remain temporary in nature, often associated with fishing seasons or seasonal peaks in demand, which makes accurate quantification of sector employment difficult. The major employers are the UK, Spain, France, Denmark and Germany. Employment in the fish processing sub-sector is not recorded on an annual basis, making it difficult to define trends. Overall employment in EU fish processing has not altered significantly since the mid-90s. Individual member states such as the Netherlands and Portugal have seen employment reduction between 1994 and 1999 whereas others have seen increase, notably the UK, Spain, Ireland and Sweden.

Based on the Prodcom categories the EU fish production increased by 41% in volume terms and 76% in value terms during 1994 to 1999. Production in 1999 was valued at approximately € 12 billion from about 4 million tonnes of product.

There has been a significant decrease in EU landings (down by 23% in volume terms between 1994 and 1999 and down 16% in value). The EU processing sub-sector has made up this shortfall in supply with more imports. Extra-Community imports of processed seafood rose from € 6.13 billion in 1994 to € 9.55 billion in 2000 (a 36% increase). In addition, the EU processing sub-sector imported approximately € 4 billion worth of unprocessed seafood products (fresh or frozen whole fish) in 1993.

Intra-Community trade in processed products increased by around 39% from 1994 to 2000 where it totalled € 5.7 billion. This brings total EU imports of processed seafood products in 2000 to over € 15 billion. 86% of the value of EU exports which totalled € 6.6 billion in 2000 is derived from intra-Community trade, less than € 900 million of processed seafood products were exported in 2000. Most member states in the European Union have seen increases in demand for seafood products. In conjunction with reduced landings and increased extra-EU competition, this has contributed to an ever-widening seafood trade deficit between the EU and third countries. Only the continued development and increased production of the European aquaculture sector has been such as to counter this trend, creating a source of raw material for processors and new products for consumers from within the EU.

Problems facing the processors are primarily focused on employment, raw material supply and competition from extra-EU imports. To an extent these issues are all interconnected – particularly the costs associated with employment and raw materials leading to processor concerns over their ability to compete with third country imports.

There is general movement in the EU towards added value and away from primary processing, which for the most part can be done more cost-effectively outside the EU in regions with closer access to raw material and / or far lower labour costs. The fish processing sub-sector is becoming less distinct from the wider food processing sector as? raw material sourcing is less associated with local landings. Consolidation of the sector results in integration with larger food processing companies and moves towards added value products, such as ready meals where fish is only one of many ingredients used.

A process of consolidation is underway in almost every corner of the EU fish processing sub-sector and is resulting in the formation / evolution of a smaller number of generally larger businesses, with a handful of very large businesses forming in most member states. The corollary of this process is that significant numbers of businesses are failing or being absorbed / bought-out by larger food companies.

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Annex 1 List of socio-economic indicators for fishery-dependent regions

1. FISHING

Type of indicator	Definition	Rationale
Employment		
EMP-FLEET Employment of fishermen	EMP-FLEET = SUM(EMP-FLEETSEG	Provides a measure of the absolute number of fishermen employed – and so the potential number of persons who will need assistance financially and/or regarding alternative jobs if cuts in the fleet take place.
EMP-FLEET-CHANGE Annual growth in employment	EMP-FLEET-CHANGE = (EMP-FLEET(t)/ EMP-FLEET(t-1))-1 i.e. annual percentage change in employment of fishermen.	Provides a measure of employment developments for fishermen that are comparable between regions.
EMP-FLEETSEG Employment of fishermen by fleet segment	EMP-FLEETSEG = SUM(EMP-FLEETSEG-AGE) i.e. the total for the data variable by age – if it is available, else just equivalent to the data variable EMP-FLEETSEG	Provides a similar account to the above – but by fleet segment; hence useful when specific segments of the fleet are affected by policies.
EMP-FLEET-AVAGE Average age of employed fishermen	EMP-FLEET-AVAGE = SUM(EMP-FLEET-AGR*age)/SUM(EMP-FLEET-AGE) i.e. a simple weighted average of the variable EMP-FLEET-AGE	The higher the average age – the more use of early retirement schemes must be expected. Also, relative old fishermen becoming redundant will require specially targeted assistance.
EMP-FLEET-STDAGE Standard deviation of age of employed fishermen	EMP-FLEET-STDAGE = STD(EMP-FLEET-AGE) i.e. a conventional standard deviation calculation of the data variable EMP-FLEET-AGE	Even though the average age is high/low an important fraction of fishermen might have a different age and hence affected differently by cuts compared to the majority of fishermen.
EMP-FLEET-AGE55-SHARE Share of fishermen aged 55 and above	EMP-FLEET-AGE55-SHARE = EMP-FLEET-AGE55 / EMP-FLEET	FIFG provides co-financing of national early retirement schemes that will secure the livelihood of elderly fishermen finding it impossible to start a new career.
EMP-AQUA Employment in aquaculture	EMP-AQUA is equivalent to the data variable of the same name.	Provides a measure of the importance of the aquaculture sector (as alternative job opportunities for redundant fishermen?)
EMP-AQUA-CHANGE	EMP-AQUA-CHANGE = (EMP-AQUA[t] / EMP-AQUA[t-1])-1 i.e. annual percentage change	Provides a measure of employment developments within the aquaculture sector that is comparable between regions.
EMP-FISH-SHARE Share of fishermen in total employment	EMP-FISH-SHARE = EMP-FISH / EMP-REG where EMP-FISH = EMP-FLEET + EMP-AQUA	Provides a measure of the region's dependency of fishing in employment terms.
EMP-FISH-STATUS-SHARE Employment by socio-economic status	EMP-FISH-STATUS = (EMP-FISH-STATUS) / EMP-FISH i.e. shares of full-time, part-time, occasional, temporary and seasonal employment	The employment situation in fishing is often more volatile than the general employment picture.
Income		
VA-FISH Value added in fishing	VA-FISH is equivalent to the data variable of the same name	A measure of value added in the region directly dependent on fishing.
VA-FISH-SHARE Share in total regional GDP	VA-FISH-SHERE = VA-FISH / GDP-REG i.e. income from fishing compared with total regional income.	A measure of regional importance of fishing in income terms.
AERNING Average earnings of earnings	AERNING = TWAGE / EMP-FLEET i.e. total wage income divided by the number of fishermen.	Measurement of average annual wage income to fishermen./ EMP-FLEET
Other social indicators		
INJFM-SHARE Share of fishermen injured – leading to lose work time.	INJFM-SHARE – INJFM-NO	Monitoring the security on board.
Production/business developments		
VES-LW-GEAR-SHARE	VES-LW-GEAR-SHARE = VES-LW-	Indicator useful for creating a link between changes to

Landing shares by fishing gears	GEAR/VES-LW i.e. shares of total regional landings by fishing gear	fishing gear regulations and regional socio-economic developments.
VES-DAYS-FLEETSEG Number of days at sea by fleet segments	VES-DAYS-FLEETSEG is equivalent to the data variable of the same name.	Provides an indication of capacity utilisation.
VES-AVDAYS Capacity utilisation	VES-AVDAYS = VES-DAYS / VES-NO-FLEET i.e. number of days at sea divided by the number of vessels	Another indicator for capacity utilisation in terms of days at sea.
VES-LW-TON Productivity in weight per tonnage of fleet	VES-LW-TON = VES-LW / VES-TON-FLEET i.e. landings weight divided by tonnage of fleet.	Measure of market weight of production per tonnage of fleet.
VES-LW-NO Productivity in weight per vessel	VES-LW-NO = VES-LW / VES-NO-FLEET i.e. landings by weight divided by number of vessels	Measure of market weight of production per vessel.
VES-LW-DAYS Productivity in weight per day at sea	VES-LW-DAYS = VES-LW / VES-DAYS i.e. landings weight divided by days at sea	Measure of market weight of production per day at sea
VES-LW-EMP Productivity in weight per employed fishermen	VES-LW-EMP=VES-LW / EMP-FLEET i.e. landings weight divided by number of employed fishermen	Measure of market weight of production per employed fishermen
RHW Ratio harvesting weight	RHW = VES-LW/ AQW i.e. landings weight divided by weight of aquaculture production	Measure of importance of fishing compared with aquaculture – in quantities.
RHV Ratio harvesting value	RHW = VES-LV/ AQV i.e. landings value divided by value of aquaculture production	Measure of importance of fishing compared with aquaculture – in value.

Fleet

VES-NO-FLEETSEG Number of vessels by fleet segment	VES-NO-FLEETSEG is equivalent to the data variable of the same name	Provides a presentation of the characteristics and size of the fishery-dependent region.
VES-TON-FLEETSEG Tonnage of vessels by fleet segment	VES-TON-FLEETSEG is equivalent to the data variable of the same name	Provides a presentation of the characteristics and size of the fishery-dependent region.
VES-AVTON	VES-AVTON = SUM(VES-TON-FLEETSEG/SUM(VES-NO-FLEETSEG)	Provides a description of whether the fishery-dependent region is characterised by small or large vessels
VES-AVAGE	VES-AVAGE = SUM(VES-TON-FLEETSEGAGE*age/SUM(VES-NO-FLEETSEG)	A high average age indicates an old fleet where modernisation might be needed to continue.

Fish

CFP-DEP Ratio for dependency of CFP	CFP-DEP = SUM (VES-LV[CFP]) / SUM(VES-LV) i.e. the share of the value of landings subject to CFP management measures	Provides one figure of CFP dependency that directly can be compared between regions.

2: ASSOCIATED INDUSTRIES

Employment

EMP-AIND Employment in associated industries by branch	EMP-AIND covers employment in the NACE Rev.1 branches: *Fish processing* DA.152: Fish industry *Other downstream* G.511 Commission trade G.513 Whole trade of food G.522 Food retail trade in specialist shops *Upstream* DA.157 Animal feed production DB.175 Other textile industries DK.291 Manufacture of motors etc. DM.351 Ship-building	Provides a measure of the number of jobs indirectly dependent on fishing activities.
EMP-FISH-SHARE Share of employment in fishing and fish processing in total employment	EMP-FISH-SHARE = (EMP-FLEET + EMP-AINDS[DA.152]) / EMP-REG i.e the sum of employment in fishing and the fish processing industry compared with the total regional employment	Indicator used for the definition of a fishery dependent region within the present study i.e. EMP-FISH-SHARE > 0.1%. The share of employment in fisheries must exceed twice the Community average to qualify for the status of a fishery-dependent Objective 2 area within the EU Structural Funds.
EMP-AIND-CHANGE Annual growth in employment by branch	EMP-AIND-CHANGE = (EMP-AIND[t] / EMP-AIND[t-1]) – 1 i.e. annual percentage change in regional employment in associated industries by branch.	Provides a measure of employment developments that is comparable between regions. EMP-AIND-CHANGE must be negative to qualify for the status of a fishery-dependent Objective 2 area within the EU Structural Funds
EMP-AIND-STATUS-SHARE Employment by socio-	EMP-AIND-STATUS-SHARE = EMP=AIND-STATUS[DA.152] / EMP-AIND[DA.152]	The employment situation in the fish processing industry is often volatile, due to volatile fishing.

economic status.	i.e. shares of full-time, part-time, occasional, temporary and seasonal employment	

Income

VA-AIND Value added in associated industries by branch	VA-AIND is equivalent to the data variable of the same name	A measure of value added in the region indirectly dependent on fishing
VA-AIND-SHARE Share in total regional GDP by branch	VA-AIND-SHARE = VA-AIND / GDP-REG i.e. income from associated industries – by branch – compared with total regional income	A measure of regional importance of associated industries in income terms.

Fish

FISH-AIND Amount of fish processed by species	FISH-AIND is equivalent to the data variable of the same name	Account of fish processing sector's dependency on various species
FISH-AIND-LOCALSHARE Dependency on local landings	FISH-AIND-LOCALSHARE = FISH-AIND-LOCAL / FISH-AIND i.e. the regional landings used by the regional fish processing industry divided by the total fish quantities used by the regional industry – by species	The indicator provides a measure of the importance of the link between regional fishing and the regional fishing industry.

3. REGIONS

Employment

EMP-REG Total regional employment	EMP-REG = SUM (EMP-REG-BRANCH) i.e. the total for the data variable by fleet segment – if it is available, else just equivalent to the data variable EMP-REG	Characterises the size of the fishery-dependent region in employment terms.
EMP-REG-CHANGE Annual growth in employment	EMP-REG-CHANGE = (EMP-REG[t] / EMP-REG[t-1]) – 1 i.e. annual percentage change in total regional employment	Provides a measure of employment developments that is comparable between regions and with national figures.
EMP-REG-BRANCH Employment by branch	EMP-REG-BRANCH is equivalent to the data variable of the same name	A measure of the mix of branches in the region.
EMP-REG-BRANCH-CHANGE Annual growth in employment by branch	EMP-REG-BRANCH = (EMP-REG-BRANCH[t] / EMP-REG-BRANCH[t-1]) -1 i.e. annual percentage change.	Provides a measure of employment developments that is comparable between regions.
EMP-REG-BRANCH-SHARE Employment shares by branch	EMP-REG-BRANCH-SHARE = EMP-REG-BRANCH / EMP-REG i.e. employment in (detailed) branches compared with the total regional employment	Identifies the relative size of relevant alternative branches for alternative employment. The share of employment in industrial branches must exceed the Community average to qualify for the status of an industrial Objective 2 area within the EU Structural Funds.
EMP-REG-RATE Total employment rate	EMP-REG-RATE = EMP-REG / REG-POP[15-64 years] i.e persons in employment in the age bracket 15-64 years as a proportion of the total population in the same age bracket.	Standard measure to monitor one major target of the European Employment Strategy Target: total employment rate = 67% in 2005 and 70% in 2010.

Unemployment

RUNEMP-REG Rate of unemployment	RUNEMP-REG = UNEMP-REG / (UNEMP-REG + EMP-REG) i.e. the labour force is calculated as the sum of unemployed and employed	Relative indicator that can be compared between regions. RUNEMP-REG > Community average is characterising an industrial or rural Objective 2 area within the EU Structural Funds
LTUNEMP-REG-SHARE Share of long-term unemployed.	LTUNEMP-REG-SHARE = LTUNEMP-REG / UNEMP-REG Where LTUNEMP-REG is UNEMP-REG[duration > 12 months]	LTUNEMP-REG-SHARE > Community average is characterising an urban Objective 2 area within the EU Structural Funds.

Income

GDP-REG Regional income	GDP-REG is equivalent to the variable of the same name. The variable is measured in real terms (i.e. fixed prices) to allow comparisons over time.	Characterises the size of the fishery-dependent region in income terms. In addition, the indicator will often be used as a weight when groups of regions are compared.
GDP-REG-CHANGE Annual growth in regional income	GDP-REG-CHANGE = (GDP-REG[t] / GDP-REG[t-1]) – 1 i.e. annual percentage change in real regional GDP.	Indicator of total economic developments in the region that is comparable between regions.
GDP-REG-POP GDP per inhabitant	GDP-REG-POP = GDP-REG / REG-POP i.e. income in the region divided by the size of the regional population.	An EU Structural Fund Objective 1 region is a region with a GDP-REG-POP < 75% of the Community average. A level measure that is comparable between regions.

Production/business developments

SELFEMP-REG-SHARE Rate of self-employment	SELFEMP-REG-SHARE = SELFEMP-REG / EMP-REG i.e. the number of self-employed as percentage of the total number of employed.	Measuring the regional entrepreneurship climate via the setting for self-employment for redundant fishermen.
SMEEMP-REG-SHARE Rate of employment in SMEs	SMEEMP-REG-SHARE = SMEEMP-REG / EMP-REG i.e. the number of employed in Small and Medium-sized Enterprises (SME) as a percentage of the number of employed.	Measuring the regional entrepreneurship climate via the development of SMEs
RINV-REG Regional investment rate	RINV-REG = INV-REG / GDP-REG i.e. regional investment divided by regional income	Low rate of investment means low prospects for future income rises. An EU Structural Fund Objective 1 region is characterised by RINV-REG < Community average.

Policies

FIFG-B Annual regional FIFG budget	FIFG-B is equivalent to the data variable of the same name. Measurement is in €	Indicator of FIFG targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.
FIFG-S Annual regional FIFG spending	FIFG-B is equivalent to the data variable of the same name. Measurement is in €	Indicator of FIFG targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.
ESF-B Annual regional ESF budget	ESF-B is equivalent to the data variable of the same name. Measurement is in €	Indicator of ESF targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.
ESF-S Annual regional ESF spending	ESF-S is equivalent to the data variable of the same name. Measurement is in €	Indicator of ESF targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.
ERDF-B Annual regional ERDF budget	ERDF-B is equivalent to the data variable of the same name. Measurement is in €	Indicator of ERDF targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.
ERDF-S Annual regional ERDF spending	ERDF-B is equivalent to the data variable of the same name. Measurement is in €	Indicator of ERDF targeting of the region. The value of the indicator should be seen in relation to the size of the region (economic or demographic) in cross-region comparisons.

Demography and regional information

REG-SIZE Size of region in km^2	REG-SIZE is equivalent to the data variable of the same name.	The information on the size of the region is both important for understanding possible differences between fishery-dependent regions and it is necessary background knowledge when comparing indicators in absolute values.
REG-POP Regional population	REG-POP is equivalent to the data variable of the same name.	The information on the size of the population is both important for understanding possible differences between fishery-dependent regions and it is necessary background knowledge when comparing indicators in absolute values.
REG-PD Population density	REG-PD = REG-POP / REG-SIZE i.e. number of inhabitants per km^2	Low population density (and/or a negative net immigration rate) acts as a constraint to both social and economic development.
REG-GP Growth in population	REG-GP = (REG-POP[t] / REG-POP[t-1]) - 1 i.e. the annual population growth in percentage	Declining population is socially detrimental. REG-GP < 0 is often characterising a rural Objective 2 area within the EU Structural Funds.

Source: Cross, 2002.

Annex 2 Fisheries dependent regions

Based on Goulding et al. {2000 #4886}

The Megapesca Report (2000) outlines three indicators of dependency:

a) The share of fisheries activity in the value added of the area (Ratio 1)
b) The share of fisheries employment in total regional employment (Ratio 2)
c) The share of catches subject to CFP quota management measures as a proportion of total catches (Ratio 3)

NUTS 3

The regional studies coordinated by Megapesca identified 343 NUTS 3 areas ("zones of dependency") with a measurable degree of dependency on fishing (as defined by employment Ratio 2 for fishing). The numbers of fishers working in these 343 NUTS 3 regions was 246722 or 98.1% of the EU total number of fishers. At NUTS 3 level, no areas have more than 10% dependency on fishing itself. There are nine with a value of Ratio 2 fishing between 5% and 10%, 26 between 2% and 5% and 21 between 1% and 2%.

The thirty NUTS 3 regions most dependent on fishing have dependency Ratio 2 ranging from 9.63% to 2.31%. Overall these thirty regions account for a total fishery sector employment of 130766 (some 25% of total fishery sector employment in the EU). About 1.82 million people are employed in these 30 regions, with the fishery sector employment contributing 7.19% of employment. Of the thirty regions, 15 are in Greece, 11 in Spain, 2 in Portugal and 1 each in Italy and Germany. The four most dependent regions are in Greece, with Lesvos being the most dependent of all[32].

NUTS 4/5

553 areas at NUTS 4 or 5 were identified. These do not include Greece, France or Italy, since no NUTS 4/5 areas are defined in those countries. The numbers of fishers working in the 553 NUTS 4/5 regions was 139135, or 55.3% of the total fishers employed. Dependency rates are higher at greater level of regional disaggregation, reflecting the relatively greater impact of fisheries on the economy of smaller regions. At NUTS 4/5 level, 33 of the 553 areas for which data were available had values for Ratio 2 fishing above 10% and 46 areas had values between 5% and 10%. The 27 areas most dependent on fishing have dependency Ratio 2 ranging from 61.9% to 12.6%. Data at this level of

[32] The size of the NUTS 3 regions varies considerably, with total employed in all sectors ranging from 7795 to 191079. The Greek NUTS 3 regions are on average much smaller than the remainder (average total employed 35628 compared to overall 60582 in all thirty regions), which must be taken into account when comparing dependency rates and ranking of most dependent regions

disaggregation was not available for several study regions, such as Greece, Italy and France F3 and F4.

Of the 27 areas most dependent on fisheries, 20 are in Spain, four in Portugal and three in Denmark. Port de la Selva in Spain is the most dependent of all, with a Ratio 2 value for Fishing of 61.9%. In areas with low total employment, relatively small changes in fisheries related employment can have a major impact on the dependency ratio. Port de la Selva (working population of 357) and Ampolla (working population of 530) are examples, and the results are probably best regarded as anomalous. The remaining areas are more representative, with total numbers employed ranging up to 24807.

In the table underneath, there is a summary of most fisheries dependent areas (at NUTS 3 level) in each study region (as defined by Ratio 2), for fishing, processing, marine aquaculture and for all fisheries activity.

Country / region	Most dependent NUTS 3 area	Ratio 2 Total Fishery Sector
Belgium	Oostende	1.4
Germany	Cuxhaven	4.1
Denmark	Bornholm	1.7
Spain E1	Pontevedra	15.1
Spain E2	Huelva	9.8
Spain E3	Taragona	6.1
France F1	Manche	1.9
France F2	Finistère	3.9
France F3	Herault	1.2
France F4	Guyane	1.9
Greece	Lesvos	9.8
Italy I1	Crotone	1.5
Italy I2	Foggia	1.9
Italy I3	Trapani	5.2
Ireland	West	2.0
Netherlands	Flevoland	3.0
Portugal P1	Algarve	8.3
Portugal P2	Azores	5.6
UK 1	East Riding and N. Lincolnshire	1.4
UK 2	Highlands and Islands	4.2
Sweden	Gotland	0.9
Finland	Åland – Ahvenanmaa	1.6

The table below is a summary of most fisheries dependent areas (at NUTS 4/5 level) in each study region (as defined by Ratio 2)

Country / region	NUTS 4/5 area	Ratio 2 total fishery sector
Belgium	Bredene	5.0
Germany	Bremerhaven KS	5.8
Denmark	Hanstholm	31.4
Spain E1	Ria de Arousa	53.9
Spain E2	Barbate	31.3
Spain E3	Port de la Selva	61.9
France F1	Fecamp	9.4
France F2	Quimper	8.5
Netherlands	Urk	60.6

Portugal P1	Olhão	27.4
Portugal P2	Lajes Pico	12.6
UK 1	Grimsby	3.6
UK 2	Fraserburgh	20.5
Sweden	Sotanaes	25.1
Finland	Föglö	23.1

Areas most dependent on all fisheries activity

The inclusion of various activities in the number employed in the fishery sector varies from region to region. All include as a minimum fishing, processing, coastal and inland aquaculture. Variations influence the absolute values of Ratio 2 (total fisheries employment) and therefore the ranking of areas by dependency.

In terms of employment dependency on total fisheries related activity (Ratio 2 Total Fishery Sector Employment) at NUTS 3 level out of the top 40 dependent areas, 18 are in Greece and 11 in Spain, including the 5 most dependent regions. Ratio 2 Total Fishery Sector in the most dependent area is 15.1%, ranging down to 2.4% in the 40th ranked area. 16 of the 30 most dependent areas (and 8 out of the top 10) are in Spain.

Annex 3 List of fishery- and coastal zone related projects approved within Interreg IIIB

1 Fishery related projects

North Sea Region
NMC-NSR: Northern Maritime Corridor - North Sea Region

The Partnership: North Sea Commission Fisheries Partnership

FSII: FORUM SKAGERRAK II

North West Europe
D081 | MESH: Development of a framework for Mapping European Seabed Habitats

Baltic Sea Region
No fishery related projects.

Atlantic Area
INDICANG: Setting up of a network of indicators of the abundance and colonisation patterns of the European eel (Anguilla anguilla) in the south of the central part of its area of distribution

NEMEDA: Network for the diminution of the effects of Dinophysis in Aquaculture

OCIPESCA: Scientific observatory for traditional fishing

SHARE: Sustainable harvesting of razorshells

AAAG: The Atlantic Area Aquaculture Group

ASAP: Atlantic Arc Salmon Project

VALBIOMAR: Maximising the bio-technological value of marine resources

SALAR: Atlantic River Salmon

PORT ATLANTIC: The small Atlantic fishing ports

South West Europe
RURAQUA 21

PORTS NETS

Alpine Space
No relevant projects

Archimed
Information not available on the internet – site in preparation

Northern Periphery
NMC: Northern Maritime Corridor

CADSES (Central, Adriatic, Danubian and South-East Europe)
ADRI.FISH: Promotion of sustainable fishery in Northern Adriatic sea

CADSEALAND: Land-sea interaction: coastal state and evolution in CADSES

Western Mediterranean (MED-OCC)
MARIMED : La pêche comme facteur de développement du tourisme durable

Most remote regions

SIGMARMAC: Sistema de informacion geo-referenciado de los recursos marionos de la macaronesia

ORPAM: Observatório em Rede das Pescas e Ambiente Marinho da Macaronésia - Fase I & 2

OGAMP: Ordenamento e Gestão de Áreas Marinhas Protegidas

HYDROCARPO: Gestion sostenible del patriomonio natural costero y de los recursos marionos vivos de la republica de Cabo Verde

MARINOVA: Aquicultura Marinha e Recifes Artificiais- Novos Modelos de Produção Integrada

PESCPROF-1: Recursos Pesqueiros de Águas Profundas do Atlântico Centro-Oriental.

PESCPROF-2: Recursos Pesqueros de Aguas Profundas del Atlántico Centro-Oriental: Alternativas a la Pesca en la Macaronesia

MARTEC: Tecnologías Marítimas para el Incremento de la Productividad Pesquera

2. Coastal zone management related projects

North Sea Region
RevitHar: Revitalisation of Small Harbour Towns and Cities - a solution driven exchange programme following the study pilot in Interreg IIC

The Waterfront Communities project: Waterfront Communities- linking nine North Sea gateway cities in innovative sustainable waterfront development

Seaport: Stimulating Economic Regeneration and Attractiveness of Port towns

S@S: Safety at Sea

FSII: FORUM SKAGERRAK II

WSF: Trilateral Wadden Sea Forum

FRaME: Flood Risk Management in Estuaries: Sustainable New Land Use in Flood Control Areas

North West Europe
A016 | SAIL-II (Schéma d'Aménagement Intégré du Littoral

C045 | MAYA II (Marine and Yachting 2 in the Lower North Sea and the Irish Sea)

DC058 | CYCLEAU

CO51 | WIHCC (Water in Historic City Centres)

SuPortNet II - Sustainable Spatial Development with a Network of Ports for Boat Tourism

Integrated Coastal Zone Development in the Baltic Sea Region / BALTCOAST

Atlantic Area
ICRW: Improving Coastal and Recreational Waters

ICZM: Integrated Coastal zone management: towards an Atlantic Vision

Alpine Space
No relevant projects

Archimed
Information not available on the internet – site in preparation

Northern Periphery
No relevant projects

CADSES (Central, Adriatic, Danubian and South-East Europe)
WETLANDS II – Integrated Management of wetlands (follow-up)

Western Mediterranean (MED-OCC)
No relevant projects

Most remote regions

TEC-TRIPÉ: Sistema integral de gestión portuariaPl

PREVIMAR: Prevision de circulacion del espacio marino Macaronesico

OLITORA: Ordenamento e Dinâmica da Orla Costeira

ALERMAC: Red Integrada de Monotorización, Alerta y Gestión de Riesgos de Vertidos Contaminantes e Incidentes Catastróficos en la Zona Marítima Macaronésica

PARQMAR: Caracterización, Ordenamiento y Gestión de Áreas Marítimas Protegidas en la Macaronesia. Los casos del Eco-Parque Marítimo de Funchal (Madeira), Gran Canaria y Tenerife (Canarias) y Santa María (Azores)