

## COUNTRY NOTE ON NATIONAL FISHERIES MANAGEMENT SYSTEMS -- DENMARK

### 1. Introduction

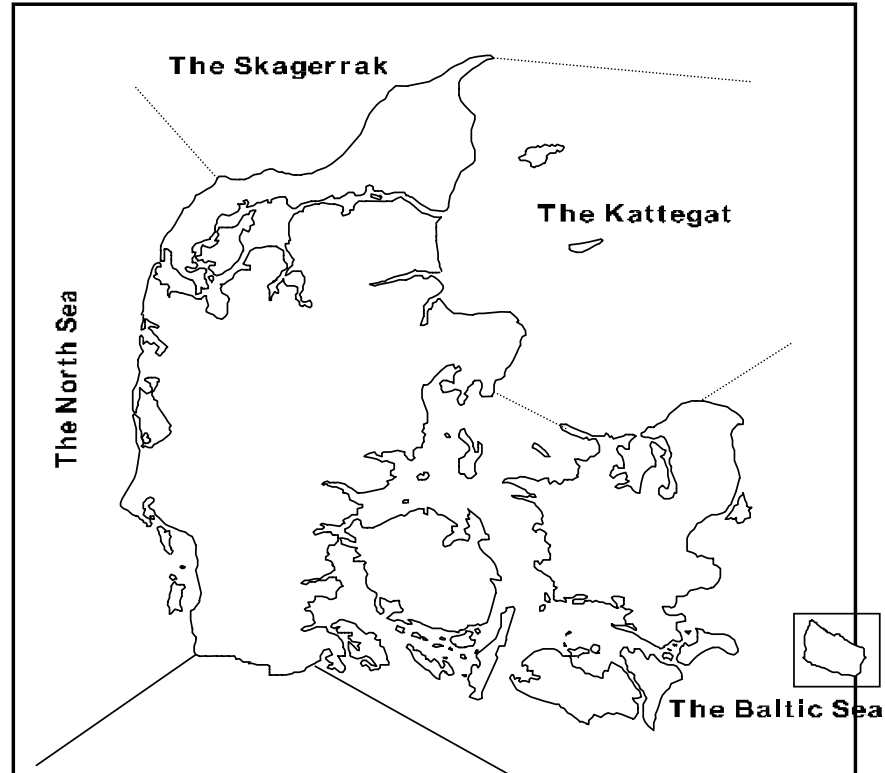
1. Denmark consists of 400 islands of various sizes - totalling 43 000 square kilometres. The coastline is approx 7 300 km. Geographical conditions have thus contributed to the development of a large fisheries sector in Denmark.

2. For a long period of time, Denmark has been a fishing nation, with processing as a natural corollary and trading as a major activity. Approximately 17 500 persons are employed in the fisheries sector (fishery, processing, aquaculture and sales). Furthermore, a significant number is employed in industries related to the activities of the fisheries sector. Though the overall contribution of the fisheries sector to the Danish economy is relatively minor, about 0.5%, fisheries constitute a very important economic activity in specific regions of Western and Northern Jutland and the island of Bornholm in the Baltic Sea.

3. There are basically three types of fishery in Denmark:

- The industrial fishery for fishmeal and fish oil, mainly for sandeel, Norway pout, blue whiting and sprat in the North Sea, sprat in the Skagerrak/Kattegat, and sprat in the Baltic Sea,
- The pelagic fishery for human consumption, mainly herring and mackerel stored in tanks and landed whole,
- The demersal fishery for white fish (cod, hake, haddock, whiting, saithe), flatfish (sole, plaice, flounder etc), lobster and deep water prawns.

**Figure 1. Denmark and Nearest Waters**



4. The major part of the production is exported. The EU is the most important market for Danish fishery products; in 2001, 79% of the total exports went to other EU member countries. The value of Danish exports of fish and fishery products was DKK 18.6 billion in 2001, and imports, which are dominated by unprocessed fish, came to DKK 11.3 billion.

5. The general framework for Danish resource management is the Common Fisheries Policy (CFP) of the European Community. The CFP contains an agreement on the allocation of resources between member states as well as general rules on technical conservation measures, fisheries control, market arrangements and structural policy.

## **The Danish Fisheries Sector**

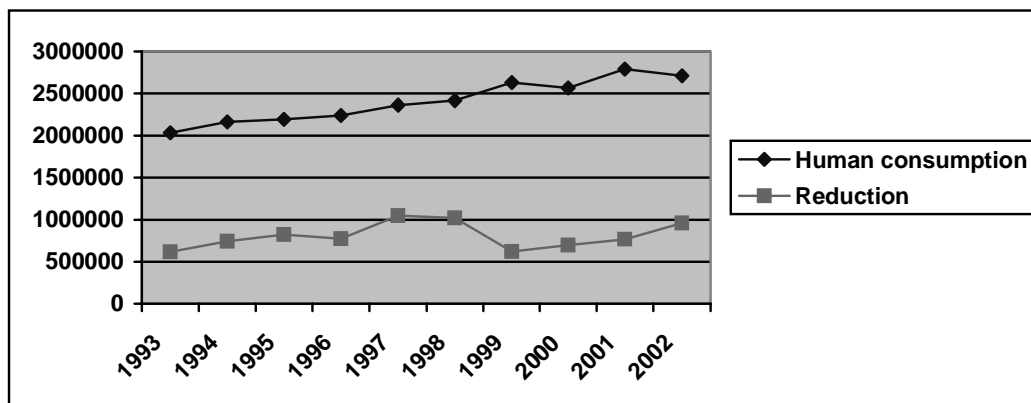
### ***1.1. Landings and catches of fish***

6. Most of the revenue earned by Danish fishers derives from species which are in the EU quota system. Other important species in the Danish fisheries are i.a. European eel, European flounder, common shrimp, garfish and blue mussel.

7. Many fisheries are mixed fisheries for species for human consumption; for example Norway lobster, cod and sole in the Kattegat or cod and haddock in the North Sea.

8. The Danish fishery consists of species for human consumption and species for reduction (fish oil, fish meal). The development in catches for the last ten years is illustrated in Figure 2 and 3.

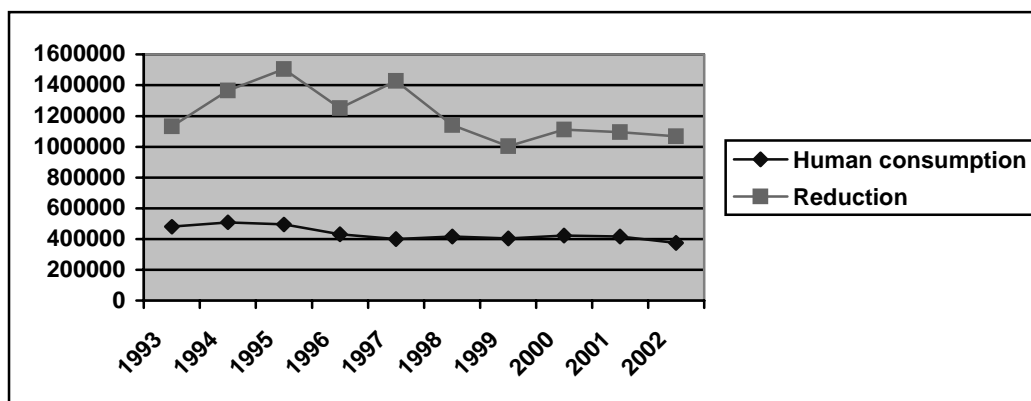
**Figure 2. Development in Catches for Human Consumption and Reduction (fish meal and fish oil)**  
(DKK 1 000)



9. The industrial fisheries (species used for fish meal and fish oil), which began in the early 1950s, fluctuated around a production trend of 1.4 million tonnes from 1994 to 1997, but from 1998 to 2002 the production level decreased to around 1.1 million tonnes. The fisheries of species for human consumption decreased gradually from around 500 000 tonnes in the beginning of the period to 400 000 tonnes in 1997 and has more or less maintained that production level in the rest of the period. All in all, there has been a relative stable partition between the catches of species for reduction, constituting around 72-75% of all catches, and those for human consumption (i.e. 25-28% of all catches) in the period 1993 to 2002.

10. Looking at catches measured in value the picture alters a bit. Whereas catches of species for reduction has fluctuated from 600 million DKK to 1 billion DKK for the hole period in question, there has been an upward trend in the value of catches of species for human consumption to a total of more than DKK 2.5 billion in 2002.

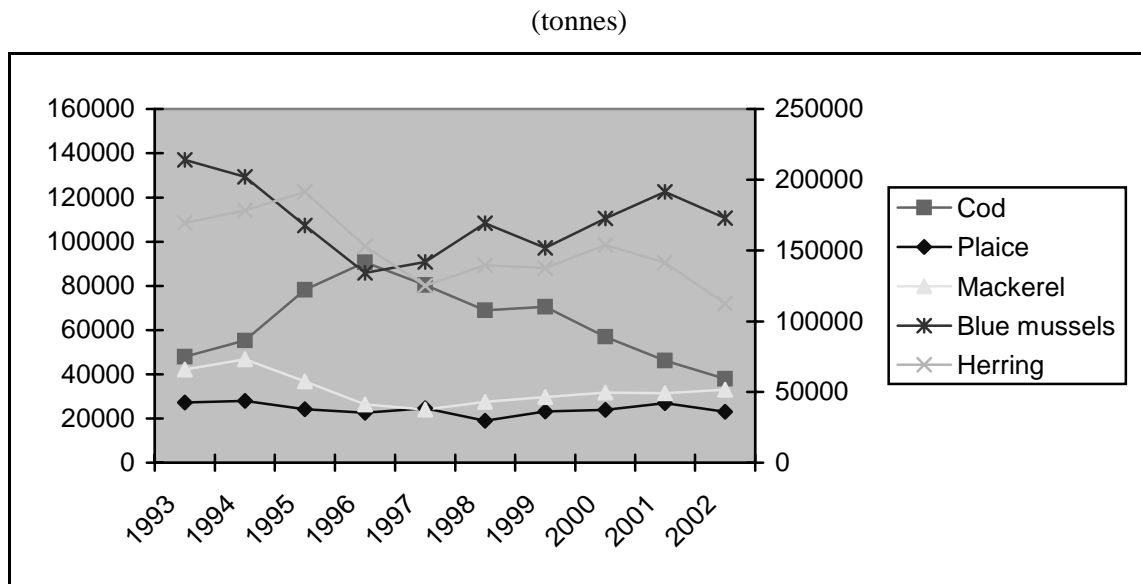
**Figure 3. Development in Catches for Human Consumption and Reduction (fish meal and fish oil measured in value)**  
(tonnes)



11. The last ten years development in the catches of the most important species for human consumption and for reduction is shown in Figures 4 and 5, respectively.

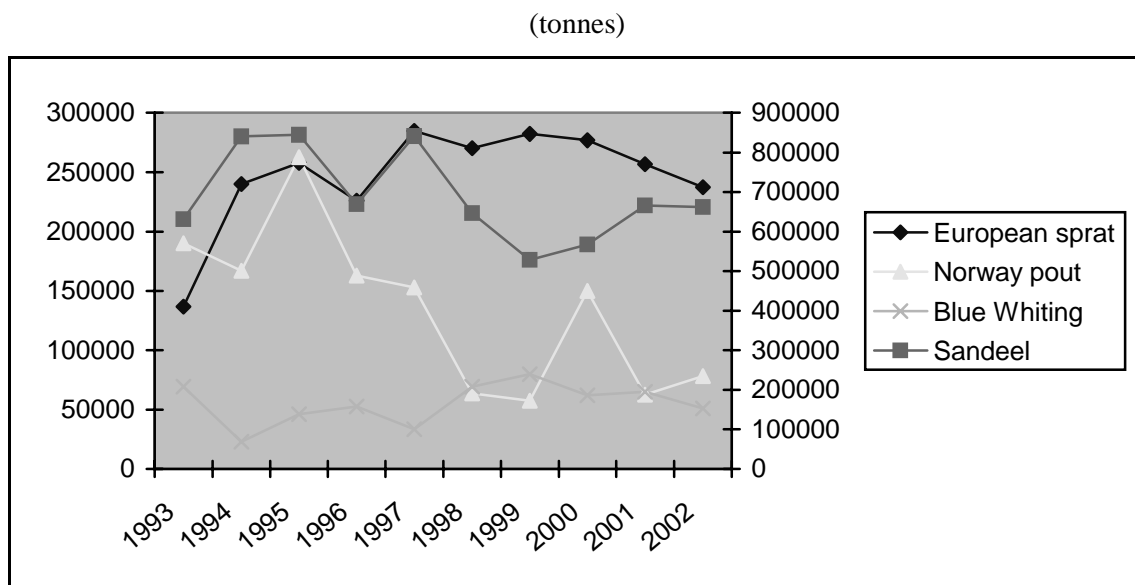
12. From 1993 to 1996 the catch of cod (left scale axis) almost doubled whereas that of blue mussels (left scale axis), mackerel (left scale axis) and to a lesser extent plaice (left scale axis) decreased. Since 1996 the catch of cod has decreased steadily to reach its lowest level in 2002. Inversely, blue mussels and mackerel increased catching up on former catch levels. The catch of plaice more or less stabilised from 1996 on. The catch of herring (right scale axis) followed its own pattern with an overall downward trend reaching its lowest level in 2002.

**Figure 4. Development in Catches of the Most Important Species for Human Consumption (right scale axis for herring, left scale axis for all others)**



13. The catch levels of the most important species for reduction have followed a very volatile pattern, especially in the case of Norway pout (left scale axis). Overall, the catch levels of Norway pout decreased dramatically from 1993 to 2002, though it peaked in 1995 and increased again in 2000. From 1993 to 1997 the development in catch levels for sandeel (right scale axis) and European sprat (left scale axis) followed an identical pattern with an upward surge. But afterwards the catch of sandeel decreased sharply from 1997 to 1999 but gained a little back from 1999 to 2002. All in all, in 2002 the catch level of sandeel is back on its 1993 catch level. The catch of European sprat (left scale axis) followed a smoother decline from 1999 to 2002 and remains well above its 1993 level.

**Figure 5. Development in Catches of the Most Important Species for Reduction (right scale axis for sandeel, left scale axis for all others)**



## 1.2. The fishing fleet

14. The Danish fishing fleet is dominated by trawlers, gill netters and poundnets. Over half of the fleet consists of vessels under 5 GT – predominantly gill netters. At the other end of the spectrum 180 vessels, trawlers and purse seiners, are over 150 GT. About 80 percent of the Danish fleet consists of vessels under 24 metres.

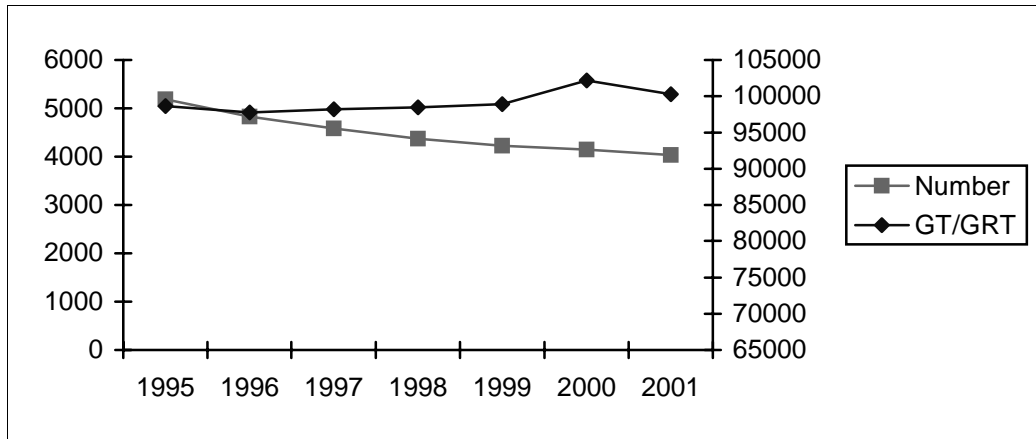
15. Important fishing areas for the Danish fishing fleet are the North Sea, the Skagerrak, the Kattegat, the Baltic Sea, the Belts and the Sound, but also the larger fjords and distant waters. The Danish fishing fleet is, in general, flexible. Vessels often take part in different fisheries throughout the year, and fishing patterns change from year to year.

16. As shown in figure 6 the number of Danish vessels has been reduced with around 20 percent from 1995 to 2001. From 1987 to 2001 1,197 vessels have been decommissioned with capacity reduction subsidies, in line with EU decommissioning schemes. At the same time the number of new vessels entering the fleet has been restricted.

17. Total tonnage has increased slightly from 1995 to 2001. A greater part of the fleet is being measured in GT rather than GRT. The GT measure often gives a higher tonnage than the GRT measure. In 2001 total tonnage decreased due to the introduction of a decommissioning scheme.

18. The development in the Danish fishing fleet from 1995-2001 is shown in Figure 6.

**Figure 6. Development in Danish Fishing Fleet, 1995-2001 (right scale axis for GT/FRT, left scale axis for number of vessels)**



19. The categories and size distribution of the Danish fleet are shown in Table 1, covering all vessels.

**Table 1. The Danish Fishing Fleet as per 31/12 2001, grouped by category and GT/GRT**

GT/GRT	Trawlers	Danish Seiners	Purse seiners & multi-purpose vessels	Liners, gill netters and others	Total
- 19.9	261	18	168	2 964	3 411
20 - 49.9	168	56	19	65	308
50 - 99.9	61	15	3	20	99
100 - 249.9	94	2	4	6	106
250 -	96	0	12	0	108
Total	680	91	206	3 055	4 032

### **1.3. The processing industry, trading firms and employment**

20. In 2000 (latest available data), Denmark had 738 companies dealing with processing and trade in fish products: 83 in smoking and drying, 47 in canning and filleting, 5 in fish meal and fish oil, 310 in wholesale trade and 293 in retail trade. The Danish fishing industry, including the processing industry, consists mainly of small and medium sized companies.

21. The processing sector can be divided up in four main and fairly traditional product groups:

- Frozen fish: fish landed and frozen whole for re-export,
- Preserved products: canned fish, fish in sauces etc,
- Chilled fish: smoked, marinated, etc,
- Fishmeal and fish oil: for domestic use and for export.

22. This product range has remained stable for several years and most of what is processed in Denmark goes for export.

23. Employment in the Danish fishing and fish processing industry from 1996 to 2000 is shown in Table 2.

**Table 2. Number of Employees in Fishing and Fish Processing Industry in Denmark**

<b>Type of company</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Fisheries	5 656	5 274	5 228	5 245	5 399
Aquaculture	1 213	1 087	989	931	955
Smoking and drying	1 512	1 913	1 568	1 578	1 704
Canning and filleting	6 473	5 220	5 251	4 962	4 859
Fish meal and fish oil	603	499	488	472	424
Wholesale trade	3 237	3 399	3 292	3 099	3 060
Retail trade	909	901	955	998	1 048
<b>Total</b>	<b>19 612</b>	<b>18 293</b>	<b>17 771</b>	<b>17 285</b>	<b>17 449</b>

## **2. A description of the management regime in place**

24. A description of the management regime that covers the EU has been formulated by the European Commission.

## **3. A description of the main fisheries where above market-like instruments/incentives are in use, with respect to their biological, technical, economic and social characteristics**

### **3.1 *The management regime in Denmark***

25. The general framework for Danish resource management is the Common Fisheries Policy (CFP) of the European Economic Community. The management responsibilities are thus shared.

26. Once the TAC/quota agreement is adopted in December, the national management scheme is decided by Ministerial Order. The principles used in the management scheme are discussed with the fishermen's organisation and the fishing industry before the conditions are finally assigned. The discussions take place in the Regulatory Committee at which the organisations and the Ministry of Food, Agriculture and Fisheries are represented. The Regulatory Committee meets every month to evaluate the present catch/quota situation for possible changes. The Regulatory Committee was set up in 1979 to advise the Minister of Fisheries both on national administration of the allocated quotas and the national capacity policy.

27. A series of national management schemes has been put into operation in order to achieve continued fishing opportunities, whilst at the same time ensuring that Danish quotas allocated under the CFP are not exceeded.

### **3.2 *Policy instruments***

28. Instruments used are i.a.

- Vessel catch limits (e.g. on a monthly basis)
- Individual Transferable Quotas (only for herring)
- Days at sea (limiting the days at sea per month)
- Time closures (e.g. in weekends, summer, etc.)

- Licenses (limited as well as not limited access)
- Minimum landing sizes (in some cases higher than those of the CFP)
- Exclusion of specific gear types in specific areas
- Limits on engine power in certain areas
- Notifying the fisheries control before landing
- Satellite surveillance of vessels.

29. When deciding on which instruments to use in a specific fishery many factors are taken into consideration, i.a.

- the nature of the fishery (seasons etc.)
- is it a directed fishery, mixed fishery or mainly bycatch
- the market situation
- experience from the regulation in previous years
- the need for adjustments due to development in catches and quotas
- natural fishing patterns of the fleets.

30. Quotas for a number of the most significant species in the Danish fishery have been decreasing. This has implied that both the annual Order of management and the monthly changes to the Order have become more and more detailed.

31. A wide variety of management measures has been introduced over the years, inter alia catch limits during different periods, vessel rations according to vessel size, periodic bans, tie-up schemes, demand for notification, bonus quotas in the pelagic fisheries given to vessels with a high percentage of catches used for human consumption, etc.

32. The Danish management of fishery builds on access regulation in combination with regulation of the total fleet capacity measured by tonnage and engine power. Access regulation implies that in order to fish a person must be an authorised full time/part time fisher and the vessel must be registered as a fishing vessel and granted a license. This license specifies at the same time the technical capacities of the vessel, i.e. tonnage and engine. In other words, fleet capacity constitutes an integrated part of the access regulation.

33. In 1989, the regulatory system was expanded to include catch quotas per vessel per month, per week or per trip for cod, haddock and saithe. For pelagic fisheries, this principle was used for herring and mackerel. The system has later been extended to include more species.

34. In 2003, the regulatory system introduced Individual Transferable Quotas (ITQ) for herring in the North Sea, Skagerrak and Kattegat. ITQs have been distributed to vessels according to their historical catches in preceding years. For the moment, ITQs for herring is expected to run for 5 years until the end of 2007.

35. Economic incentives have been the preferred instrument in controlling the fleet capacity development by granting financial support when decommissioning vessels under the EU fleet management schemes.

36. The Danish fishing fleet is, as mentioned above, generally flexible; vessels often take part in different fisheries throughout the year - and the fishing patterns change from year to year. Regulations have, accordingly, been drawn up to allow the vessels to participate in whichever fishery the vessel owner finds most attractive; only in some fisheries has access been limited by licences.



### 3.3 A Summary of policy instruments used in the regulation of the Danish fisheries

37. A summary of policy instruments used in the regulation of the Danish fisheries is shown in table 3.

38. A summary of policy instruments used in the regulation of the Danish fisheries is shown in Table 3. A continuous evaluation of the applied policy instruments takes place in order to keep the Danish regulation of its fisheries in accordance with the EU regulation. Therefore, Table 3 reflects the current state of play that may alter depending on how the fishery and the conditions behind it developes.

**Table 3. Summary of Policy Instruments Used in the Regulation of Danish Fisheries, 2003**

<b>Regulated fishery</b>	<b>Policy instrument applied</b>	<b>Comments</b>
<b>Cod</b> in the North Sea and the Skagerrak.	Periodic catch limits depending on vessel length. No license needed.	Rations are not the same in the North Sea and the Skagerrak. First marketing of all cod shall take place through public auctions.
<b>Cod</b> in the Kattegat.	Periodic catch limits depending on vessel length.	Catches must not without permission be brought into other waters and landed in harbours situated in other water (with 2 exceptions).
<b>Cod</b> in the Baltic Sea and the Belts.	Periodic catch limits depending on vessel length or annual vessel quotas. Vessels must have a licence.	
<b>Hake</b> in the North Sea.	Periodic catch limit independent of vessel length. No license needed.	
<b>Hake</b> in the Skagerrak and the Kattegat.	No quantitative restrictions for the moment. No license needed.	
<b>Haddock</b> (the North Sea, the Skagerrak, the Kattegat, the Baltic Sea and the Belts).	Periodic catch limits depending on vessel length.	Rations are not the same in the North Sea compared to the other waters.
<b>Saithe</b> (all waters).	Periodic catch limits depending on vessel length. No license needed.	
<b>Blue Whiting</b> in the North Sea.	No regulation until a treshold level has been reached.	
<b>Blue Whiting</b> in the Norwegian zone.	No fishery allowed for the moment.	
<b>European Plaice</b> (the North Sea, the Skagerrak, the Kattegat, the Baltic Sea and the Belts).	No regulation until a treshold level has been reached. No license needed.	
<b>Common Sole</b> in the North Sea.	Periodic catch limits depending on vessel length.	Catches must not without permission be brought into other waters and landed in harbours situated in other water.
<b>Common Sole</b> (the Skagerrak, the Kattegat, the Baltic Sea and the Belts).	Periodic catch limits depending on vessel length. No license needed.	Catches must not without permission be brought into other waters and landed in harbours situated in other water.
<b>Northern Prawn</b> (the North Sea (EU zone), Norwegian zone in North Sea, the Skagerrak and the Kattegat).	No quantitative restrictions for the moment. No license needed.	In Norwegian zone no regulation until a treshold level has been reached.

**Table 3. (cont.) Summary of Policy Instruments Used in the Regulation of Danish Fisheries, 2003**

Regulated fishery	Policy instrument applied	Comments
<b>Norway lobster</b> (the North Sea, the Skagerrak, the Kattegat, the Baltic Sea and the Belts).	Periodic catch limits depending on vessel length. No license needed.	Rations are not the same in the North Sea and the other waters. Catches must not without permission be brought into other waters and landed in harbours situated in other water.
<b>Sprat</b> in the North Sea.	Periodic catch limits depending on vessel length. No license needed.	
<b>Sprat</b> in the Limfjord.	Periodic catch limit independent of vessel length. Vessels must have a licence.	
<b>Sprat</b> the Baltic Sea and the Belts.	Periodic catch limit dependent on vessel length. Vessels must have a license.	
<b>Sprat</b> in the Skagerrak and Kattegat.	Periodic catch limits independent of vessel length. Vessels must have a licence.	
<b>Salmon</b> in the Baltic Sea and the Belts (EU zone).	Vessels must have a licence.	
<b>Mackerel</b> in the North Sea, the Skagerrak, the Kattegat.	Periodic catch limits or annual vessel quotas. Vessels must have a licence.	
<b>Herring</b> in the North Sea, the Skagerrak, the Kattegat and ICES subareas I and II.	Individual Transferable Quotas for each vessel. Vessels must have a license.	ITQs are not absolute but constitute a share of the total quota.
<b>Herring</b> in the Baltic Sea and the Belts.	Periodic catch limit dependent on vessel length. Vessels must have a license.	
Species used for reduction - Sprat, Sandeel, Norway pout, Blue Whiting).	Vessels must have a license for fishing species used for reduction. Before landing the catch the fisheries control must be notified.	The North Sea, the Skagerrak and the Kattegat: The share of unspecified fish must not exceed 25 percent of total catch on board.
Blue mussel	Licence and periodic catch limits.	
<b>Sandeel</b> in the Norwegian zone.	No quantitative restrictions for the moment. No license needed.	
<b>Angler, Lemon Sole and Witch flounder</b> in the North Sea.	No regulation until a treshold level has been reached.	
<b>Ling</b> in the Skagerrak, the Kattegat, the Baltic Sea and the Belts (EU waters).	No fishery allowed for the moment.	
Other species in the Norwegian zone in the North Sea.	Periodic catch limits independent of vessel length. No license needed.	
Fishery in the waters West and South of the British Isles.	Vessels must have a license.	
<b>Atlantic Horse Mackerel</b> in the waters West of the British Isles and in the English Channel.	Vessels must have a license.	