For Official Use **AGR/FI(2000)13/PART20**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

OLIS : 13-Sep-2000
Dist. : 14-Sep-2000

Or. Eng.

DIRECTORATE FOR FOOD, AGRICULTURE AND FISHERIES
FISHERIES COMMITTEE

For Official Use AGR/FI(2000)13/PART20

Cancels & replaces the same document:
distributed 07-Jul-2000

DRAFT REVIEW OF FISHERIES, PART 20

NORWAY

Attached is the draft chapter on Norway for the Review of Fisheries, 1998-1999. This document is being distributed for DISCUSSION and APPROVAL at the 86th Session of the Committee for Fisheries, 9-11 October 2000. Please note that statistics will be distributed separately.

Contact for further information: Carl-Christian SCHMIDT
(E-mail: Carl-Christian.SCHMIDT@oecd.org)

95206

Or. Eng.

NORWAY

Summary

1. Preliminary figures indicate that the total Norwegian catch, including seaweed, reached 3.0 million tonnes in 1998 and 2.8 million tonnes in 1999. The decrease in total catch from 1998 to 1999 equals 7%, and is generally a result of a reduction of cod, haddock and sandeel. The total catch of pelagic species decreased by 7.2% while the total catch of gadoid species decreased by 12.2% from 1998 to 1999.

2. The total first-hand value decreased by approximately 5%, from NOK 10.4 billion in 1998 to NOK 9.9 billion in 1999. The first-hand value of pelagic species decreased by 13.8% which is caused by a reduction of catch quotas of species like sandeel, blue whiting and capelin, combined with a small price reduction with respect to the important species such as herring and mackerel. The prices of the main groundfish species and shellfish have, on the other hand, had an increase.

3. The stock situation for the main species in the northern part of Norway is regarded as somewhat critical for species like cod and haddock. The mixed Norwegian-Russian Fisheries Committee decided therefore in 1999 to decrease the allowed quotas of these species for 2000.

4. Aquaculture production of salmon and trout is growing steadily, reaching a total of 410 000 tons in 1998 and 455 000 tons in 1999. In order to contribute to stabilise the market and the prices for salmon in the European market, the Ministry of Fisheries decided to introduce feed quotas in the salmon farming industry in 1996. The total value of the production of salmon and rainbow trout was NOK 10.3 billion in 1998 and NOK 12.6 billion in 1999.

Legal and institutional framework

5. Several administrative measures are applied to limit the fishing effort in the Norwegian fisheries. The Act of 1951 and the Act of 1972 were the basic legal instruments for the arrangement of fishing licences as well as other types of effort regulation introduced to the fishing fleet. The Acts of 1917, 1951 and 1972 were replaced by the Act of 1999 on the Regulation of the Participation in Fisheries as of 1 January 2000. In general, the registration of fishing vessels in the register "Register of Norwegian Fishing Vessels", as well as the acquisition of an already registered fishing vessel, require a permit from the authorities.

6. All commercial fishing for whitefish by trawlers of any size, purse seiners longer than 90 feet catching herring, mackerel, capelin, sprat, blue whiting or saithe, shrimp trawlers longer than 65 feet operating North of 62^0N, North Sea trawling and industrial trawling, require a licence. Coastal fishing vessels, defined as vessels operating with conventional gear (nets, longline, hand line etc.), are in general not subjected to licensing. There are however exceptions also for this class of vessels, regarding certain pelagic species, where a license system is established.

7. The Norwegian fisheries are regulated through annual regulations on the sharing of the Norwegian TAC on all regulated stocks amongst the different groups and amongst the participating vessels. The different regulations gives specific rules on the implementation of the fisheries, and as a part of this, as mentioned, the division of the annual quota amongst the different vessel- and gear-groups. In addition there are rules pertaining to periodic regulations of outtake, by-catch-rules, start- and stop-dates, sanctions when the regulations are broken, and eventual criteria for exemptions from the main rules of the regulation.

8. Through the regulations quotas are divided among groups of vessels For some fisheries the group quotas are divided equally amongst the vessels, while for other fisheries the vessel-quotas are differentiated by vessel-length, tonnage or other technical criteria.

9. In addition to regulation of minimum fish size, minimum mesh size and bycatch rules, the most important instruments to secure a sound management of marine resources are as follows: discard ban, closure of fishing grounds with too high intermixture of undersized fish, and a requirement that a vessel has to change fishing grounds if the intermixture of undersized fish exceed permitted levels. Another important measure is the use of catch sorting devices, *i.e.* grids.

10. In order to properly manage the different fisheries, an extensive system to control the fishing activity and the fishing fleet has been established. There are three corner stones of the control and enforcement system in Norway, *i.e.* the Coast Guard, the Directorate of Fisheries and the Sales Organisations.

General conditions regarding foreign access, and restrictions on foreign investment

11. Vessels from third countries are subjected to the same rules as Norwegian vessels as regards bycatch, discards, logbooks and use of technical devices such as sorting grids when fishing in Norwegian waters.

12. Foreign vessels fishing in the Norwegian economic zone are also obliged to send regular catch reports to the quota control system in the Directorate of Fisheries.

13. There are no special regulations on foreign investment in the processing industry.

14. According to the Norwegian law, the right to buy a fishing vessel can only be given to a Norwegian citizen or a body that can be defined as a Norwegian citizen. A company is regarded as having equal rights with a Norwegian citizen when its main office is situated in Norway and the majority of the Board, including the Chair of the Board, are Norwegian citizens and have stayed in the country the last two years. Norwegian citizens also have to own minimum 60% of the shares and have to be authorised to vote for at least 60% of the votes.

Obtaining concessions for owning fishing vessels

15. It is a part of the Norwegian policy that ownership to the fishing fleet shall be reserved for professional fishermen. Therefore, to obtain the right to own a fishing vessel, one has to have a record of active, professional fishing on a Norwegian fishing boat for at least three of the last five years.

16. When this legislation is being applied to companies, it means that at least 50% of a boat owning company has to be owned by persons who qualify for owning a fishing vessel.

Capture fisheries

Landings

17. Preliminary figures indicate that the total Norwegian landings in 1999, including seaweed, amounted to about 2.8 million tons - a 7% reduction compared to the 3 million tons landed in 1998. The total first-hand value was reduced by approximately 5%, from NOK 10.4 billion in 1998 to NOK 9.9 billion in 1999.

18. The total catch of groundfish species was reduced by about 12% in 1999 compared to 1998. Lower landings of important species like cod and haddock mainly caused the reduction. The total first-hand value was reduced by 3% indicating that the positive development in the prices for these species in recent years continued in 1998 and 1999.

19. The total catch of pelagic species was reduced by approximately 8% from 1998 to 1999 while the total first-hand value decreased by 15% in the period. The reduction in landings was mainly caused by lower catches of sandeel and blue whiting, *i.e.* species for reduction purposes. The prices on all main pelagic species were reduced in 1999 compared to 1998.

Table 1. Landings (first-hand value) by species group by the Norwegian fishing fleet 1996 - 1999, per cent

	1996	*1997*	*1998*	*1999*
Gadoids etc.	56.2	55.0	60.5	61.7
Pelagic fish	35.7	37.6	31.1	28.2
Shellfish	7.8	7.1	8.1	9.8
Seaweed	0.3	0.3	0.3	0.3
Total	100.0	100.0	100.0	100.0

Employment, structure and performance of the fleet

20. The total number of commercial fishermen in Norway both in 1998 and 1999 were about 22 300, of which approximately 15 100 and 15 300 were full time fishermen in 1998 and 1999 respectively. Compared to 1997 the total number of fishermen has been reduced by about 700 persons while the number of full time fishermen has been reduced by approximately 1 300 persons, *i.e.* indicating that the number of part-time fishermen has increased in the period. The number of fishing vessels registered in the "Register of Norwegian Fishing Vessels" was reduced from about 13 600 vessels in 1997 to about 13 200 vessels in1998 / 1999. The total number of fishing vessels in operation in 1998 and 1999 were about the same level as in 1997, *i.e.* approximately 8 200 fishing vessels. The number of fishing vessels operating more than 30 weeks each year is estimated to be about 2 700 vessels in 1998 of which approximately 2 400 vessels were above 8 meters; about the same number of vessels as in 1997.

21. The average age of the fishing fleet is high and was estimated to about 24 years both in 1998 and 1999. A total of 190 new fishing vessels were built in 1998 and 1999 of which 45 vessels were above 15 meters.

22. The annual profitability study of Norwegian fishing vessels indicated that the profitability in the fishing fleet was high in 1998. The total operating revenues for the fishing fleet 8 meters and above operating on a whole year basis were estimated to NOK 9.4 billions in 1998, while the total operating expenses were estimated to NOK 8 billions. This resulted in a total operating profit just below NOK 1.5 billion this year. No major changes is expected as regards the profitability in the fishing fleet in 1999 compared to 1998.

Status of fish stocks

23. The scientific advice provided by the International Council for the Exploration of the Sea (ICES) in relation to total allowable catches (TACs) is fundamental to management decisions.

24. The precautionary approach (pa) has been introduced gradually in the advice from ICES. High fishing mortality has since 1996 been given more and more attention even for fish stocks estimated be to within safe biological limits. In the autumn 1997 assessment warning signals were given for several of the stocks considered not to be "precautionary". Precautionary reference points were introduced in the advice from ICES in 1998, and at the same time ICES also decided to define "safe biological limits" both in relation to the size of the stock (B_{pa}) as well as to the fishing mortality (F_{pa}).

25. Assessments, whether stocks were considered to be within or outside "safe biological limits" in earlier years, before the introduction of the pa-terminology, were mainly defined in relation to the size of the spawning stock biomass (SSB). By introducing new precautionary reference points, taking into account both the size of the spawning stock (B_{pa}) and the fishing mortality (F_{pa}), stocks, earlier assessed to be within "safe biological limits", were considered to be outside safe biological limits, even without any significant changes in the spawning stock biomass. Further discussions will have to be held between scientists and managers when it comes to implementing of the new reference points.

26. Table 2 gives the latest assessments, November 1999, prepared by the ICES Advisory Committee on Fishery Management (ACFM) regarding fish stocks important to Norway. The table gives information on the stock situation, spawning stock biomass (SSB) and spawning stock reference points (B_{pa}), the catch, actual fishing mortality and fishing mortality reference points (F_{pa}), proposed by ACFM.

Table 2. Biological status for some of the most important species in Norwegian fisheries

Species	Spawning stock biomass (1000 tons)		Spawning stock reference point (B_{pa}) (1000 tons)	Estimated Fishing mortality		Fishing mortality reference point (F_{pa})
	1998	1999		1998	1999	
Groundfish species						
north-east Arctic Cod	419	298	500	0.910	0.73	0.42
North Sea Cod	101	128	150	0.588	-	0.65
north-east Arctic Haddock	149	121	80	0.474	0.45	0.35
Haddock in the North Sea and Skagerrak	170	150	140	0.673	-	0.70
north-east Arctic Saithe	252	184	150	0.398	0.40	0.26
Saithe in the North Sea and Skagerrak	153	169	200	0.487	-	0.40
Greenland Halibut	37	-	65[1)]	0.358	-	-
Pelagic species						
Capelin (Barents Sea)	177	519		-	-	-
Norwegian Spring Spawning herring [2)]	11 144	10 736	5 000	0.110	-	0.15
North Sea herring [2)]	878	1 190	1 300	0.353	-	0.12/0.25
Mackerel	3 299	3 754	2 300	0.203		0.17
Horse mackerel						
Blue whiting [2)]	2 597	2 919	2 250	0.518	-	0.32
Sandeel	2 015	1 500	600	0.510		-
Norway Pout	329	168	150	0.264	-	-

[1)] MBAL
[2)] ACFM assessment May 1999.

27. The table indicates that several ground fish stocks at the moment are either considered to be "outside safe biological limits (B_{pa})" or to be "harvested outside safe biological limits (F_{pa})" whereas the stock situation for important pelagic species is more positive.

Management of commercial fisheries

28. Most of the key fish stocks in Norwegian fisheries are shared with other countries. TACs and national quotas for such joint stocks are fixed in negotiations between the countries involved. Norway enters into annual bilateral quota agreements with Russia, the European Union, the Faeroe Islands, Greenland, Iceland and Poland. With the exception of the agreement with Poland, these agreements include exchange of quotas. Norway is also party to a trilateral agreement with Greenland and Iceland on the management of capelin in the Jan Mayen - Iceland - Greenland area, a trilateral agreement with the European Union and the Faeroe Islands on the management of North East Atlantic mackerel as well as a five-party agreement on Norwegian Spring Spawning herring. Norway also participates in regional management within the framework of the Northwest Atlantic Fisheries Commission (NAFO) and the North East Atlantic Fisheries Commission (NEAFC).

29. As of 15 May 1999 an agreement between Norway, Russia and Iceland was reached on the Icelandic fishery for cod in the Barents Sea ("Loop hole"). The bilateral protocol signed by Norway and Iceland on the same date regulates the exchange of quotas between Iceland and Norway. In accordance with the agreement Iceland was granted 4 450 tons of cod in Norwegian Economic zone north of N62^{o}N, and Norway was granted a quota of 17 000 tons of capelin in Icelandic water in 1999. To manage the national fisheries both output and input regulations as well as technical regulations are employed.

Output regulations

30. In the Norwegian fisheries several types of output regulations are employed. In most of the fisheries a TAC is set resulting in a national quota for the Norwegian fishing fleet. As a rule the national quota is divided between groups of vessels, *i.e.* group quotas. Vessel quotas in addition regulate the fisheries for the most important species, a fixed quota for each participating vessel, or maximum quotas (a group quota divided in a manner that results in a certain competition between the vessels in the group). In addition to these measures period quotas and trip quotas are used as output regulations in the shrimp fisheries in South Norwegian waters and days at sea are used as output controlling measures in the shrimp fisheries at the Flemish Cap.

31. TACs and national quotas in 1998 and 1999 for some of the most important species in Norwegian fisheries, agreed upon by Norway and other parties, specified on economic zone / area and on agreement are listed in Table 3 below.

Table 3. TAC and national quotas in 1998 and 1999 for some of the important species in the Norwegian fisheries

Species	*Area*	*Agreement between Norway and:*	*TAC (000 tons)*	*TAC (000 tons)*	*National quota (000 tons)*	
			1998	**1999**	**1998**	**1999**
Cod	North of 62°N	Russia	654 000	480 000	313 000 [2)]	236 500 [2)]
	North Sea	EU	140 000	132 400	14 110	11 770
	Skagerrak	EU	20 000	19 000	650	620
Haddock	North of 62°N	Russia	130 000	78 000	71 000 [3)]	46 000 [3)]
	North Sea	EU	115 000	88 500	23 050	14 120
	Skagerrak	EU	7 000	5 400	290	225
Saithe	North of 62°N		145 000	145 000	137 500	137 500
	North Sea and Skagerrak	EU	97 000	110 000	45 400	52 200
Herring	North of 62°N[1)], International waters	EU, Iceland, Faeroe Islands, Russia	1 300 000	1 300 000	741 000	741 000
	North Sea, West of 4°W	EU	254 000	265 000	71 910	74 800
	Skagerrak,	Sweden, Denmark	80 000	80 000	10 670	10 670
Capelin	North of 62°N	Russia	-	80 000	-	48 000
	Iceland, Jan Mayen, Greenland	Iceland, Greenland	1 265 000	1 200 000	159 150	112 000
Mackerel	North Sea, Skagerrak,	EU	62 455	62 455	52 180	52 180
	North of 62°N		111 350	111 350	104 980	104 980
Blue whiting	International waters, EU-zone and NEZ	NEAFC	650 000	650 000	-	250 000
Sprat	Skagerrak	Sweden, Denmark	40 000	50 000	3 000	3 750
Shrimp	Skagerrak,	Sweden, Denmark	13 160	13 160	6 130	6 130
	Greenland	EU			2 500	2 500
	NAFO [4)]	NAFO			1 985[4)]	1 985[4)]

[1)] Norwegian spring spawning herring. [2)] Norwegian coastal cod (40 000 tons) included [3)] Norwegian coastal haddock (5000 tons) included.
[4)] "Days at Sea"

32. The positive development in the capelin stock in the Barents Sea resulted in a limited fishery for this species in 1999.

33. The negative development for some of the most important ground fish stocks, *i.e.* cod and haddock north of 62°N, resulted in a reduced TAC and national quota of cod in 1998 compared to 1997. The TAC and national quota for this important stock were further reduced in 1999. The TAC and national quota for haddock were reduced in 1999.

34. There has been a considerable increase in the catches of blue whiting over the last years. A coastal state process has been initiated within the framework of NEAFC in order to bring about a

regulation of this stock. A process accompanying the coastal state process has been initiated in the framework of NEAFC.

35. The national quota of minke whales was set to 671 and 753 animals in 1998 and 1999 respectively. The quotas for seals were set at 5 000 in the Barents Sea both for 1998 and 1999, and 13 100 and 14 350 in the areas around Jan Mayen. 34 vessels participated in the hunt for minke whales and two and three vessels participated in the hunt for seals in 1998 and 1999 respectively. All participating vessels were required to have inspectors on board to ensure that their hunting activities were performed in accordance with regulations.

Input regulations

36. Several administrative measures are applied to limit the fishing effort in the Norwegian fisheries. The main legislation for these measures are based on the following acts:

- Act of 5th December 1917 relating to Registering and Marking of fishing vessels
- Act of 20th April 1951 relating to Fishing with Trawls
- Act of 16the June 1972 relating to the Regulation of the Participation in Fisheries
- Act of 3rd July 1983 relating to Salt-Water Fisheries

37. The Act of 1951 and the Act of 1972 were the basic legal instruments for the arrangements of fishing licences as well as other types of effort regulation introduced to the fishing fleet. The Acts of 1917, 1951 and 1972 were replaced by the Act of 1999 on the Regulation of the Participation in Fisheries as of 1 January 2000. In the table below the number of vessels with licence and the type of licence for these vessels in 1998 and 1999 are listed.

Table 4. Type of fishing license, the number of licenses and fishing vessels with license in Norwegian fisheries: 1998 and 1999

Type of license	*Number of licenses*	
	1998	**1999**
Purse seine	99	100
Blue whiting	46	46
Norwegian Spring Spawning herring with trawl	80	81
Industrial trawl	110	107
Capelin trawl	141	151
Cod trawl	103	103
Saithe trawl	16	15
Shrimp trawl	112	105
Other licences	85	86
Total number of licenses	**792**	**794**
Number of vessels	**460**	**454**

38. In the table above the number of licenses and vessels in the license register are shown. One particular vessel may hold several different types of licenses and may not, in the course of one or two years, participate in all fisheries for which it is licensed. The table indicates that the number of licences as well as the number of vessels with more than one licence are increasing, while the number of vessels with license has been slightly reduced.

39. In 1998 it was evident that it was necessary to regulate the number of trawlers in the fisheries for Norwegian spring spawning herring. New licences for trawlers with a minimum historic catch record in this fishery were introduced in 1998.

40. The fisheries authorities do also, in addition to the licensing system, regulate the fishing effort for other parts of the fleet.

41. In 1996 and 1997 an increasing number of vessels less than 28 m and with fishing rights in the fisheries for cod north of 62°N were rebuilt to a size above 28 m. Vessels originally above 28 m were also replaced by larger vessels or rebuilt. As a result the total capacity of vessels above 28 m fishing for groundfish species with conventional gears increased considerably in this period. To prevent an even further expansion of the capacity in this particular vessel group a temporary moratorium on the building and rebuilding of vessels fishing for groundfish species with conventional gears to a vessel size 28 m and above was introduced in march 1998. The moratorium was lifted in December 1998 and replaced by a new regulation that provided measures to prevent such a development; *i.e.* the total number of fishing vessels in this particular vessel group was fixed.

42. In 1998 the fisheries authorities decided to regulate the number of coastal vessels 11 m and above fishing for shrimp in the North Sea and Skagerrak. The number of fishing vessels with vessel quotas in the seine fisheries for saithe north of N62°N was set in may 1999.

Technical regulations

43. Regulation of minimum fish size, minimum mesh size, gear restrictions in certain fisheries, by-catch rules, discard ban and real time closure and opening of fishing grounds with too high intermixture of undersized fish are the most important instruments in use in the Norwegian fisheries to secure a sound management of marine resources.

44. In the shrimp trawl fisheries the use of sorting grids in the gears are mandatory.

45. Mandatory use of sorting grids in the cod trawl fisheries was introduced in 1999 for the trawl fisheries in Norwegian economic zone between N62°N and N64°N. Experiments on the use of sorting grids in the trawl fisheries in the North Sea will be continued.

46. The authorities also regulate the use of seine in the fisheries for herring with seine to avoid accidental killing and dumping of fish.

47. A program to remove nets and other gears lost by the fishing fleet on the fishing grounds and thereby avoid "hidden" fishing activity has been in operation and will be continued.

Access

48. Consultations on bilateral fishing arrangements for 1998 and 1999 were held with Russia, the EU, the Faeroe Islands, Greenland and Poland. With the exception of the agreement with Poland, which entails unilateral quota allocation to Poland, these agreements shall fix a reasonable balance in reciprocal fishing patterns.

49. In Tables 5 and 6 below the quotas allocated to Norway in other countries zones and quotas allocated to other countries in the Norwegian economic zone in 1998 and 1999 are presented. Exchanged quotas are included in the figures.

Table 5. Quotas allocated to Norway specified on different economic zones in 1998 and 1999

The Agreement (between)	The economic zone of/ Area	Total Norwegian quotas (all species, tonnes)	
		1998	1999
Norway and Russia	Russia	186 000	218 000
Norway and EU	EU North Sea	253 390	246 785
	EU West of 4°W	289 820	277 375
	Greenland, West coast.	2 000	1 915
	Greenland, East coast	19 850	13 730
Norway and the Faeroe Islands	Faeroe Islands	51 300	56 675
Norway and Greenland	Greenland, West coast	600	1 318
	Greenland, East coast	1 700	3 000
	Greenland	1 200	950
Norway and Iceland	Iceland	-	17 500 [3)]
Norway, Greenland and Iceland	JanMayen/Iceland/ Greenland	159 150 [1)]	112 000 [2)]
Norway and EU (Sweden and Denmark)	Skagerrak/Kattegatt	21 240	21 760
NAFO	NAFO (3M)	185	-
NEAFC	Irminger Sea	7 100	7 100

[1)] [2)] Quota for the period 1.07.97 - 30.04.98 and 15.07.98 - 30.4.99
[3)] Of which 17 000 tons of capelin.

Table 6. Quotas allocated to other countries in Norwegian economic zone in 1998 and 1999

Allocated to	*Area*	*Total quotas (all species, tonnes)*	
		1998	*1999*
Russia	North of 62°N	378 800	398 000
	Jan Mayen	11 750	11 750
EU	North of 62°N	49 900	40 900
	North Sea	518 235	512 025
	Jan Mayen	1 000	1 000
Faeroe Islands	North of 62°N	10 420	13 828
	North Sea	36 580	38 271
	Jan Mayen	1 000	1 000
Greenland	North of 62°N	4 690	3 630
	North Sea	750	1 000
Iceland	Jan Mayen, North of 62°N	202 000	206 450
EU (Sweden and Denmark)	Skagerrak/Kattegatt	165 320	165 000
Sweden	North Sea	4 775	4 655
Poland	North of 62°N	3 100	3 100
	North Sea	880	950
	Jan Mayen	5 000	5 000

50. In addition to the exchange of quotas the agreements between the countries involved also includes licensing arrangements for vessels fishing in other countries economic zone.

Management of recreational fisheries

51. The most important fish species for recreational fishing in fresh water are salmon, sea trout, sea char, brown trout, arctic char, whitefish, grayling, perch and pike.

52. The salmon fishery in the sea and freshwater fishery for all species including salmon, are regulated by the Act of May 1992, relating to salmonids and freshwater fish etc. The objective of the Act is to ensure that natural stocks of anadromous salmoids, fresh-water fish and their habitats, as well as other fresh-water organisms, are managed in such a way as to maintain natural diversity and productivity. Within this framework, the Act shall provide a basis for the improvement of stocks with a view to raising yields for the benefit of holders of fishing rights and sports fishermen. The Act states that management must be directed at the individual natural stock. A general principle for anadromous fish is that fishing is prohibited unless permission is given.

Aboriginal fisheries

53. Norwegian fisheries authorities acknowledge an obligation to maintain a traditional Lap fishery, which is mainly carried out in the coastal area in the northern parts of Norway. The policy is to fulfil this

obligation within the existing fisheries management system. When special measures are taken, the criteria for qualification therefore are geographical or connected to the common boat size among Lap fishermen, rather than an ethnic criterion. The Laps are represented in the Advisory Committee on Regulation, which gives advice on fisheries regulations to the Ministry of Fisheries.

54. Adjustments in the rules for the register of professional Fishermen have been made in order to make it easier for Laps with a traditional way of living and working, to be registered. This has been achieved by extending the limit for maximum income from other type of activity besides fishing, in the actual geographical area. At the same time funds have been made available to secure the delivery of the catches in the Lap areas of northern Norway.

Monitoring and enforcement

55. In order to manage the different fisheries properly, an extensive system to control the fishing activity and the fishing fleet has been established. The control and enforcement system in Norway has three cornerstones: The Coast Guard, the Directorate of Fisheries and the Sales Organisations.

56. The most important sources of information, in order to control the fishing activity and check the reliability of catch reports, are logbooks and sales notes. All vessels with an overall length of 13 meters or longer are subject to the logbook provisions. The smaller vessels are obliged to fill out a simplified version of the logbook.

57. The logbooks are a primary source for the monitoring of a vessel's fishing activity checking facts such as live weight of catches by species and the exact position and fishing time of each fishing operation.

58. For the authorities, the sales note or sales contract between the fishermen and the buyers is the basis for keeping accounts of catches in relation to quotas. On the basis of the information from sales notes, the authorities are able to estimate when a quota is exhausted and stop the fishing activity accordingly.

59. Vessels from third countries are subjected to the same rules as Norwegian vessels when fishing in Norwegian waters, *inter alia*, with regard to rules for bycatch, discard, logbooks and use of technical devices such as sorting grids.

60. Foreign vessels fishing in the Norwegian economic zone and onboard-producing Norwegian vessels are obliged to send regular catch reports to the Directorate of Fisheries who is operating the Norwegian system for quota control. The vessels must send a message containing information of the catch onboard specified by species and what time the vessel has entered into the Norwegian economic zone (active code). In addition the vessels must send catch reports to the Directorate of Fisheries on a weekly basis. The vessels are also obliged to notify the authorities when they have completed their fishing activity and are about to leave the Norwegian economic zone (passive code).

61. The Norwegian fisheries authorities will establish seven check-points north of 62°N and three flexible checkpoint areas in the North Sea for the purpose of controlling foreign vessels in the Norwegian economic zone. Foreign vessels are obliged notify the system for quota control in the Directorate of Fisheries no later that 24 hours before arriving at the checkpoint.

62. In order to improve the control of fisheries, Norway and the European Union have as from 1 January 2000 established a satellite-based monitoring system, which applies to vessels operating in the waters of either party. Bilateral pilot projects on satellite tracking are being carried out in co-operation with Russia, the Faeroe Island and Iceland.

63. As from 1 January 2000, vessels operating in international waters in the NEAFC-area are subject to satellite tracking. A pilot project on satellite tracking was established in 1996 for the NAFO area. In 1998 it was decided that as from 1 January 2001, vessels operating in the NAFO area shall have satellite tracking equipment on board.

Aquaculture

Policy/Policy changes

64. The fish farming industry is of great importance to the Norwegian fisheries sector. Salmon is by far the most important species. Rainbow trout is the second most important species, while species like halibut, arctic char, cod and shellfish are beginning to make their way into the industry.

65. The industry is regulated by various laws and regulations of which the most important are:

- The Act of Farming of Fish, Shellfish etc.
- The Act on Protection against Pollution
- The Act on Measures against Diseases.
- The Act of Harbours and Fairways etc.

66. All farming of fish and shellfish in Norway require a license from the authorities. For sea farming of salmon and trout there is also a system of limited entry. There has not been issued new licenses for salmon and trout nation-wide since the mid-eighties. The number and regional distribution of new licenses are decided by the central fisheries authorities.

67. The emphasis on environmental and disease-controlling measures has resulted in a regulation of the operation and installation of aquaculture facilities. This regulation also restricts the use of antibiotics in fish farming and addresses the handling and disposal of dead fish. The license holders are instructed to keep logbooks on the amount of fish in the cages, the number of dead fish and escaped fish and the amount of antibiotics and chemicals used in the production. In case of disease, the license holder is obliged to keep records on the type of disease, the number of fish infected and the location the fish is kept in.

68. The veterinary service controls fish diseases, and any fish farmer using antibiotics is prohibited from selling fish until approval from the fisheries authorities has been given. The Norwegian Directorate of Fisheries operates laboratories along the coast to test fish quality and to measure the residues of antibiotics in fish. Introduction of effective vaccines in addition to improving operating routines has nearly eliminated the use of antibiotics in salmon farming. The average use of antibiotics was only 1.7 mg/kg fish produced in 1998 and 1.3 mg/kg fish produced in 1999. The consumption of antibiotics in 1999 was only 2% of what was used in 1990.

69. Feed quotas was introduced in 1996 in order to lessen production growth and prevent lasting imbalance on the EU-market for salmon, where Norwegian salmon has a market share of approximately 65%. Each licence holder is obliged to not exceed a maximum level of feed used in the production of salmon. In 1998 the feed quotas amount to 650 tons for every fish farm sized 12 000 m^3. This was an increase of 2.3% from 1997. In 1999 the feed quotas amount to 680 tons, an increase of 4.6% from 1998. The feed quota regime has resulted in a steady production growth in 1998 and 1999 and consequently stable prices on the European market for salmon. The regime has been extended to cover 2000.

Production facilities, values and volumes

Table 7. Types of licences granted, production and employment in the Norwegian aquaculture industry 1998 and 1999

Type of licence	Number of Licences		Production [4] Volume (tons / 1000 pcs)		Value (NOK mill)		Employment (persons)	
	1998	1999	1998	1999 [3]	1998	1999	1998	1999
Sea-farm, salmon and trout	826	843	410 859	456 000	8 632		2 466	
Smolt, salmon and trout	313	315	117 880[1]		946		1 024	
Marine fish	363	390	1 173		36		229	
Shellfish	299	558	267/686[2]		N/A		246	

[1] 1000 pieces of smolt
[2] 1000 pieces (mainly scallop, oysters)
[3] Prognoses
[4] Preliminary figures

70. Most Norwegian sea-farms are open cage systems located along the coast. This kind of system has proven to be most cost-effective. Each licence normally covers two or three locations. The purpose of giving the licence holder more than one location is to reduce the risk of diseases and pollution. There are numerous suitable locations for aquaculture along the coast and do not represent any limitation for further growth in the aquaculture industry.

71. Licences for Sea-farm production of salmon and trout not utilised and withdrawn by the authorities in recent years, were reassigned to new licence holders in 1998 and 1999. Priority was given to license holders that were in production in the northern part of Norway.

72. The number of licences for production of marine fish species and shellfish increased in the period. The activity in this part of the industry is however, as indicated in the table, at the moment quite modest.

73. The maximum production capacity of smolt units increased from 1 million smolt per year to 2.5 million smolt per year during 1999.

74. The production of salmon and trout increased by approximately 12% from 1998 to 1999. Preliminary figures indicate that the amount of salmon and trout exported to EU, the main export market for Norway, increased by about 10% from 1998 to 1999. The export volume to other markets increased by more than 50%. Preliminary figures indicate a slight increase in the average price on export in 1999 compared to 1998.

75. The operating profit in the sea farming industry of salmon and trout was estimated to about NOK 1.3 billion in 1998, a sharp increase compared to the estimated total operating profit of NOK 650 million in 1997. The main reasons for this positive development were higher prices, increased production and stable production costs. It is expected that the profitability will be even higher in 1999.

Fisheries and the environment

76. National plans for how to deal with crises in the coastal zone were put into action in 1998. Their purpose is to organise work on environmental problems and to ease the co-operation between the institutions involved. The plan has been prepared to deal with crises like flourishing algae, invasions of marine mammals, oil pollution or accidents at sea.

77. The need to manage the coastal zone and to secure the areas used by the fishing fleet and aquaculture industry has high priority in Norway. The coastal zone is an area and focus for many different and potentially conflicting interests. The Norwegian government has issued a "white paper" on Conservation and use in the coastal zone that was agreed to by the Norwegian Parliament in June 2000. The "white paper" takes into account the aims of the Convention on Biodiversity stating the need of "conservation of biological diversity and sustainable use of its components". The challenges in the coastal zone is to ensure harvesting of resources and use of the coastal area for a multitude of activities as well as ensuring a healthy resource base for future generations. Each county and local municipality is urged to work out a coastal zone management plan if they regard it as necessary. The fisheries authorities participate in the planning process in each county and municipality.

78. The coral reefs in Norwegian waters have been known for several years. The reefs have been important fishing grounds for the fleet fishing with conventional gears like nets and line. The catches in these important areas have, however, reduced during the last years. Increased use of active gears like trawl in some of these areas have been regarded as one reason for this development.

79. The fisheries authorities regard the reefs to be important and as such to need special protection.

80. A regulation on the protection of coral reefs was introduced in March 1999. In the regulation it is stated that the fishermen should take special attention when fishing nearby these areas. In the regulation it is also specified that it is not allowed to fish with active bottom gear in two specific coral reefs areas.

Government financial transfers

81. In the period covered by the review, there were small changes in the government financial transfers.

Income support schemes

82. The minimum wage scheme to fishermen experienced only minor changes in 1998 and 1999. This scheme is established to support fishermen when the income from the fishing activity is insufficient, due to reasons beyond the fishermen's influence, such as long periods of bad weather, extraordinary ice conditions etc.

83. The amount needed for this scheme was reduced, following the trend from previous years. In 1997 19.6 million NOK was paid out under this scheme, in 1998 the amount was 14.1 million NOK, while the 1999 figures were 10.8 million NOK.

Structural adjustment

84. To stimulate the renewal of the fishing fleet, a change was made in 1999. In order to improve the effect of the funds allocated, the previous division between support for decommissioning and the support for renewal were merged into one scheme.

85. Under this scheme, support could be allocated to:

- Fishermen who take their vessels permanently out of fishing activity.
- Fishermen who take their ships permanently out of fishing activity, but plan to transfer their license or fishing rights to another vessel of a better quality and maintain the fishing activity.
- Fishermen who build new vessels or import second-hand vessels of high standard.

86. Sixty-eight million NOK were allocated to this scheme in 1999. The administration of this scheme was performed by the Norwegian Industrial and Regional Development Fund, who allocate funds to applicants, according to guidelines given by the Ministry of Fisheries.

Table 8. General Services – the catching sector

	1997
Ministry of fisheries:	21 141 000
Membership in international organisations:	3 464 000
Institute of marine research:	95 437 000
Operations of research vessels:	71 011 000
Directorate of fisheries:	95 268 000
Coast Guard:	407 571 000
Total	***693 892 000 NOK***

87. The costs of fisheries management as a percent of catch value has declined considerably the later years, from 13% in 1990 to less than 8% in 1997. This development has continued further in the years after 1997.

Post harvesting policies and practices

Food Safety and quality

88. The quality of fish and fishery products is of great importance to the fishing industry, and this area is given high priority. The Norwegian quality regulation relating to fish and fishery products was revised in 1996. Following the EEA-agreement and the subsequent obligation to comply with the EU-regulations regarding hygienic standards in the food processing industry, Norway has adopted both EU legislation on animal health issues and EU safety and quality legislation related to production of seafood. Since 1999 this also includes the adoption of the EU border control regime for fish and fishery products originating from countries outside the EEA area.

89. The Norwegian fish processing industry has implemented own-check systems based on the principles of HACCP as advised by Codex Alimentarius Commission. The own-check systems cover both food safety and quality aspects and are audited by the competent official authority. Commercial standards are, however, developed and supervised by the seafood industry.

90. The authorities and the related establishments have put a lot of resources to implement and revise this system to ensure the quality of products. Much emphasis has been put on obtaining bilateral agreements concerning sanitary and veterinary issues with the quality control authorities in countries representing important markets. Some of the reasons are that the demand for sanitary certificates for the export of fish and fish products to new markets, especially in Central and Eastern Europe, is increasing.

Information and labelling

91. With respect to labelling, Norway put focus in development of international quality standards and conformity assessment systems. It is important to ensure that technical regulations and standards, including packaging and labelling requirements, do not create unnecessary obstacles to international trade.

Processing and handling facilities

92. Fish landed in Norway must be approved by the fishermen's sales organisations. There are five organisations handling gadoids and one organisation handling pelagic fish. These organisations are situated along the entire cost.

93. By the amendment of the Act of 14 December 1951 on the marketing of raw fish, the right of the fishermen's sales organisations to approve first-hand buyers is annulled. This system of approval has been replaced by a system of registration of buyers. The new system and the regulations concerning registration as first-hand buyers entered into force 1 January 1998. First-hand buyers are to be registered by the Directorate of Fisheries.

94. According to the quality regulations the Director General of Fisheries approves establishments (plants and freezing, salting and filleting vessels) and gives them an official approval number. The Director General of Fisheries' List of Approved Establishments are regularly updated and sent to competent authorities in the markets.

Markets and trade

Promotional efforts

95. The Norwegian Seafood Export Council (NSEC) is responsible for generic marketing campaigns for fish and fishery products in Norway and abroad. The Council has, in co-operation with the Norwegian Trade Council, offices in France, Germany, Japan, USA, Spain, Brazil and China. The Council finances its activities by a levy on exports of fish and fish products.

96. In 1999 NSECs budget was NOK 390 million. The NSEC operates under the fish Export Act of 1990 and the Fish Export regulation of 1991. Additionally, due to the Salmon agreement between Norway and the EU signed in 1997, the NSEC operates under a provisional regulation relating to special conditions attached to the export of salmon products. The regulation which entered into force on 1 December 1998 contains both price and quantitative measures and provides for the collection of an additional export levy

on Norwegian salmon. The additional export levy shall be used for the promotion and marketing of Norwegian Salmon in the Community, and for joint marketing campaigns to the mutual benefit of the industries in Norway, Scotland and Ireland.

97. As a result of this agreement between Norway and EU, the funds for marketing of salmon has increased substantially, and the Norwegian Seafood Export Council has increased their marketing efforts correspondingly. Marketing campaigns are carried out in Japan, China, Southeast Asia and in European countries.

Volumes and values

98. Total exports of seafood from Norway increased form 1998 to 1999, and in 1999 the total export value reached NOK 29.8 billion, which is an increase of 6.7% compared to 1998. The growth in exports can mainly be explained by an increase in the exports of salmon. Especially the Japan and US markets have shown a stable increase in their imports of Norwegian fish products.

99. The last two years, as in previous years, the most important export market for Norwegian salmon was the European Union. However, the EU share of the total export volume from aquaculture is slightly decreasing. There has been some changes in the distribution of frozen salmon to Japan and China, two markets which have had an important increase of Norwegian fish products last year, and particularly of salmon and trout. The major exports market for trout is still Japan.

100. From 1998 to 1999, exports of fresh and chilled products increased from 26 to 28%, and frozen products increased from 17 to 20%. With respect to traditional products as klippfish and stockfish there has been a decrease in export values from 1998 to 1999. The share of catch used for the production of meal and oil also decreased in the period.

Trends in domestic consumption

101. The domestic market is seen as an important and profitable market for the fishing industry. For some time a survey on domestic consumption has been conducted in order to provide more reliable statistics. According to the latest statistics, Norwegians consume about 20 kg of fish and fishery products in average per year. The last two years there has been a slight increase in the Norwegian consumption. It is particular age groups of 60 and more which contribute to an increase in consumption of fish. Younger generations have a stable consumption of seafood.

Outlook

The traditional fishing industry

102. The outlook for the traditional fishing industry seems mixed, reflecting the fact that the stock situation for some of the most important species is considered to be satisfactory, while other stocks is in a more unfavourable situation. This latter applies to the cod and haddock stocks, which is especially important to some parts of coastal Norway. The situation for other important species in certain areas, *i.e.* in the North Sea, is still regarded as critical.

103. The main objective for the Norwegian Government fisheries policy is not only to maximise the profits through an economically efficient use of the resources, by seeking the highest possible return rate

from the fisheries sector, but also to achieve a socio-economic optimisation with respect to the total gain for the coastal communities. The Norwegian fisheries sector plays an important role in the Norwegian government's overall policy to maintain the settlement structure in the coastal communities, and especially in the northern parts of Norway.

104. In the years to come the Norwegian fishing industry will be challenged in the field of emission of polluting gases to the air. This applies especially to the emission of $no_{x,}$ where Norway has committed itself to a substantial reduction before the year 2010.

The market challenge

105. FAO asserts that the fish resources in a global perspective are very unlikely to increase in the future, and there is strong concern on how to assure the stocks in coming years. Combined with a general growth in the world economy, and hence an increased demand for fish products, an increasing demand for fish has to be met by increased production in aquaculture. The aquaculture products from Norway represent more than 1/3 of the total export value from fisheries and aquaculture, and are expected to increase the years ahead.

106. The globalisation in the commerce of fish and fish products means that the competition on the world market will be strong. Especially the filet industry in the north of Norway meets competition in the whitefish sector. Products of Hake and Pollock can be produced at lower prices in countries were labour is cheaper. Globalisation is a challenge to the industry sector, which has to improve the technology to become more efficiently.

107. Product development is seen as a task for the industry in conquering both new and existing markets. In coming years it is desirable to develop new products of raw material, which at present is regarded as waste products.

108. A general feature for the fishery industry is an expansion towards new markets in the Pacific Rim. Non-traditional countries become more important, *i.e.* USA, Southeast Asia, Eastern Europe and Russia. Nevertheless, the EU-countries will continue to be the most important export market in the future.

109. In accordance with the EEA-agreement, Norway has obtained better market access for fishery products to the EU market. For some species the customs duties are abolished, while for other species the duties has been reduced by 70% from 1st of January 1997. However, there will be no reduction in the customs duties for species like herring, mackerel, salmon and prawns.

110. The most important constrain for further growth in the aquaculture industry in Norway is market access and barriers to trade. As an example of this, the Norwegian aquaculture industry has gone through dumping cases in EU and USA. The need for recognised principles for free international trade in fish and aquaculture products are therefore conspicuous and necessary in order to meet the growing global demand for fish and shellfish.

Aquaculture

111. During the last 20 - 25 years, the aquaculture industry has proved to be an important export industry as well as an important industry in small coastal communities. Natural conditions make Norway very suitable for farming of fish and shellfish.

112. Norwegian fish farming is strictly controlled by a number of laws and regulations which restrict the freedom of action of the operators of the fish farm.

113. To make the industry able to reach its potential production capacity and competitive position, the authorities will continue to focus on the environment as well as disease controlling measures. To ensure that the industry does not affect the environment in an undesirable way and to control the fish diseases, focus will be put on the establishment and use of environmental parameters in the assignment of locations and the control of these parameters. It is also important to stimulate the industry to use the most profitable forms of production.

114. The costs involved in the production of salmon and rainbow trout have been reduced during recent years, and the profitability is fairly good. The productivity has increased considerably in the last few years. It is expected that the production costs will be further reduced in the future, due to a continuation of the integration process in the industry and increased efficiency in production methods.

115. Research, development and education are important to the improvement of the industry. In recent years, focus has been on environmental interactions, reduction of fish diseases and development of new species for farming. Marketing research on aquaculture species and food quality control will be increased in the years ahead.

116. Farming of marine species is developing, though a great effort still has to be put in to scientific and developing activities to establish a commercial industry.

117. The shellfish industry is growing rapidly, and in 1998 and 1999 financially investors entered the arena.