

# European Commission

Fish / 2006 / 09

## Assessment of the Status, Development and Diversification of Fisheries Dependent Communities

### Hirtshals Case Study Report



## Section 1) Introduction

### 1.1 General description of the location

Hirtshals is a dedicated fishing community which for the last 80 years have developed around the port of Hirtshals which is a major fishing port on the Danish west coast. The more than 100 fishing vessels based in Hirtshals represents all segments in the Danish fleet ranging from small gill netters to large pelagic purse seiners/trawlers. The fish landed in Hirtshals includes a wide variety of demersal and pelagic fish species for human consumption and also – now-a-days to a lesser degree - trash fish for fish meal and fish oil production. The fish processing industry based in Hirtshals comprises some 20 individual companies of varying size. The processing industry has traditionally sourced its raw material from local landings, but in recent years global sourcing of raw materials has marked a decoupling from the local fleet and landings. The local industry providing ancillary services to the fishing and fish processing industry includes some 40 companies offers a wide range of professional services.

The port of Hirtshals for many years hosted the only railroad ferry connection between Denmark and Norway. The ferries to Norway now comprise several destinations and increasingly dominates the activities in the port. Tourism plays an important role in terms of seasonal employment. Hirtshals also for more than two decades has hosted a fisheries research centre including a public aquarium which provides workplaces for academically trained staff.



Map 1: Location of Hirtshals in Region of Northern Jutland

## 1.2 Location

The town of Hirtshals lies on the north-west coast of Denmark in the Skagerak region of the North Sea (57° 35' 30" N, 9° 57' 45" E). The area of the former Hirtshals Municipality is 930 square kilometres. It is located in Northern Jutland (NUTS 3, DK050). Hirtshals is well connected to the Northern Jutland region and the regional capital Aalborg approx. 65 kilometres to the south either by railway or motorway.

Until January 2007 the town of Hirtshals was the administrative centre of Hirtshals Municipality, but after a major administrative reform in Denmark it became part of the Municipality of Hjørring. The municipal administration is now located in the town of Hjørring 16 kilometres south of Hirtshals.

Statistics Denmark provided data on Hirtshals Municipality until January 2007, whereas it now only provides data on either the wide Municipality of Hjørring or the small town of Hirtshals. Furthermore, the collection of data has been difficult, as a lot of information is not available at municipal level for discretion reasons. Hirtshals is a small community and it might be possible to detect single firms etc from the statistics data if supplied. That is why Statistics Denmark and the Danish Directorate for Fisheries do not supply data at municipal level. Consequently, in many cases the data available are at a regional level, which does not give an adequate picture at the local level. However, qualitative descriptions of the situation compensate for the lack of quantitative data.

## 1.3 Key geographical characteristics of the Hirtshals community

The town and port of Hirtshals lie exposed on the west coast of Northern Jutland. The weather is often rough and windy, and day temperatures are on average 0-5° C during winter and 15-20° C in summer. Average rainfall is 689 mm/year and the day length reaches eighteen hours in June, whereas the shortest day in December is only just seven hours.

Because of Hirtshals' unique geographical location as a connection point for Scandinavia and the North Atlantic Ocean it is a nodal point for tourists who head north from the European continent towards Norway (and opposite) and for shipping and logistics.

Hirtshals is surrounded by dune plantations and attractive sandy beaches on both sides of the harbour. There are many picturesque settings in the surrounding areas, which have attracted hotels, campsites and many summer houses. The population is more than doubled during the summer, when tourists from mainly Germany, Norway, Sweden and Denmark flock to the area. Apart from the plantations, the landscape is dominated by agriculture.

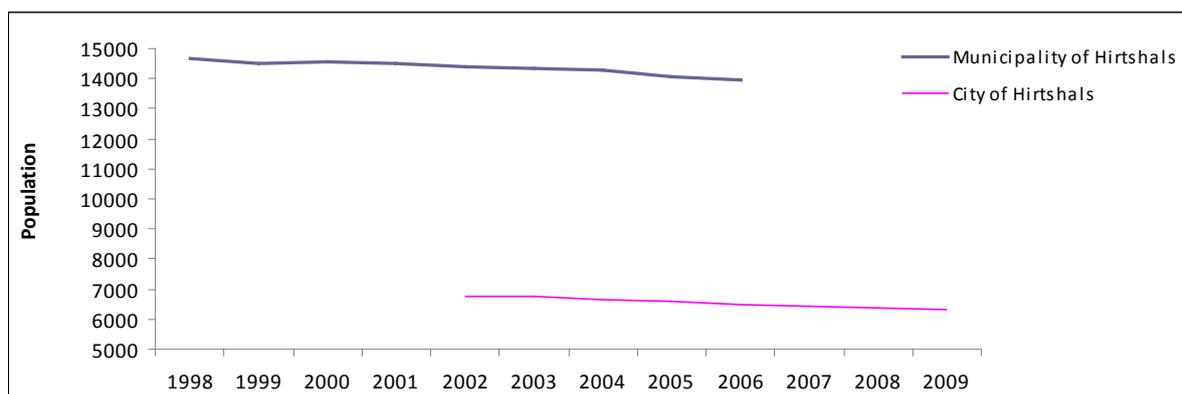
In the beginning of the 20<sup>th</sup> century, Hirtshals was a small village where fishing was conducted from the open beach. Because of the difficult winds and currents off Hirtshals, the authorities hesitated to start a risky and costly harbour construction project. However, after intensive lobbying, the construction of a modern fishing and ferry port started in 1919. The harbour was completed in 1931 but expanded in 1970-1976 and again in 1996. Today it is one of the largest fishing ports of Denmark.

The town developed around the harbour and is characterized by the harbour and the harsh climate. The famous Danish architect and planner Steen Eiler Rasmussen made a geometric plan for the city in 1922, which gives the city its basic structure. However, the development of the town has not followed Rasmussen's plan. The utilisation of the land has developed, scattered and fragmented and the town appears mixed both timewise and architectural.

## Section 2) Demographic aspects

### 2.1 Population and population age structure

The population in Hirtshals has decreased slightly over the last two decades as shown in Fig. 1, whereas the population in Denmark has increased in general. This tendency is consistent with the overall tendency in Denmark towards depopulation of rural and remote areas.



**Figure 1: Population in the Municipality of Hirtshals and the town of Hirtshals. Source: Statistics Denmark and the Municipality of Hjørring**

The population, especially the younger age groups (0-39 year), have been decreasing in numbers, whereas the group of +60 is increasing. It is currently a matter of debate in Denmark how to manage the so-called “burden of elders”, i.e. the increasing number of citizens +65 years, who will materialize over the next decades (according to Statistics Denmark forecasts, the number of citizens 65+ will increase 76 % until 2042 while the number of working citizens of 26-64 years will decrease 9 % during the same period). Taken into consideration that this development seems to become even more distinct in Hirtshals as the age composition here is already skewed, the community is facing a severe challenge. An explanation to this tendency is the limited possibilities for education and training in the Hirtshals area as well as the limitations in job opportunities (cf. section 3.2) Many young people move to Aalborg or even Aarhus or Copenhagen to complete their education. Only some of them return to Hirtshals.

### 2.2 Ethnicity and migration

The Hirtshals community is populated mainly by citizens of Danish ethnicity and with relatively few foreigners compared to the rest of Denmark. The foreign citizens living in Hirtshals are mainly from Asia and Europe with a relatively high percentage of Asians compared to Denmark in general.

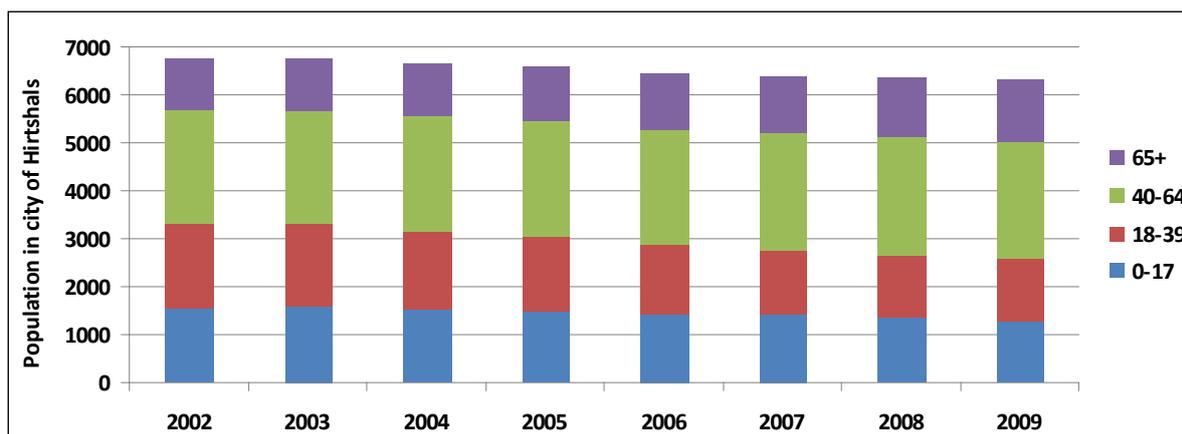


Figure 2: Demography in the city of Hirtshals 2002-2009. Source: The Municipality of Hjørring

### Section 3) Economic aspects

#### 3.1 Importance of economic activities

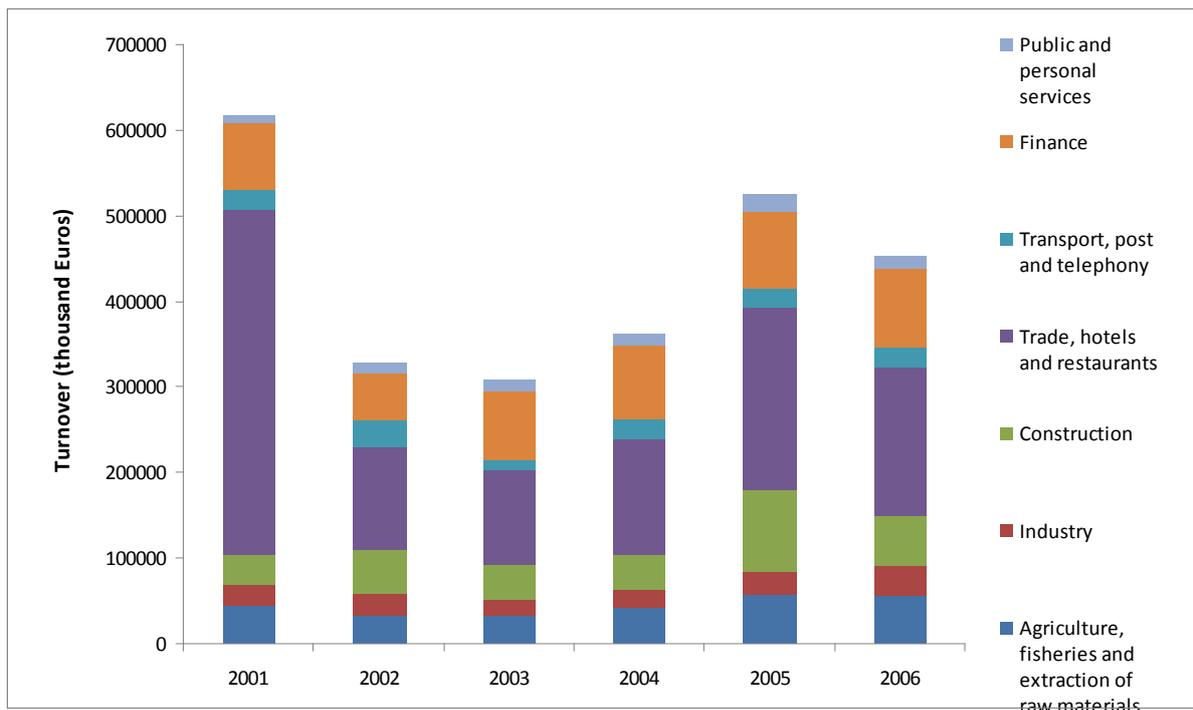
Unfortunately the information available regarding the turnover in the economic sectors in Hirtshals is insufficient. Statistics Denmark does not provide such data for the reason of businesses' privacy, which might be compromised if data on turnover in sectors in such a small area were available.

However, the main economic sectors in Hirtshals are transport, logistics, fisheries and fisheries related industries. Whereas fish landings are decreasing – which in turn has a negative impact on the fish processing sector and the service industries - the transport and logistics sector is growing.

Tourism also gives an important economic contribution to the area. During summer, the ferry connections to Norway, the Oceanarium at the North Sea Centre and the picturesque landscape, the sandy beaches and the holiday facilities in the area attract a great deal of tourists from Denmark, Scandinavia and Germany.

Some years ago there were several large food processing factories in Hjørring (including a slaughterhouse, a biscuit factory, and a brewery), but due to the international competition, they have closed or moved to countries with cheaper labour. Today, the company structure in the Municipality of Hjørring is characterised by many small and medium-sized companies. This makes the local economy less sensitive to the closure of large workplaces.

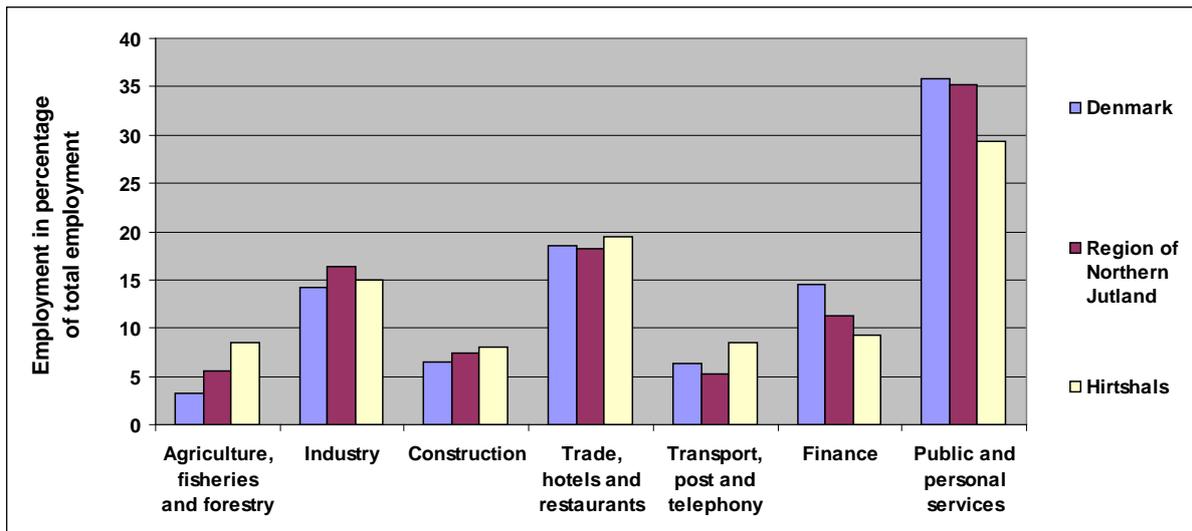
As Fig. 3 illustrates, the main economic sectors in terms of turnover in the former County of North Jutland are trade, hotels and restaurants, and finance. Fisheries are important to the economy and employment in Hirtshals, but at the county level it is of limited importance.



**Figure 3: Turnover in sectors in the County of North Jutland 2001-2006. Source: Statistics Denmark**

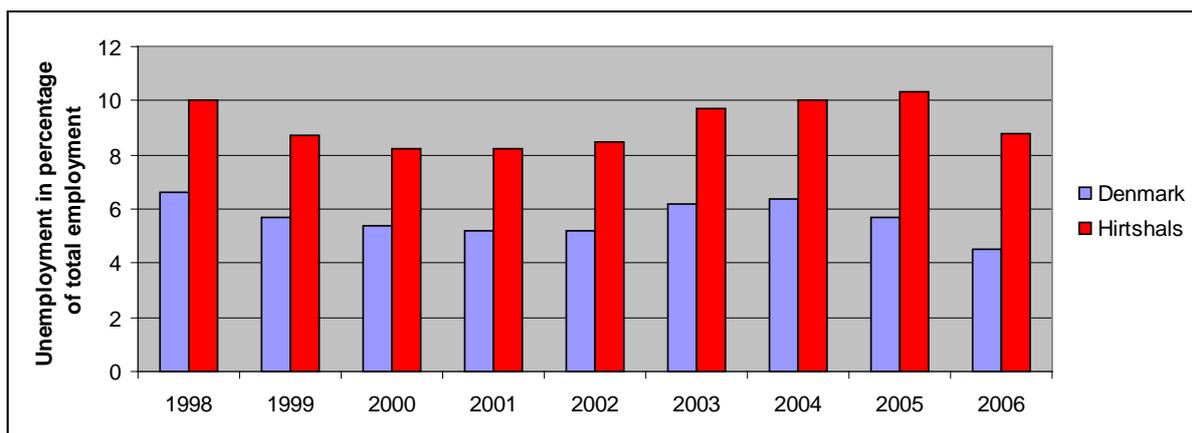
### 3.2 Employment and unemployment

The main sectors regarding workplaces in the Municipality of Hjørring are services and retail trade. Public institutions such as the taxcenter and the regional hospital provide many workplaces. The construction sector is an important contributor to employment in the municipality. This is also valid for Hirtshals, where many people are employed in the public and personal services sector, i.e. public administration and health services. But tourism and industry (i.e. fisheries related industries) are also significant contributors to the amount of workplaces in the area. As shown in Fig. 4 below, employment in the fisheries, tourism and transport sectors, is relatively high compared to the North Denmark Region and Denmark in general.



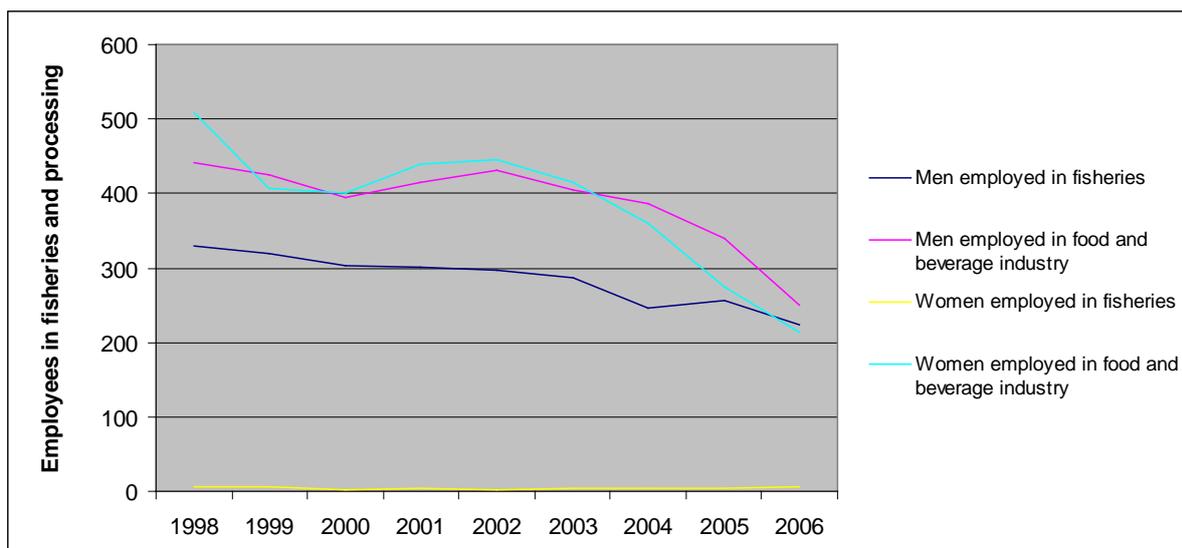
**Figure 4: Employment in percentage of total employment in sectors in Hirtshals, Region of Northern Jutland and Denmark 2006. Source: Statistics Denmark**

Unemployment is increasingly higher in Hirtshals than in the rest of Denmark as shown in Fig. 5. There are several explanations to this. One is that many people are seasonally employed in the tourism related businesses, the fisheries and the fish processing industry.



**Figure 5: Employment in percentage of total employment in Municipality of Hirtshals and Denmark 1998-2006. Source: Statistics Denmark**

Another explanation is the challenge caused by the international competition in “wage heavy” industries. Some years ago there were many workplaces for unskilled labour in the food industry in Hjørring. Due to globalisation, they have moved to countries with cheaper labour. There are relatively many vocational workers and relatively few with an academic background in the area compared to the rest of Denmark. Until recently, Hirtshals has managed to keep the total number of workplaces for unskilled workers stable. Employment in the fishing industry has decreased as shown in Fig. 6, but the expanding transport and logistics sector has been able to absorb the loss of workplaces in the fisheries. However, in the last few years loss of workplaces in the fisheries sectors happens faster than the job generation in other sectors.



**Figure 6: Men and women employed in fisheries and processing in Hirtshals 1998-2006.**  
**Source: Statistics Denmark**

### 3.2.1 Unemployment in the fishing industry

In 2007 Denmark adopted a new ITQ based management regime for its commercial marine fisheries. The purpose of the new regime was to improve the economic performance of the fishing fleet and to reduce fleet capacity (number of vessels/kW/GRT) countrywide. The new management regime accomplished a 30 % reduction in the number of active fishing vessels from 2007 to 2009 and an almost similar decrease in the amount of workplaces onboard fishing vessels.

In the case of Hirtshals the number of vessels fishing for demersal species has been reduced significantly with the new regime. Through the sale of vessels with quotas the Hirtshals fleet has become a net loser of quota shares for these species. However, the Danish pelagic fishing fleet which is based primarily in Hirtshals has acquired the major part of the pelagic quotas. In recent years however, the pelagic fleet has been renewed resulting in fewer, but bigger and more efficient vessels. This development has accomplished a minor loss in the number of workplaces onboard the pelagic vessels and also a decrease in the need for local repair services.

Many Hirtshals based skippers and fishermen have used the shift in the management regime and the related trade in vessels and quotas as an opportunity to retire from the fishing industry. However, unemployment among fishers in Hirtshals has increased since 2007 with the new regime. This is because the new regime has allowed for the planning of fishing operations on a full year basis and more efficient use of (remaining) vessel and manpower capacity. This has been accompanied by reduced seasonal unemployment, which traditionally has characterized the fisheries sector. This is to say that the (fewer) remaining workplaces in the industry are mostly full time now.

Based on the data available, it is difficult to estimate the importance of fisheries and the related industries to employment in Hirtshals. However, two facts are clear: That the fisheries sector continues to be of great importance to Hirtshals, but also that the community increasingly becomes independent of the fisheries, as the workplaces move from the fisheries to the transport sector.

### **3.3 Infrastructure**

The harbour is the economic centre of Hirtshals. In addition to being an important international fishing port, the harbour is also a regional centre for transport of persons and goods between the Nordic countries and the European continent. The harbour connects destinations in the North Atlantic, Britain, the Baltic States, Southern Europe and the Scandinavian Peninsula with ferry connections to Kristiansand, Larvik, Stavanger and Bergen in Norway. One of the two ferry companies, Color Line, has recently renewed its tonnage with two new ferries, and the other, Fjordline, has ordered two new ferries and installed a supercat on the Kristiansand-Hirtshals route. Color Line alone transports 2,4 million people every year. The ferry and goods traffic constitutes 60 % of the port's annual economic turnover.

The town of Hirtshals has two public schools for pupils up to grade 10. One of these is slated to close in 2012. Higher education institutions such as gymnasium/high school and University College are located in Hjørring. Aalborg University is situated 65 kilometres to the south. The North Sea Science Park located next to the Port of Hirtshals is an important national fisheries research facility. The centre was established in 1981-1984, and in addition to modern technical facilities (research labs, experimental tanks, etc) and offices it comprises a large public oceanarium/aquarium/fisheries museum, which ranks among the major tourist attractions in Jutland. The institutions represented in the North Sea Science park includes DTU Aqua (Technical University of Denmark), IFM (Aalborg University), Danish Technological Institute, and SINTEF (Norway). The North Sea Science Park also hosts the 2483 GRT Research Vessel Dana located in the Port of Hirtshals.

Hirtshals has a strong infrastructure with a fisheries, goods and ferry harbour, a motorway (E39) arriving very close to the town/harbour from southern Denmark/Continental Europe and a railway connection to Hjørring with further connection to the main railway track running through Jutland and the Danish islands. Hence Hirtshals is very well connected with international, regional and local infrastructure. There are plans to lead the railway track, which now ends in the centre of the town, down to the harbour (as in the past) and to construct a storage area for freight containers. The intentions are to improve the conditions for goods transports to such an extent that Hirtshals can obtain status as a traffical centre for Scandinavia as well as Eastern and Western Europe.

There is an airfield in Sindal approx. thirty kilometres southeast of Hirtshals that has the capacity and equipment to receive both domestic and international flights. The nearest international airport is in Aalborg with regular connections to Copenhagen and a range of European and Scandinavian cities. A flight connection from Aalborg to the United States was recently opened.

### **3.4 Local development plans**

Business related development plans exist at national, regional, municipal and local levels. All plans are at various stages of implementation. Some of the plans are sector specific whereas others are of a more general nature.

According to the national policy for regional development and development of rural districts there must be a balance within Denmark in order for good and attractive opportunities for settlement and commercial development to exist throughout the country. A number of regional policy and socioeconomic measures support a balanced development of this kind.

At the national level, the Danish Ministry of Food Agriculture and Fisheries has made a National Strategic Plan for the development of the Danish fisheries and the aquaculture

sector, in accordance with the requirements of the Council Regulation on the European Fisheries Fund, 2007-2013 (EFF). The aim of the Danish EFF programme 2007-2013 is to help ensure “that fisheries and aquaculture once again become a dynamo for development in fisheries dependent areas and also that Denmark can sustain or improve its regional balance, especially between peripheral areas with fisheries and fishing communities and the rest of the country”<sup>1</sup>.

Especially the EFF Priority axis 4: “Sustainable development of fishing areas” aims to ensure the presence of an attractive and diverse local economy around the port which offers alternatives to fishing, while at the same time ensuring that fishing remains an attractive occupation for young people and an integral part of the community”.

The North Jutland regional business development strategy 2007-2010 “Growth and Balance” has the formation of “business clusters” as a key strategy. Such clusters are characterised by intensive collaboration and networking between private companies and public partners. “Food production” and “maritime services” are among the “clusters” identified as North Jutland regional strongholds, and which both incorporate the fisheries.

At the regional level, a “Network of fisheries dependent municipalities in Northern Jutland” was established in 2007 with the objective of strengthening the general business conditions for the fisheries, aquaculture and related sectors and attracting new businesses.

At the municipal level, the “Business Development Strategy for the Municipality of Hjørring” (2008) has identified transport and logistics, food production and tourism as main focus areas, among others. All of these point towards the particular strengths of the Hirtshals community. The measures to implement the business development strategy are coordinated planning, collaboration, public and private investments and maximum use of EU and national support schemes. As an example, an application was recently forwarded to the government’s so-called Renewal Funds for a project that will develop and implement a strategy over the coming three years aiming at attracting more Norwegian fish landings and fishing vessel maintenance jobs to Hirtshals.

The EFF 2007-2013 has introduced the formation of Fisheries Local Area Groups (FLAGS) as pendants to the already existing LAGs in rural areas. The FLAGS are created to plan and implement development activities in fisheries dependent areas with financial support from the EFF (Axis 4). Fisheries LAG Nord, established in 2007, as the first of its kind in Denmark covers the area from Skagen at the tip of Denmark in the north to Agger at the Limfjord in the south, including also the Hirtshals fishing community. The “Local development strategy for Fisheries LAG Nord 2007-2013” puts focus on job creation related to fisheries culture and business, tourism development, nature diversification and upgrading of coastal housing areas. During the years 2007-2013, the funds available to the Fisheries LAG Nord are very limited and the LAG Nord’s development plans are not well coordinated with the municipal and regional plans mentioned above.

At the local level, the development plan of primary importance is the Hirtshals Port Master Plan 2030-2 launched in 2008. The plan includes twelve focus elements within the three strategic business areas: a) goods handling and transport, b) passenger transport, and c) fisheries development and service. Some of the plan elements have already been implemented (totally or partially) whereas others are in the pipeline.

The vision for the port in relation to the fisheries sector is to become the major regional fishing port in terms of value of the fish landed and to provide all types of fisheries services to Danish and foreign fishing vessels. The vision in relation to transport is to be the point

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<sup>1</sup> EFF Operational Programme

where the transport corridors between Scandinavia, Balticum, the Northeast Atlantic, Southern and Western Europe and the UK intersect. The plan focus is on short-sea-shipping and transport of ro/ro goods. This strategy is further supported by the newly (2008) established Hirtshals Transport Center, HTC, located near to the port and the start of Highway E39. At present, the transport centre comprises custom services, forwarding/shipping agents, a truck-driver lounge and various truck services. When fully implemented the centre will include all facilities related to transport of goods and passengers. In terms of organisation the transport centre is closely associated with the Port of Hirtshals.

At the local level, an aquaculture development plan is also in the pipeline. For details of this, see section 4.2

## Section 4) The fisheries and aquaculture sector

### 4.1 The Hirtshals based fishing fleet

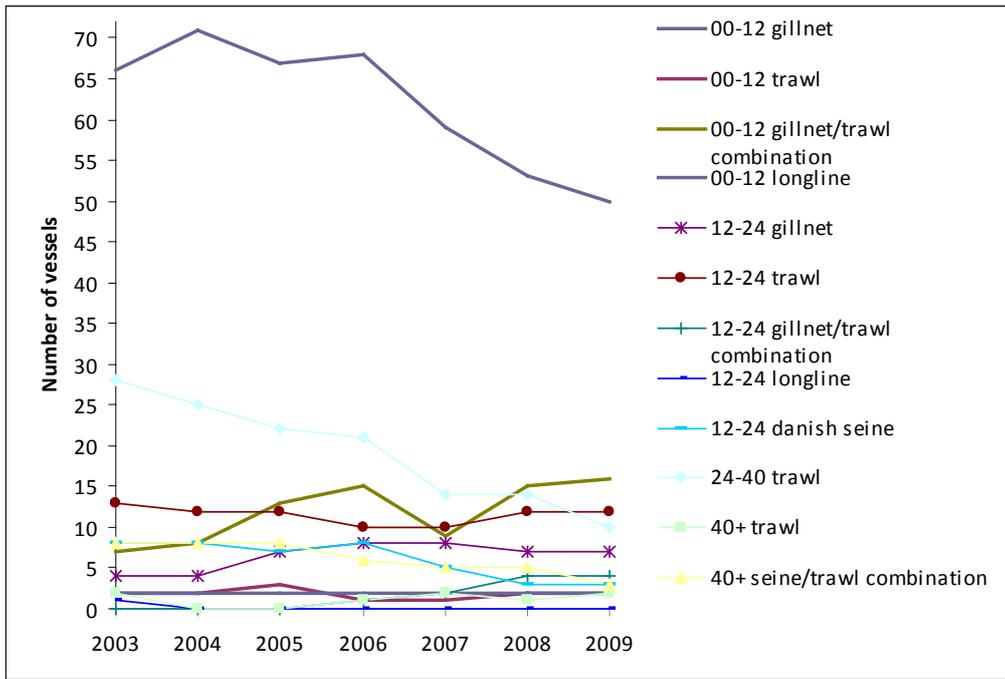
The fishing fleet based in Hirtshals consists of 111 vessels (2009). The number of vessels has decreased by 21 % from the period 2003-2006 when the fleet counted approx. 140 vessels. An overview of the fishing fleet by segments is given in Table 1.

**Table 1: The Hirtshals based fishing fleet 2009. Source: The Danish Directorate of Fisheries**

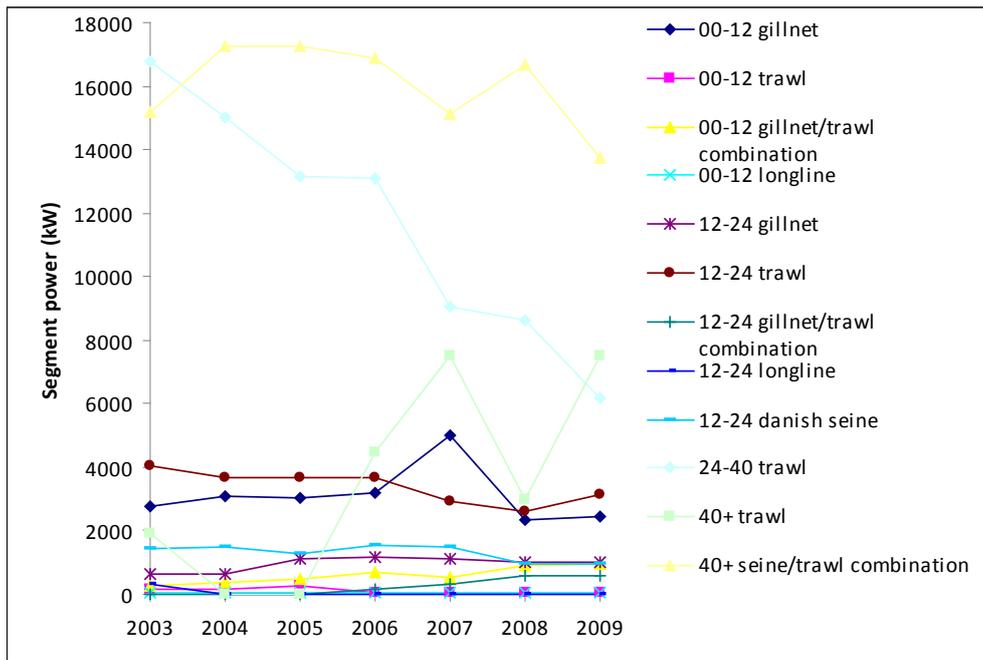
Vessel Segment by length class (metre)	Number of vessels	Main gears used	Number of crew (average)	Main species fished	Main fishing locations (ICES areas)	Trip length (average days)
00-12	70	gillnet, trawl	1	plaice, cod, hake, monkfish	IIIa, IVb	0,5
12-24	26	trawl, Danish seine	2	plaice, sand eel, sprat, cod, saithe, haddock	IIIa, IVa, IVb	0,9
24-40	10	trawl	4	sand eel, deep sea prawn, saithe, cod	IIIa, IIIId, IVa, IVb	3,9
40+	5	trawl, purse seine	10	herring, sand eel, mackerel	IIa, IIIa, IVa, IVb	5,8

The fishing fleet based in Hirtshals exploits demersal, pelagic and industrial fish resources in the North Sea (ICES IVa and b), Skagerrak (ICES IIIa) and the Baltic Sea (ICES IIIId). The pelagic fleet also exploits resources in the Northeast Atlantic (ICES IIa).

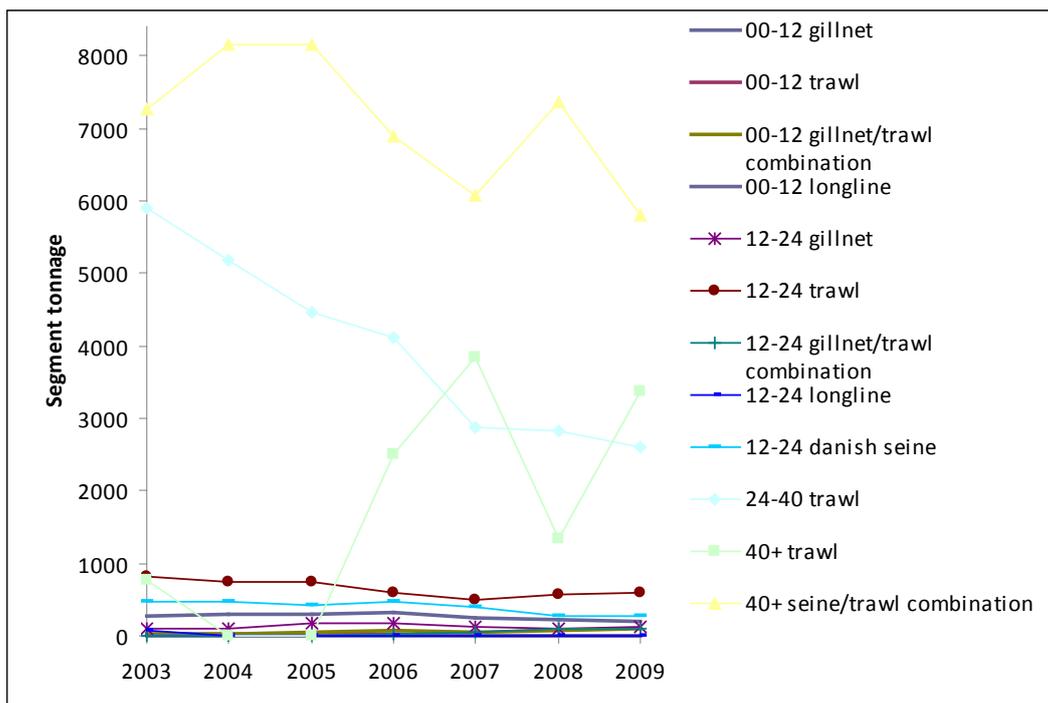




**Figure 7: The development of the Hirtshals based fishing fleet by numbers and segments 2003-2009. Source: The Danish Directorate of Fisheries**



**Figure 8: The development of the Hirtshals based fishing fleet in terms of kW by segments 2003-2009. Source: The Danish Directorate of Fisheries**



**Figure 9: The development of the Hirtshals based fishing fleet in terms of GRT and segments 2003-2009. Source: The Danish Directorate of Fisheries**

On average the age of Danish skippers and fishermen has been increasing from 50 to 52 years and 44.6 to 46.5 years respectively from 2003 to 2009. Many local Hirtshals fishermen have taken the introduction of transferable quotas in 2007 as an opportunity to retire. This has brought down the average age of Hirtshals fishermen. However, the average age of vessel crews is still quite high. For many years, the recruitment of new skippers has proven difficult despite the existence of various local promotion schemes.

The development in the landings from fishing vessels based in Hirtshals<sup>2</sup> is shown in Fig. 10. The development in the volume of herring landed by Hirtshals vessels reflects the changes in TACs/national quotas. The decrease in the volume of demersal species landed since 2006 reflects the decrease in the size of the Hirtshals fleet and the quotas held more than reductions in TACs (except for cod). Most of the landings of demersal species are made in the home port (Hirtshals), whereas herring and mackerel increasingly are landed elsewhere (in Denmark and abroad). This shows that when vessel size and range increases the loyalty with the home base vanishes.

<sup>2</sup> Vessels registered with "HG" letters.

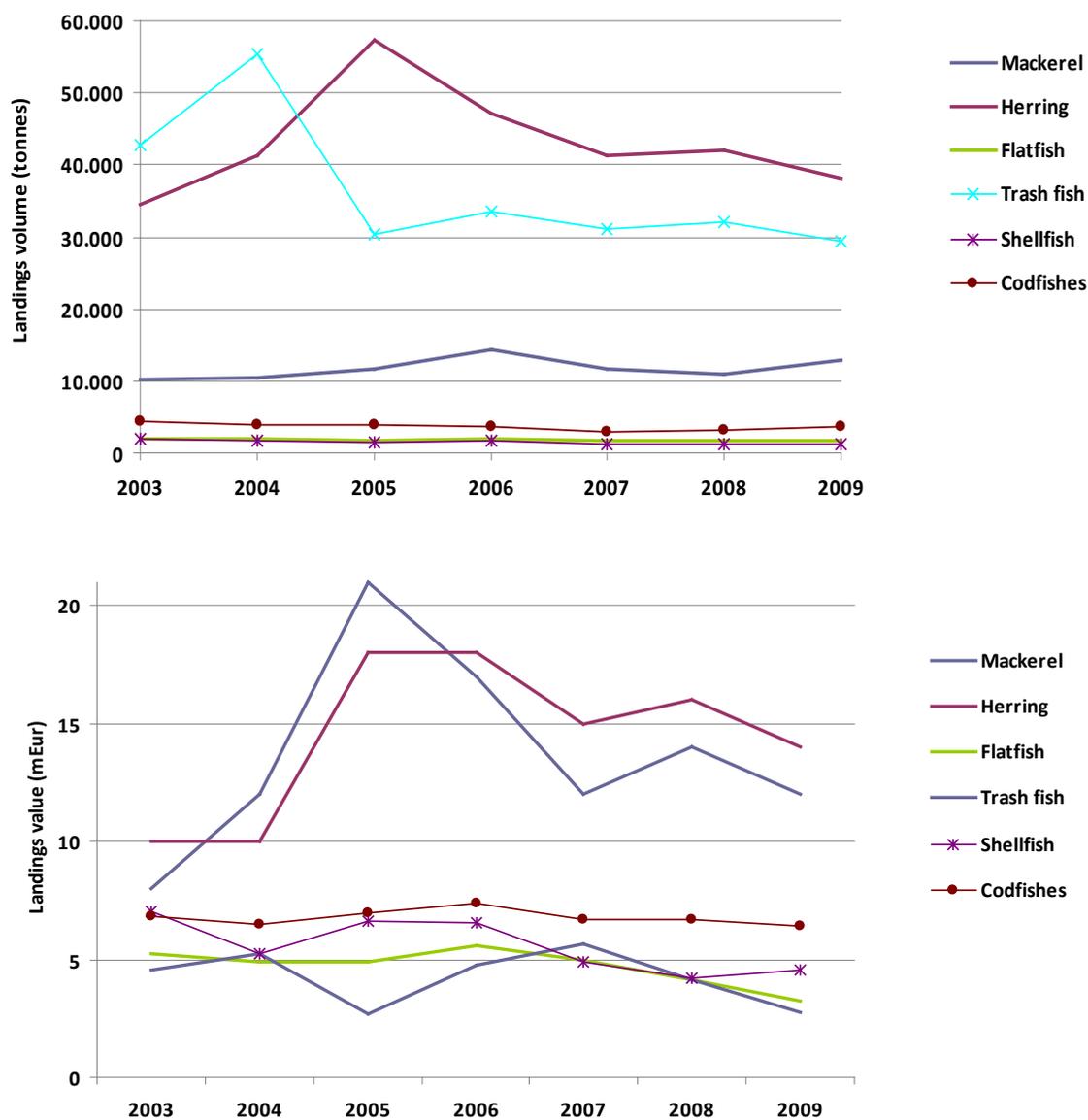


Figure 10: Fish landings 2003-2009 by vessels based in Hirtshals (volume and value). Source: The Danish Directorate for Fisheries

#### 4.2 Fish stock status

Since 2002, the management of EU fisheries has gradually changed from an ad-hoc approach to a multi-annual strategy with long-term management or recovery plans. These plans typically comprise a long-term target for the spawning stock biomass (SSB) and/or the fishing mortality (F) in relation to the TAC setting. The long-term management and recovery plans implemented and of relevance to the Hirtshals fishermen are:

- Cod: Recovery and Long-term Management Plans for the North Sea, Skagerrak, Kattegat and the Baltic Sea.
- Haddock: Long-term Management Plan for the North Sea (to be reviewed in 2010)
- Saithe: Long-term Management Plan for the North Sea (to be evaluated in 2012)
- Sole and Plaice: Long-term Management Plan for the North Sea (to be reviewed in 2010)
- Herring: Long-term Management Plan for the North Sea

- Mackerel: Long-term Management Plan for the North Atlantic

In 2010, the EU and Norway made an agreement that all shared and jointly managed fish stocks should be managed on the basis of the long-term management plans. This implies that also anglerfish, horse mackerel, Norway pout, nephrops and sand eel in the North Sea fall under such management arrangements.

The CFP includes the option of applying effort management in addition to TACs. This type of management was introduced to the Hirtshals fleet with the days-at-sea regulation that formed part of the cod recovery plan for the North Sea, Skagerrak and Kattegat in 2002. A ceiling on the number of days at sea dependent on the type of gear used was introduced for demersal fishing vessels above 10 metres.

In 2009, the revised recovery/Long-term Management Plan for cod in the North Sea, Skagerrak and Kattegat introduced kW-days as an alternative to the days-at-sea effort regulation. The allocation criteria were also changed as well as the criteria for transfer of effort. The kW-day regulation applies to all Danish vessels >10 meters and is likely to severely impact the (future) Danish demersal fisheries in the North Sea, Skagerrak and Kattegat, particularly as the plan includes a significant annual reduction in the total effort.

### **4.3 Aquaculture**

At present there is no commercial aquaculture production in the Hirtshals area, but the North Sea Science Park comprises expertise and excellent facilities for aquaculture research and development.

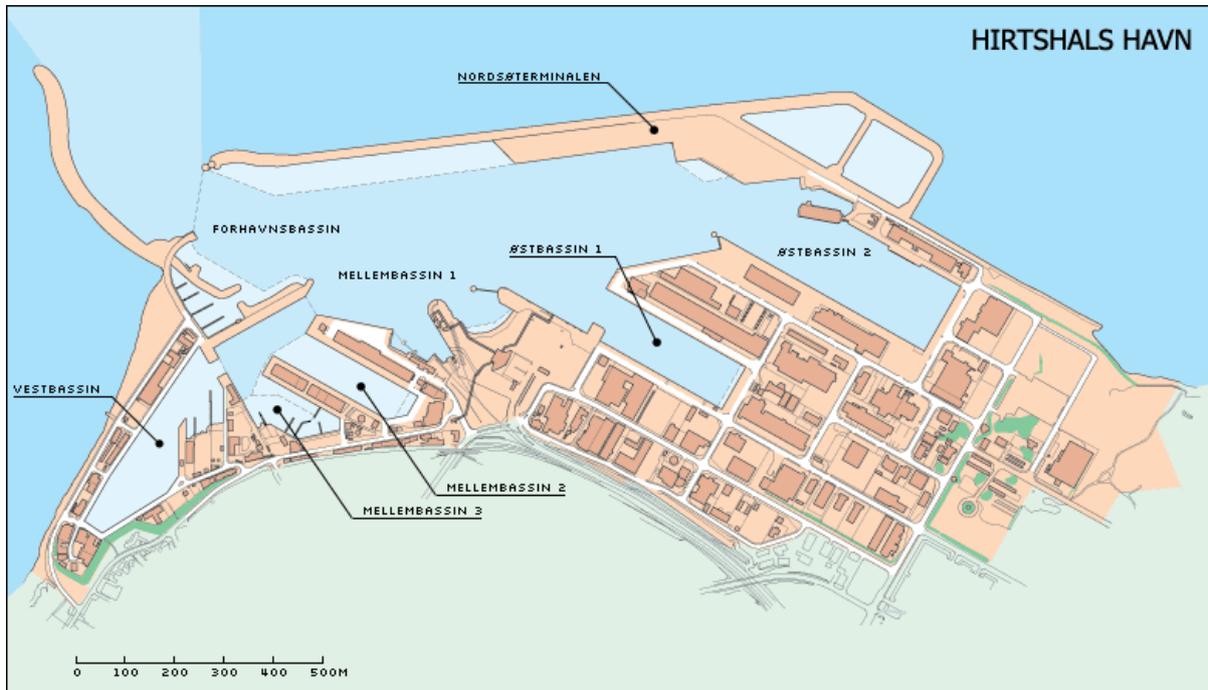
A project for the drafting of a master plan for the development of the aquaculture sector in the North Jutland area has recently been initiated by the "Network of fisheries dependent municipalities in Northern Jutland" with national and regional funding (EFF and Vækstforum, The North Denmark Region). The plan will clarify the regional potentials for aquaculture production in relation to the national plan of trebling the production over the coming 5-10 years. Focus will be on environment friendly recirculation systems.

The planning which integrates the local competences in research, fish processing and trade in fish products forms part of the regional development focus on food production mentioned in section 3.4.

### **4.4 Fisheries infrastructure**

The Port of Hirtshals has seven basins and 4.5 kilometres of quays (see port map below). Five of the basins are primarily used by fishing vessels. Demersal fish is landed at the Fish Terminal in Mid-basin 2 (Mellembassin 2) whereas herring and mackerel are landed at the pelagic centre in East-basin 1 (Østbassin 1) with a depth of 9.5 metres. The Fish Terminal completed in 2005 is a 6,700 m<sup>2</sup> building including all facilities for the handling of fresh fish from landing through storage, sorting, grading and auction sale to transport in an uninterrupted cool chain. The terminal also comprises office space. At the pelagic centre, fish is pumped directly from the fishing vessels into processing plants or refrigerated trucks. Industrial fish (trash fish) is unloaded at the crane, situated in East-basin 1 (Østbassin 1), for truck transport to fishmeal plants located elsewhere.

The port infrastructure for fisheries also includes docking facilities, including a sheltered floating dock, two slipways, cold store facilities, ice plants, weighbridge, fuel station and areas for net handling.



**Map 3: Port of Hirtshals.**

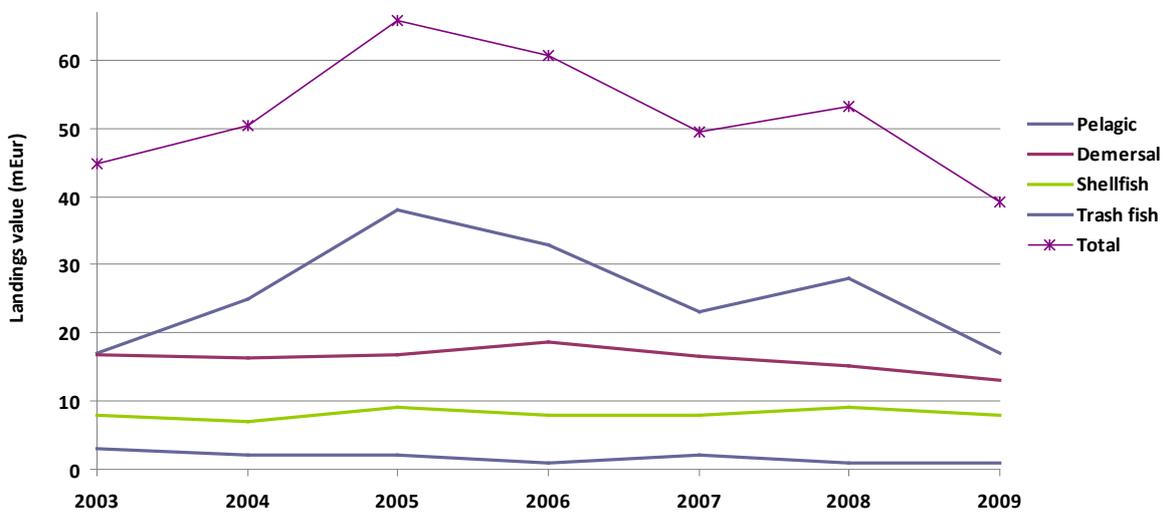
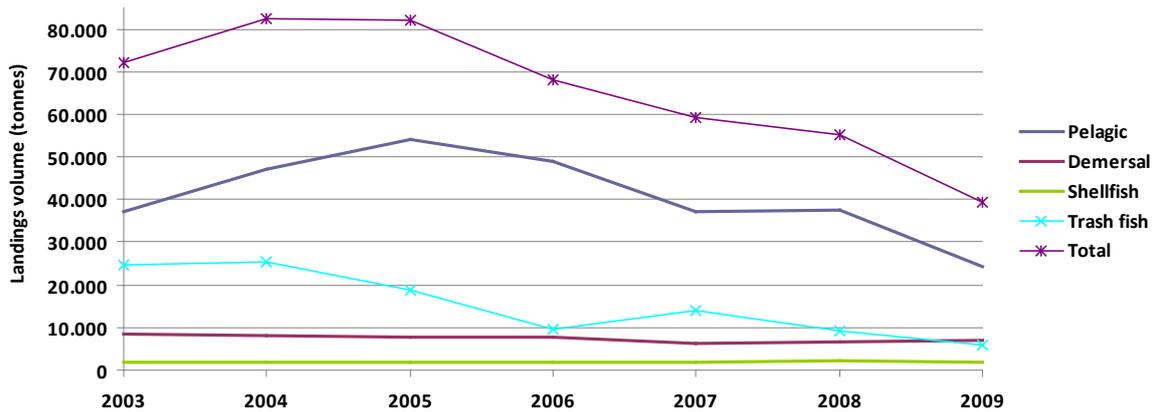
#### **4.5 Details of the local fish trading and processing sector**

The volume and value of fish landed in the Port of Hirtshals 2003-2009 is shown in Fig. 11. The numbers comprise the combined landings by Hirtshals based vessels (cf. Fig. 10), other Danish vessels and foreign vessels both from EU member states and 3<sup>rd</sup> countries.

The decrease in the volume of pelagic species landed in Hirtshals since 2005 relates to a substantial decrease in the landings of herring by Hirtshals based and foreign vessels from 32,000 t and 14,000 t respectively in 2005 to 7,000 t and 5,000 t respectively in 2009. This development illustrates that in recent years the Danish herring processing industry, which for almost half a century has had Hirtshals as a main base, has concentrated/relocated in the near by fishing town of Skagen. An important fact behind that is that a major Hirtshals based processing company over the last two years has merged (through acquisition) with two processing companies located in Skagen and moved their entire herring production to there.

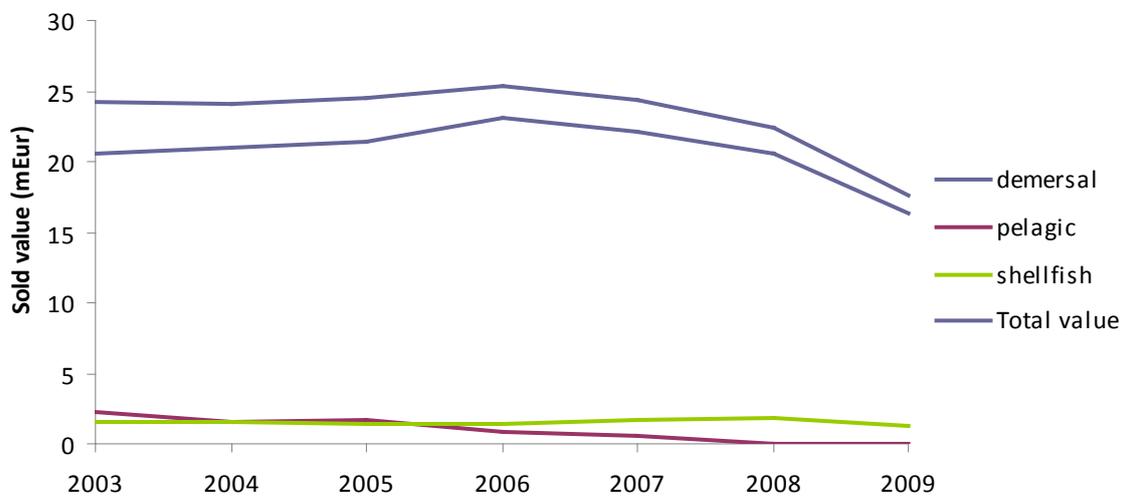
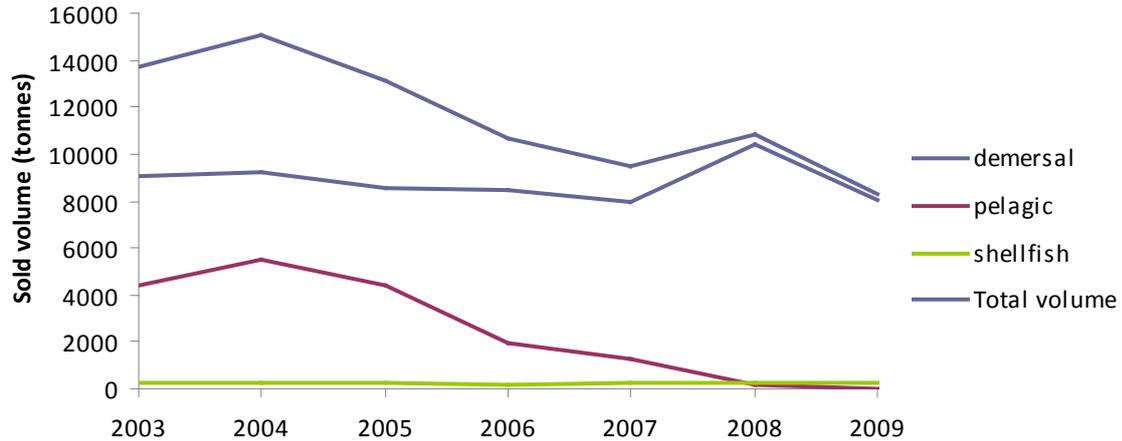
The demersal landings are mainly made by vessels based in Hirtshals but in recent years there have been significant landings of saithe by foreign (mainly Norwegian) vessels. This also counts for deep sea prawns.

Landings of trash fish is mainly done by Hirtshals based vessels, but in the years 2005-2007 there were more than 1,000 t landed in Hirtshals by foreign (EU) vessels.



**Figure 11: Fish landings 2003-2009 in Hirtshals (volume and value). Source: The Danish Directorate for Fisheries**

Fish sold on the Hirtshals Fish Auction 2003-2009 is shown in Fig. 12. When compared to the total landings in Hirtshals (Fig. 11) it can be seen that only limited volumes of pelagic fish is sold via the auction. Since 2005 with the disappearance of the auction sale of herring for matjes production, the volume has decreased almost to nil. In contrast, all demersal fish landed in Hirtshals are sold on the auction. As regards shellfish only 10-15 % of the volume landed is sold on the auction. There is no auction sale of trash fish reported.



**Figure 12: Fish sold at the auction in Hirtshals 2003-2009 (volume and value).**  
**Source: The Danish Directorate for Fisheries**

There are 22 members of the local Association of Hirtshals Fish Exporters, which include almost all companies dealing with fish processing/trading activities in Hirtshals.

The export association groups the companies in five groups based on their primary resource bases: salmon, pelagic, prawns, demersal and others (Fig. 13). The companies are specialised, but many also offer other species/products as the customers often want a broader spectrum of products. There are no official statistics on the value of the output, but the export association has provided some indicative figures based on a 2008 survey. According to this, the total turnover of the fish processing industry in Hirtshals amounts to approx. 465 million € (3,500 million DKK). In 2010, the turnover is probably a bit higher due to an increase in the import of frozen raw material.

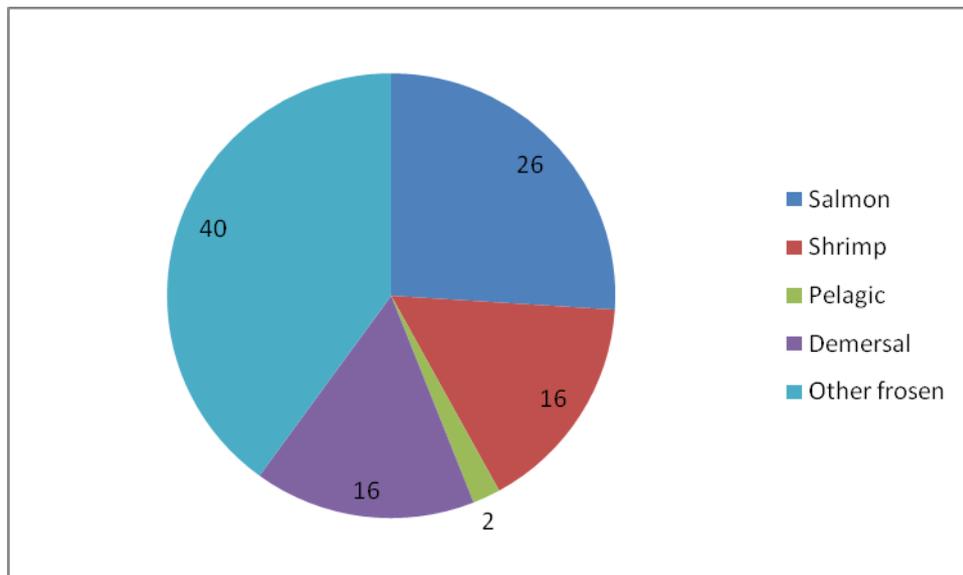
**Salmon:** Companies are undertaking filleting, smoking, portioning and packaging. The raw material is primarily fresh farmed salmon imported from Norway or the Faroe Islands. The turnover in this section is estimated to be in the range of 100-133 million € (800-1,000 million DKK).

**Prawns:** The resource base is sea-frozen shell-on shrimps from factory vessels as well as imported cooked and peeled shrimps that are processed into brine products. Estimated annual turnover is in the range of 70-80 million € (500-600 million DKK)

**Pelagic:** The production has decreased significantly over the last few years as most of the herring processing has moved to Skagen. Estimated present turnover 10-12 million € (75-90 million DKK). Most of the mackerel landed in Hirtshals is processed elsewhere in the North Jutland region.

**Demersal:** Several minor companies sourcing fresh fish at the Hirtshals Fish Auction or auctions near by. The processing consists in packaging, icing and transport to fresh fish customers. Some of the fish are filleted, often by hand. The section also comprises one big company that processes frozen, retail packed convenience products mainly from plaice and other flat fishes. The turnover is estimated at 70-80 million € (500-600 million DKK).

**Others:** This group bases the production on frozen raw material. The group is dominated by one large company that sources seafood raw material from all over the world (Japan, Vietnam, New Zealand etc). The estimated group turnover is 180 million € (1,350 million DKK).



**Figure 13. Hirtshals based fish processing companies grouped by fish species processed. Relative share of total annual turnover (in %)**

The processing companies range in size from 500 employees and have an annual turnover above 100 million € down to only a few employees and an annual turnover of less than 1 million €. The small companies are mainly found among the demersal processors. It is the estimate of the Association of Hirtshals Fish Exporters that less than 20 % of the fish and seafood processed in Hirtshals by value is sourced from local landings. The main part of the input to the processing companies is thus coming to Hirtshals fresh or frozen in containers by ship or trucks. On this background it could be stated that the mutual dependency between the local fishing fleet and the processing industry has weakened on an increasing scale over the last decades. Most of the smaller companies are locally owned, whereas some of the bigger companies are branches of companies with headquarters elsewhere in Denmark or abroad.

Despite this apparent “de-coupling”, in particular of the larger processing companies from the local fishing industry, interviews with processors indicate that location in Hirtshals is of importance because:

- Location in a fishing community enables the producers to tell the “good story” of the products which customers want more and more.
- Some customers want a broad product palette. This means that processors who base their production mainly on imported material also may have to process minor quantities of products on the basis of locally sourced resources. Localisation in a fishing community with a broad range of fish landings by species and presence of other processors facilitates a broader product range.
- There are local workers available with skills in various types of fish processing.

The fish products from the processing companies in Hirtshals and their main markets are:

Salmon: Europe – mainly France, Spain and Italy

Frozen shell-on shrimps: Russia, Japan, China, France, Norway, Sweden

Pickled, cooked and peeled shrimps: Italy, Germany and to some degree Denmark

Fresh demersal fish: Italy, Germany, France and Spain. Plaice, cod and seithe especially to the Netherlands

Pelagic fish: Herring to Germany, Mackerel to Denmark, Japan and Eastern European countries

#### **4.6 Details of the local aquaculture sector**

Until now, there is no aquaculture production in the Hirtshals area. However, mink farming based on the offal from the fish processing industry as well as fodder based on trash fish have a long tradition in the area.

#### **4.7 Details of the local ancillary sector**

The upstream ancillary services available to the fisheries include all types of services ranging from the handling and sale of fish landings through vessel repair, maintenance and modernisation of all kinds, net-making (including large pelagic trawls and purse seines) to administrative and financial services. The Hirtshals Service Group comprises a total of 46 member companies.

### **Section 5) Governance**

#### **5.1 Key local institutions**

There are two fishermen’s associations in Hirtshals:

1) The Hirtshals Fishermen’s Association who organises both skippers and crew members in all segments of the demersal fleet. The association is a member of the regional fishermen’s

association and through that organisation the national Danish Fishermen's Association. The Association has a seat in the Port's User Committee.

2) The Pelagic Fishermen's Association who organises skippers and crew members on the pelagic fishing vessels.

The owners of the pelagic vessels are members of the Hirtshals based Danish Pelagic Fishermen's Producer Organisation which is represented in fora such as the EU Fisheries Committee (§5 Committee) and the Committee on Commercial Fisheries (§6 Committee) of the Ministry of Food, Agriculture and Fisheries. These committees advise the Minister on EU fisheries policy matters, on the rules and regulations needed to implement the CFP and on the planning and management of the commercial fisheries, including fleet capacity, fishing gear use and on the first hand sale of fish respectively.

The Association of Hirtshals Fish Exporters organises the local fish trading and processing companies. The Association has a seat in the User Committee of Hirtshals Port. Some companies are on an individual basis members of the national Danish Seafood Association and the Association of Employers in the Fish Processing Industry.

The Hirtshals Service Group organises the service industries in Hirtshals and has a seat in the User Committee of Hirtshals Port.

## 5.2 Public intervention

In Denmark a subsidy scheme for fishing ports and fish landing sites forms part of the Danish Fisheries Development Programme (see Section 3.4) that is co-funded by the EU. The scheme supports the construction, expansion and renovation of quays, landing facilities, storage and auction halls, cooling facilities etc. During the period 2000-2009, a total of 224 projects involving a subsidy of 55 million € (414 million DKK) has been approved.

During the years 2000-2009, the Port of Hirtshals received a subsidy of 7,1 million € (53,2 million DKK) for a total of 17 projects as shown in Table 2.

**Table 2. Major public investments in Hirtshals 2000-2009**

<b>Major Public investment</b>	<b>Source of funding</b>	<b>Investment cost</b>	<b>What was the investment intended to achieve</b>	<b>What were the expected outcomes</b>	<b>What were the actual outcomes</b>
Fish Terminal including new auction hall/-offices	EFF		Improved fish handling efficiency and product quality (un-broken cool chain)	Increase in volume of fish traded (landings from fishing vessels and fish transported over land or by ferry)	Increase in volume of demersal fish traded. Increase in product quality
Deepening of port basins	EFF		Improved port conditions for big fishing	More fish landings by Danish and foreign fishing	Decrease in volume of landings. Relative

			vessels	vessels	share of fish landings in Denmark maintained
Fuel supply station	EFF		Improved port facilities	Attraction of more Danish and foreign fishing vessels	Unknown
Workers' welfare facilities	EFF		Modern sanitary installations and ergonomic workplaces	Improved working environment and work safety	Reduction in no of work related accidents and

supported comprise the deepening of some port basins, the construction of a fish terminal (see Section 4.4) including new fish auction facilities, and a fuel station for fishing vessels.

According to a programme evaluation undertaken in 2010 by the Danish Technological Institute, the investments have improved the access of large fishing vessels to the port enabling fish to be landed and handled faster, more efficiently (in terms of resources) and more effectively (in terms of product quality) than before. Further, the investments have improved the working environment particularly in the fish handling sector. All of it has contributed significantly to augment the attractiveness of the port from a fisheries perspective.

## 6. Key informants

Organization	Name and position of contact	Phone and e-mail
Port of Hirtshals	Jens Kirketerp Jensen, Director	96 56 50 02 <a href="mailto:jjensen@hirtshalshavn.dk">jjensen@hirtshalshavn.dk</a>
Hirtshals Fishermen's Association	Niels Christian Nielsen, Chairman	30 27 18 60 <a href="mailto:ms@hififo.dk">ms@hififo.dk</a>
Association of Hirtshals Fish Exporters	Eydun Djurhuus, Chairman	+45 98 94 65 65 <a href="mailto:info@maresco.dk">info@maresco.dk</a>
Hirtshals Service Group	Per Christensen, Chairman	9894 2813
Hirtshals Fish Auction	Karsten Brovn Pedersen	+ 45 98 94 12 33 or mobile + 45 20 47 29 <a href="mailto:karsten@hifiskauk.dk">karsten@hifiskauk.dk</a>
Nordsøen Science Park/Aquarium	Jens Otto Stoerup, Director	98944188 <a href="mailto:info@nordsoemail.dk">info@nordsoemail.dk</a>
Danish Pelagic Producer Organisation	Christian Olesen, Manager	98944239. <a href="mailto:po@pelagisk.dk">po@pelagisk.dk</a>
Hjoerring Business Center	Bo Geertsen, Director	96 23 26 00 <a href="mailto:bg@hjec.dk">bg@hjec.dk</a>
Fisheries Local Action Group Nord	Lars Hedegaard, Manager	98458007 <a href="mailto:lahd@frederikshavn.dk">lahd@frederikshavn.dk</a>
3 F (vocational workers union)	Lindy Grønkjær, Transport Group Chairman	70300850 or mobile 4027 3142 <a href="mailto:lindy.groenkjaer@3f.dk">lindy.groenkjaer@3f.dk</a>
Danish Metal (skilled workers' union)	Mogens Bjerre, Chairman	98929411 <a href="mailto:hjorring@danskmetal.dk">hjorring@danskmetal.dk</a>
Hirtshals Port "Think Tank"	Peter Christensen, Chairman	9656 1717 or mobile: 4057 0157 <a href="mailto:hirtshals@bdo.dk">hirtshals@bdo.dk</a>

## 7.1 Key events and drivers of change

Peripheral areas in Denmark have for long experience the out-migration of young people to urban centres that offers a wider range of educational opportunities and entertainments. Hirtshals makes no exemption to this observation. This fishing community also experiences that only a minority of those who leave for training/studies elsewhere do return when they have completed their education cf. Fig 2. There are many reasons for this development in Hirtshals and among them not the least the local job market structure (cf. Fig. 4) and the lack of job opportunities (also for educated spouses) which is reflected in the permanently high unemployment figures (cf. Fig 5).

With de-commissioning schemes for fishing vessels operational until 2006 and the reduction in the number of active fishing vessels that has followed upon the adoption in 2007 of “New Regulation” in Denmark the number of fishing vessels based in the port of Hirtshals has decreased significantly over the last decade. This development is caused by the poor economic performance of many Danish fishing vessels during this period which to a large extent is a consequence of the fleet overcapacity (in relation to fishing opportunities) that has existed throughout the country for many years. This also implies that many workplaces onboard fishing vessels in Hirtshals and elsewhere have ceased to exist. The “loss” of workplaces has also impacted on the age structure in the fishing industry where both skippers and crew members have become older (on average).

The “New Regulation” introduced a semi-ITQ regime where individual fish quota shares (based on vessel “history”) and vessels could only be traded together<sup>3</sup>. In the case of Hirtshals more vessels and quotas in the 12-24 m segments were sold than bought by the local fishermen (cf. Fig. 7). For this reason Hirtshals in the most recent years have experienced a net loss of locally owned fish quotas. This is among others reflected in the decreasing volume of demersal fish landed by Hirtshals based vessels (cf. Fig 10). It should be noted that with the “New Regulation” the economic performance of remaining active fishing vessels in all fleet segments have improved significantly.

Hirtshals used to be a centre for herring processing on the basis of landings from Danish and foreign pelagic vessels. However, in recent years there has been a significant decrease in the landings of herring (cf. Fig. 11) even if quotas have increased. This is due to the fact that a major processing company in Hirtshals recently merged with two herring processing companies in near by Skagen and moved their entire herring production to there. This has implied a significant loss of workplaces in the fish processing industry in Hirtshals even if other local processing companies have expanded their production.

## 7.2 Adaptation

The response of the Hirtshals community to the decrease in fish landings over the last decade has been centred on the development of the port to attract more port related business. The strategy followed has been focussed on goods handling and transport, passenger transport, and fish landings and service to fishing vessels. The first two areas are based on the major expansion of the port into the sea which was undertaken in 1996 when the port was still state-run. This expansion has enabled the development of a port infrastructure which provides space and facilities for expansion of the volume of goods coming into the port and the number of passengers and cars travelling to/from Norway. This development have made the ferry lines operating from North Jutland concentrate their activities in Denmark to Hirtshals. The newly established Hirtshals Transport Center close to the port is a follow up on this successful development.

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<sup>3</sup> The system has been modified in 2009 so that quota shares and vessels can be transferred independently

In the area of fisheries the port of Hirtshals has over the last decade made major investments in facilities that are aiming to attract more Danish and foreign fishing vessels. These investments include the deepening of port basins to enable large pelagic trawlers and purse seiners to call and unload their catch in Hirtshals. The investments also include a fish terminal that enables the application of an uninterrupted cool chain from fish landing through first hand sale to transport to processing plants. The investment in the terminal also included a modernisation of the Hirtshals Fish Auction. Up till now the strategy has only been partially successful for reasons mentioned above. These reasons include the net loss of locally owned quotas for demersal fish species and the closure of one of the major pelagic processing plants in Hirtshals. Stiff competition from the other major Danish fishing ports in attracting a diminishing fishing fleet should also be mentioned as a reason. However, Hirtshals has maintained its relative position among the major Danish fishing ports as regards the volumes of demersal fish landed and the Hirtshals Fish Auction is considered among the bests by the buyers.

Plans, strategies and initiatives exist at both the national, regional and local level to strengthen the position of Hirtshals as a leading Danish fishing port and fishing community. Among these are the “Hirtshals Port Master Plan 2030-2”, the “Business Development Strategy for the Municipality of Hjoerring” (2008), and the “Network of fisheries dependent municipalities in Northern Jutland (2007)”. Some plan elements have already been realised totally or partially whereas others are still in the pipeline.

### **7.3 Future development of the community**

It seems rather unlikely that the trends in the demographic and employment indicators for the Hirtshals community will change over the next decade. However, with the well developed transport infrastructure characterising the area in comparison with other peripheral areas in Denmark makes it unlikely that the trend will change for the worse. It is still fairly easy to pendle from Hirtshals to the urban centres of Hjoerring and Aalborg.

The continued materialisation of the development strategies mentioned above is highly likely. The transport elements of the port master plan seem to be very much in line with the development trends in European trade and tourism. Among the fishery related businesses in Hirtshals there is at present growing awareness that action is needed to make the visions of the plan for the fisheries sector come through. Focus in the near future is on attracting foreign – Norwegian in particular – fishing vessels to land demersal fish in Hirtshals and make use of the many fisheries and vessel services available there. A three year project to make this materialise will be launched in the summer 2010.

There is no indication from resource assessments, economic assessments or other that the local fishing fleet should be further diminished. However, this is provided that the level of local services is maintained and that the vicious development circle in supply and demand seen elsewhere in (also Danish) fishing communities is avoided. As regards the fish processing industry in Hirtshals the indications are that there will be future growth in business, except for the pelagic sector, and that Hirtshals will continue to be a location of preference do to labour skills, image, and other fishing port attributes. This is despite the likely continued decoupling of the processing industry from the local fishing fleet where the sourcing of raw material for processing is concerned.