

2 Salmon fisheries data

2.1 Catches

The catch tables cover both commercial and recreational fisheries from sea, coast and rivers. However, Table 2.2.1 does not include river catches.

The catches in weight from 1972-2006 by country including discards and unreported catches are presented in Table 2.1.1, in numbers in Table 2.1.2 and by area and country in Table 2.1.3 and by Sub-division in Table 2.1.5. Values on discards and unreported catches (Tables 2.1.1, 2.1.2.) are calculated using conversion factors presented in previous years reports and are reported in terms of most likely value and 95 % probability interval (PI). An overview of management areas and rivers are shown in Figures 2.1.1, 5.3.1.1 and 5.3.1.3. The recreational share of the catches by country is shown in Table 2.1.6. There has been a decline of the total nominal catch in the Baltic Sea starting in 1990 from 5,636 t decreasing to 1,275 t in 2006. This is the lowest catch in registered since 1970.

Denmark: The Danish salmon fishery is a typical open sea fishery. Apart from recreational catches of 3000 individuals in 2006, and a small amount of salmon caught by non-professional fishermen along the coast, all salmon were caught by long-line and drift-nets in the open sea.

The catches in 2006, including the recreational fishery, were 178 t (2004: 370 t, 2005: 214 t), and 33,723 individuals (2004: 81,426 individuals, 2005: 42,491 ind.). The decrease in number from 2005 to 2006 was 20.6 %. The large decrease in number of caught salmon was caused by the prohibition of trade with salmon above 5.5 kilos, because of dioxin content in the salmon. The number of salmon caught by the recreational fishery (trolling boats) is based on information collected from sport fishermen, from the ferry company servicing Bornholm and from boat rental companies. The estimated number was 3000 salmon in 2006, equivalent to approx. 15 t.

This estimate is the same as in previous years. Except for the trolling fishery, it is not possible to give any kind of estimates for other sorts of non-professional salmon fishery.

Estonia: Estonian drift net and long line salmon catch was only 0.3 ton in 2006. In coastal zone the catch was approximately 6 ton, being taken by both professional and recreational fishermen. The total catch was approximately the same as in 2005.

Finland: In 2006 Finnish fishermen caught 78,566 salmon (437 t) from the Baltic Sea, which was about 36,502 salmon (178 t) less than in year 2005 and one of the lowest catches in years 1972-2006. Commercial catch was 53,626 salmon (307 t) and recreational catch including river catches was 24,940 salmon (130t). About 35 % (29,850 salmon, 162 t) of the commercial catch was landed to the Swedish (60%) and Danish harbours. Catch data from year 2006 are provisional. The estimates of recreational salmon catches in sea for years 2004-2006 are based on the results of National survey 2004. The sea catch was assumed being the same in all years 2004-2006, which may overestimate the catches of 2005 and particularly 2006. The river catches has been estimated by the annual surveys, interviews and voluntary riverside catch statistics.

Latvia: In 2006 the total catch was only 3195 salmon in the offshore and coastal fisheries. Offshore catches were 1705 salmon (8.5t), in coastal fishery only 1490 (5.2t) salmon were landed. Total salmon catches were less than 20 % of average catches in the last decade.

In broodstock fisheries 360 (approx.2.8 t) salmon were caught in the rivers Daugava and Venta. This data is included in inland fisheries catch statistics.

Angling results in the rivers Salaca and Venta estimated to be 150 salmon kelts.

Lithuania: In 2006 Lithuanian fishermen caught 488 salmon (1.862 t), which is a little less than last year. The major part of the catch was in the coastal fishery where 326 (1.2 t) and 137 (0.6 t) salmon were caught in Curonian lagoon. In addition, for scientific purposes 11 salmon were caught in Curonian lagoon, during the migration period. 5 salmon were caught in the River Neris for artificial rearing.

Poland: The total catch was 22,207 salmon. Overall offshore and coastal catch was 21,324 salmon (106.8 t) and it was 3% less than of the previous year volume. This is partly caused by decommissioning of some vessels as a part of CFP.

The reported river catch of 883 fish (5.5 t) originated mostly from Vistula River and Pomeranian rivers and was lower than in 2005. Most of salmon catch in rivers was broodstock fishery.

Russia: In the commercial fishery (in subdiv. 26) in 2006 2.7 tons (552 ind.) were caught.

121 salmons were caught as a by-catch in the Gulf of Finland. 329 spawners were caught in the rivers during brood stock fishing: 98 spawners were caught in the Narova River, 206 spawners in the Neva River, 25 spawners in the Luga River.

Almost all spawners caught in the rivers were reared. The main part of spawners caught in the Luga river was of the reared origin, because the brood stock fishing has been during the autumn only. About 22 % of the spawners caught in the Narova River originated from Estonian releases.

No recreational fishery occurs in the coastal area and rivers.

Sweden: The Swedish salmon catch in year 2006, 497 tonnes, was 33 % lower than that in 2005, 719 tonnes. Catches in all fisheries, river, coastal and offshore, decreased quite uniformly. The catch in 2006 was 23 % lower than the 5-year average 2001-05. The offshore catch in the Main Basin (Subdivs 22-29) decreased from 314 tonnes in 2005 to 220 tonnes in 2006, a decrease of 30 %. In 2006 there was a recorded offshore catch in the Gulf of Bothnia (Subdivs 30-31) of 6 tonnes and a coastal catch of 195 tonnes, a decrease of 28 % since 2005. The coastal catch in the Main Basin was estimated to be 3 tonnes. River catches decreased from 126 tonnes in 2005 to 73 tonnes in 2006.

The offshore catch constituted 48 % of the total catch in numbers, the coastal catch about 36 % and the river catch about 16 %. This may be compared to 47, 39 and 15 % in 2005. In two rivers commercial catches of salmon with trapnets occur inside the freshwater border and they made up 16 tonnes of 3141 fish in 2006, a lower proportion than in 2005. River catches are not included in the Swedish TAC.

2.2 Distribution of catches by countries in comparison with the TAC

Until 1992 the TAC was given in tonnes, but from 1993 the TAC was given in numbers. The landings in numbers compared to TAC by fishing nations and by areas in 1993-2006 are given in Table 2.2.1. Catches of salmon in % of TAC is presented in Figure 2.2.1.

In 2006 45 % of the TAC in sub-division 22-31 was utilised. (total TAC 460,000 individuals). In the Gulf of Finland 89 % of the TAC of 17,000 individuals was utilised. It should be noted, that there is occasionally some exchange of TAC between countries, which may result in exceeded TAC's.

The total TAC for salmon was allocated to countries and utilized in the following manner:

Contracting party	Subdiv 22-31			Subdiv 32		
	Quota	Catch	Utilized %	Quota	Catch	Utilized %
Denmark	93512	33723	36.1			
Estonia	9504	291	3.1	1581	865	54.7
Finland	116603	60028	51.5	13838	14198	102.6
Germany	10404	3680	35.4			
Latvia	59478	3195	5.4			
Lithuania	6992	483	6.9			
Poland	28368	21324	75.2			
Russia	8740	552	6.3	1581	121	7.7
Sweden	126400	81915	64.8			
Total	460000	205191	44.6	17000	15184	89.3

The major part of the salmon catch in the Baltic Sea was caught by professional fishermen with drift nets or long lines in the offshore areas, or by trap- and gillnets in the coastal areas. The catches in the recreational fishery using commercial gear-types are for self-consumption. These catches are usually not reported through the official channels and therefore the figures have to be estimated. Table 2.1.6 gives an estimate of the magnitude of this fishery and it appears from the table that non-commercial fisheries constitute a considerable part of the total catch of salmon. In 2006 these catches constitute 21% of the total reported salmon catch (13% in 2004).

The proportion of the total catch by different tackles (including sports fishery) for the period 2001 – 2006 is presented in figure 2.2.2. Even with the limitations on the number of drift nets being enforced in recent years the proportion of the total catch by drift net in 2006 was still approx. 25 %. During the period the proportion of the catch in trap nets has gradually increased and in 2006 it was close to 29 %.

2.3 Discards, misreporting and unreporting of catches

In general, data on discards, misreporting and unreporting of salmon from different fisheries in the Baltic Sea are incomplete and fragmentary. An adjustment factor based on the experts' opinion of the unreported discarded catches has therefore been developed. This conversion factor has been applied to obtain probabilistic estimates for the total number of salmon caught, including discarded catches. The magnitude of the present unofficial salmon catch is presumed to vary between regions and to account for 15-40% of the total salmon catch (Tables 2.1.1 and 2.1.2).

As main reasons for salmon discard in the Baltic fisheries are the seal damages and bycatch of undersized young salmon in different fisheries. Salmon discard due to seal damages occurs only in the Northern part of Baltic Sea, i.e. in the main distribution area of the grey seal Gulf of Riga, Gulf of Finland and Gulf of Bothnia. Bycatch of undersized young salmon occurs in all the Baltic Sea and in different types of fisheries. With the reduced catches bycatch of undersized salmon is also reduced.

Misreporting of catches probably occurs in all different types of fisheries, fisheries zones and countries. In fact this phenomenon displays in many forms. Catch in the traditional small scale fishery as traditional direct selling fish from the boat, self- consuming of salmon or discard of dead fish without catch report, etc. There is no data on larger scale misreporting of catches. As the TAC is not fully utilised in any country, misreporting due to catch restrictions is likely to be low.

However, inexplicable inadequacies of basic data exist: i.e. significant differences of tagged fish recapture compared to total catch of salmon by country, significant differences in catch

composition in same fisheries by different countries (proportion of sea trout and salmon in same fisheries and sub-div.).

Denmark has not any longer information from which it is possible to estimate trustworthy discard percentages. As the quota for salmon only are utilized by less than 1/3 in 2006, it is very unlikely that there are any unreported catches in the Danish salmon fishery. The by-catch of salmon in other fisheries is believed to be at a quite low level.

Poland

A number of young salmon (30-40 cm) can be caught sometimes in bottom and pelagic trawling as was documented during research cruises of r/v BALTICA. Feeding salmon (up to 2-4 fish per trawling) is also caught as a by-catch in pelagic trawling targeted for sprat and herring and most frequently this is not recorded in logbook.

The coastal spring gillnet herring fishery frequently catches a number of smolts especially tagged ones.

According to the EU/National Data Collection Programme a by-catch and discards surveys in salmon fishery should be conducted every 3 years and there are 5 cruises planned for 2007, however, based on results of two such cruises made in spring 2007 with use of driftnets, amount of discards was very low: 1-2 undersized salmon discarded per cruise.

Similar observations came also from cruises, which were conducted with observers on board as a part of activity under Regulation EC 812/2004 on reporting the presence of cetaceans in salmon drift nets.

Some amount of salmon caught in costal fishery was not reported as it is used for home consumption or sold from the boat.

Reporting salmon as a sea trout or rainbow trout creates additional source of unreported salmon. Based on data from fish inspections conducted at sea in 2006 the total number of unreported salmon was 47%. Adding together all sources of unreported and discarded salmon the overall amount of unreported salmon can achieve 50% of reported catch annually.

In **Latvia** a small number of fishermen reported the number of salmon damaged by the seals. The total estimation of catch losses are impossible due to bad quality of salmon catch statistics in the 2005 and 2006.

In 2005 the ban of landing and selling of Baltic salmon was establish in Latvia. As result the large part of salmon landed in coastal fisheries was not declared or declared as other fish species.

In **Sweden** the total percentage of the salmon catch in trap nets that is discarded due to damage by seals is estimated to be about 15% and this leads to an estimated discard in 2006 of 35 tonnes or 6192 salmon.

The amount of sea trout is very sensitive to misreporting by salmon and at least in the late 1990s there was a feeling that salmon was reported as sea trout to allow higher salmon catches within the allowed catch quota. However, in recent years it is believed that this is a minor problem.

In **Estonia** The seal damages are problem in salmon and sea trout gill net fishery. From unofficial information from fishermen it seems that damages are increasing from year to year. Quantitative assessment of damages is not available as fishermen in most cases did not present claims for gear compensation.

In **Lithuania** and **Russia** discard, misreporting and unreporting information from the fishery was not available. In Russia unofficial information indicates significant poaching.

In **Finland** discards of seal damaged salmon were 5,513 fish (30 t) in sub-divisions 22-31. Seal damages took place mainly in sub-divisions 29-31 comprising 17% of total commercial catch in the area. In Gulf of Finland (sub-div 32) discards of the seal damaged salmon were 2598 fish, being 19 % of the total commercial catch in the area.

2.4 Fishing Effort

The total fishing effort by drifting gear in the offshore fishery in the Main Basin since 1987 is presented in Table 2.4.1. which includes Baltic salmon at sea, at the coast and in the river in 1987-2006 in subdivision 22-31, excluding Gulf of Finland. The fishing efforts are expressed in number of gear-days (number of fishing days times the number of gear) and are reported per half year (HYR). The coastal fishing effort on stocks of assessment area 1 (Chapter 5) refers to the total Finnish coastal fishing effort. The coastal fishing effort on stocks in assessment area 2 refers to the Finnish coastal fishing effort in area 3 and the Swedish coastal fishing effort in area 2. The coastal fishing effort on stocks of area 3 refers to the Finnish and Swedish coastal fishing effort in area 3. Because sea trout in Poland are fished with the same gear type as salmon, effort for previous years from the Polish fishery targeting sea trout was included in the table. However, during calculation of the effort some data appear to have been entered two times and the magnitude of the effort can be expected to be revised in next years report, since it was not possible to correct the entries for this report. It is, however, certain that compared to previous years reports the effort will be slightly higher back in time (Figure 2.4.1 and Table 2.4.1).

An overview of the number of fishing vessels engaged in the offshore fishery for salmon during the last 8 years period is presented in Table 2.4.2. Data are missing from Lithuania and Russia, but as the catches by these countries are small, it seems unlikely that their boats have been engaged more than occasionally in salmon fishery. Germany has no fishery targeting salmon directly, and is only catching salmon as a by-catch in other fisheries.

In 2006 98 vessels were engaged in the offshore fishery and this was a further decrease compared to the level in 2005 (175 vessels). In 2006 55 vessels fished less than 20 days and only 23 vessels were fishing more than 40 days.

There is no major change in the effort in the drift net fishery in the Main Basin since mid 1990's (Tables 2.4.1 and 2.4.2.).

The introduction of national fishing zones in the 1980s and the adoption of a TAC in the 1990s combined with low market prices affected the fishing effort. In recent years effort is restricted by limitation in the number of nets used in the fishery and rules for dioxin contents (Chapter 4.3.1).

2.5 Catch Per Unit Effort

In the same way as biological sampling of salmon, the EU member states fisheries data collection programmes includes CPUE data.

The seasonal average CPUE's information was collected since 1980/1981 for Danish, Finnish, Latvian and Swedish fisheries in various combinations of sub- divisions in the Main Basin, the Gulf of Bothnia and the Gulf of Finland. CPUE values are presented in Table 2.5.1.

From the year 2000 all the information available on CPUE is obtainable from the WGBAST salmon Catch Database.

Available information on CPUE for countries, fisheries and sub-div is presented in the table below.

COUNTRY	SUB- DIV	OFFSHORE FISHERIES, GEAR		COASTAL FISHERIES, GEAR		PERIOD FROM
		LL	DN	GN/DN	TN	
Denmark	22- 25;26-29	X	X			1983
Estonia	28- 29; 32		X			80- 88
Finland	22- 31; 32	X	X		X*	1980
Latvia	26, 28		X		X*	1980
Poland	26	X	X	X		2000
Russia	26		X			2000
Sweden	22- 29	X	X			1985

*- data series from 2000, LL: Longlines, DN: Driftnets, GN: Gillnets, TN: Traps

The CPUE is presented as number of salmon per 100 nets (drift net), number of salmon per 1000 hooks (longline) and number of salmon per trapnet day in coastal fisheries.

From the fishing season 1983/1984 and onwards, the CPUE in the drift net fishery has increased significantly compared to preceding years, however with somewhat lower levels in the mid 1990'ies. In 2006 (as also in 2005) the CPUE in both drift net and long-line fishery decreased substantially in the Main Basin, especially in the Danish, Finnish and Swedish fishery.

In the Gulf of Bothnia the CPUE was close to the levels from 2004. In the Gulf of Finland the CPUE increased in the trapnet constituting by far the larger part of the fishery in this area.

2.6 Description of basic collection of catch data

The countries participating in the salmon fishery in the Baltic are asked to deliver data on catch of salmon and sea trout, area for catch (economical zone, ICES Sub-division), type of fishery (offshore, coastal, river, commercial, recreational), information on discard, unreported catch and seal damage. Furthermore the catch effort and CPUE in weight and number of catch in different gears (driftnet, longline, trapnet, angling or other). The effort in terms of number of days each gear was deployed is also asked for. The composition of the information provided by the countries in 2006 is summarised in the table below, containing catch in numbers.

Logbooks provide only preliminary information taken on board the vessels, where real count and weight estimates are normally difficult to obtain. The catch statistics in different countries are obtained by combination of data included in logbooks, landing declarations, first sales notes and fisheries companies catch reports.

From 2005 EU type logbooks were implemented in new member states Latvia, Estonia, Poland and Lithuania.

The catch statistics provided for ICES WGBAST are mainly based on log books and/or sales notes. Recreational catches are mainly estimated by questionnaires or special issues. In total, direct information on catch represented approximately 56 % of total catch. Extrapolated and estimated catch (partly based on solid information) provides information given below on approx. 44 % of the total catch. The table below provides an overview of the origin of the information.

Fishery type	Logbook ¹	Extrapolated	Estimated	Guestimated	Total	%
Commercial	132644	55727			188371	75.4
Discard	343				343	0.1
Recreational		8658	41268	3000	52926	21.2
Seal Damage	8111				8111	3.2
	141098	64385	41268	3000	249751	100
%	56.5	25.8	16.5	1.2	100	

1) includes all fisheries documentation, sales notes, logbooks, and landing declarations.

Catch tables are constructed by extracts from the resulting database. Because of a delay in the delivery of data from some countries, part of the information is preliminary. These data must be corrected the following year.

Effort data are shown in Table 2.4.1. The effort data are calculated separately for 3 different stock assessment management areas (see chapter 5). Basic data for these calculations are found in the catch database, but needs to be divided into the three stock assessment areas before calculations are made. From the year 1981 Table 2.1.1 and from 1993 Table 2.1.2 show estimated discard and unreported catches.

Collection of catch statistics by country

Denmark: The catch statistics are based on official landing reports and logbooks, combined with additional information from logbooks, e.g. type of gear for all catches, and effort for 70% of the catches, collected in a database at the Danish Institute for Fisheries Research (DIFRES) and from this the total catches are estimated. The estimates of recreational catches are calculated from information from sports fishermen, information from the ferry company servicing Bornholm, and from boat rental companies and are believed to be rather close to the true value.

Estonia: The catch statistics are based on logbooks from the offshore and coastal fisheries. Data on river catches are from brood stock fishery.

Finland: Catch statistics in the commercial fishery has been collected in logbooks from the offshore and coastal fishery. Catch statistics of the commercial salmon fishery for 2006 are preliminary.

To obtain more accurate estimates on catches in rivers Tornionjoki, Simojoki and Kiiminkijoki, extensive inquiries are conducted every year among fishermen who have bought a fishing licence. Catches of the recreational salmon fishing from year 2004 were updated based on the Finnish survey of the recreational fishing 2004.

Germany: All commercial catches of salmon and sea trout are caught as by-catches in the trawl, trap net or gillnet fishery. Only commercial catches are available.

Latvia: The Latvian salmon landing statistics are based on the logbooks and landing declarations from the offshore and logbooks from coastal and inland fisheries.

Logbook data from coastal and inland fisheries were collected by local Boards of State Environment Service to LatFRA for summarization and storing. These databases are used as official catch statistics data.

Lithuania: Catch statistics are based on logbook data. All data storing and processing are provided by the Fisheries department of Ministry of Agriculture.

Poland: Commercial offshore and coastal catch statistics are based on logbooks of vessels over 10m and on monthly reports of vessels smaller than 10 m. All data are sent through Regional Fisheries Inspectorates to the database, which is run by the Ministry of Agriculture

and Rural Development in Warsaw and is linked to VMS centre, located in Gdynia. Catch data from rivers is provided by Polish Anglers Union.

Russia: The catch statistics are based on landing reports, logbooks and direct observation from the offshore and coastal commercial fisheries and broodstock fisheries in the rivers. Catches could be grossly underestimated.

Sweden: Swedish catch statistics are based on logbooks of licensed fishermen in coastal and offshore fisheries. Catches by non-licensed fishermen in coastal areas are estimated from the total number of gears in each coastal region and the catch in the licensed fishery in the area.

On the basis of different kinds of circumstantial data, angling and trolling in the coastal and offshore areas are believed to be of small, but increasing, magnitude. Estimates of the trolling catch is based on a survey carried out in the Main Basin in 2003. Catch statistics are collected for all Swedish salmon rivers, but the quality depends on local conditions, size of the river and on how the river fishery is organised.

Biological sampling from the catch of salmon

All EU-member states must follow the EU-minimum sampling programme as specified by EC 1639/2001 chapter H: Biological sampling of catches: composition by age and by length and chapter I: Other biological sampling. The precision level for this programme is 1 sample of 50 fishes per 100 tonnes of fish. New member states initiated national programmes from 2005.

Since the numbers specified in the EU programme is very limited many states exceed this programme.

Available details on the sampling programme are summarized in the table below, while country specific exceptions and additions to the programme are listed for each country below.

Overview of samples collected for biological sampling.

Country	TIME PERIOD / month number	Fisheries	Gear	Number of sampled fish by subdivision					
				22-28	29	30	31	32	Total
Latvia	1-6,	Offshore	DN	251					251
Latvia	6-11	Coast	Trapnet	478					478
Lithuania	Autumn	Coast	Na	68					68
Finland	6-7	River					216		216
Finland	5-8	Coast	DN		125				125
Finland	5-8	Coast	Trapnet		11	458	592	264	1325
Finland	1-4, 9-12	Offshore	LL	75					75
Denmark	9-12	Offshore	DN	115					115
Poland	1-12	Offshore	DN	205					205
Sweden	1-2	Offshore	LL	273					273
Sweden	5	Offshore	DN	63					63
Sweden	7-8	Coast	TN				521		521
Sweden	10	Offshore	DN	268					268
Sweden	11	Offshore	LL	139					139
Estonia	1-12	Coastal	GN					108	108
Russia	9-10	River	TN					299	299
Germany ¹									
Total				1945	136	458	1329	671	4539

1) no sampling.

Estonia: Starting in 2005 Estonia follows the EU sampling programme. Sampling takes place occasionally, carried out by fishermen with about 100 salmon per year from the coastal fishery. In addition 120 – 200 salmon have been sampled annually in the river brood-stock fishery for some years.

Denmark: The Danish biological sampling programme was carried out in accordance with the minimum programme in EC 1639/2001 chapter H: Biological sampling of catches: composition by age and by length and chapter I: Other biological sampling. As the sampling effort stated in this regulation is very limited, Danish samples are collected three times in the winter/spring period, and three times in the autumn/winter period. When it is possible 10-30 salmon samples are collected per size class, for size classes +11 kilo, 9-11 kilo, 7-9 kilo, 5-7 kilo, 4-5 kilo and 3,5-4 kilo per sampling. Length, age and weight were collected. From these samples the length, age and weight composition were estimated for each fishing period, based on the total catches extracted from the official landings database. As Danish samplings before 2003 were only intended for estimation of age of the salmon population in the Main Basin, there has been made no sampling of length and weight per individual before 2003. The smaller sizes groups of salmon have not been collected as the age composition of these smaller salmon are known already from previous results.

The relevant geographic area is the Baltic Sea, i.e. ICES sub-areas IIIb, c and d. Danish salmon fishery takes place in ICES SD 24-28 and it includes only offshore fisheries. The precision level is 1 sample of 50 fishes per 100 tonnes of fish and the samples taken exceed this with a factor of close to 2. As salmon from the offshore fishery is already gutted when landed, sex and gonadal maturity by age are not available from offshore samples taken in ports. As a very large part of the international salmon landings from the open sea fishery in the Baltic takes place at only one company at Bornholm in Denmark, the DIFRES has continued collection of scale samples from Swedish and Finish landings at Bornholm, at a high level. These samples are forwarded to Sweden and Finland and are age determined in the respective countries. In 2003 DIFRES in Charlottenlund, and the Swedish National Board of Fisheries laboratory in Karlskrona, started a cooperation to coordinate the market sampling methods. From 2003 all Danish catch and biological data are provided in data base format at a monthly basis.

Latvia: The biological sampling of salmon is divided by two main types of fisheries: offshore and coastal. Sampling from offshore fisheries is carried out only in the first half of the year from January till May. In coastal fisheries salmon biological sampling is carried out from June till November in two coastal locations: near the rivers Daugava (reared population) and Salaca (wild population) outlets.

From 2005 salmon sampling is included in the Latvian National Fisheries sampling programme. Number of sampled fish exceeds EU sampling standards for salmon because more intensive sampling is important for salmon management and fisheries regulation.

Finland:

In 2006 catch sampling brought in 3362 salmon scale samples from the Finnish commercial salmon fisheries. The samples represented fisheries in terms of time and space. The whole pool of samples was resampled by stratifying according to appeared catches. The final amount of analysed samples was optimally adjusted to meet the quality criteria of DCR. Finally the following (see text table above) numbers of samples were analysed by scale reading and part of these (about 1600) also by DNA micro satellite techniques. Part of these samples were collected and analysed by the national funding.

Germany: There is no information available on biological sampling in Germany.

Poland: Sampling was conducted on landed fish from off-shore fishery and in some cases on fish caught during pelagic trawling for sprat. The weight presented is a gutted weight. According to DCR total number of sampled fish should be 100 for the whole Polish salmon fishery, but in fact 205 fish was sampled for age, length and weight. Age was determined by scale reading. Due to logistic problems data collection was conducted mainly in ICES sub-area 26 and covered only driftnet fishery. Sub-sample of salmon scales was sent to RKTL, Helsinki for genetic investigations.

Russia: There is no biological sampling programme in Russia. However fish collected in the river broodstock fishery are aged and lengths and weights are recorded.

Sweden: Salmon were sampled in accordance with the EU minimum programme. It also followed the Swedish National Programme for collection of fisheries data from 2003. The relevant geographic area is the ICES sub-areas IIIb, c and d. Swedish salmon fishery takes place in ICES SD 23-31 and it includes river, coastal and offshore fisheries. The samples taken exceed the required precision level.

The offshore fishery takes place mainly in the 1st, 2nd and 4th quarters of the year. Sampling covered all the different fisheries types and was carried out by screening of salmon landings in weight classes in ports in south Sweden. As a part of the Swedish catch is landed at Bornholm in Denmark sampling was also carried out there in cooperation with DIFRES.

The coastal trapnet salmon fishery covers several quarters. Samples were taken by the fishermen at two different locations in the Gulf of Bothnia (ICES SD 30-31); Skellefteå and outside Nordmaling, and by the Board of Fisheries in the archipelago of Haparanda. All data are stored in a database at the Institute of Freshwater Research.

As salmon from the offshore fishery is already gutted when landed, sex and gonadal maturity by age are not available from offshore samples taken in ports. In addition to sampling in ports some sampling is carried out on board commercial vessels. Sexing of fish is carried out in a proper manner by some coastal fishermen. At the same time when ageing of fish takes place by scale reading, it is also determined if the fish is of wild or reared origin. As a preparation of studies on stock proportions in the fishery, genetic samples were taken both in the offshore and coastal fishery.

Lithuania From 2005 sampling will follow the EU Minimum programme.

2.7 Age Composition and Mean Weight of the Catches

Since 2004 - 2005 all EU Baltic sea countries follow the Fisheries data collection programme including the salmon catch age, length and weight composition. The national data collection programmes mostly include different fisheries regions (offshore, coastal, river), different fisheries (commercial, angling, broodstock), different origin (wild, reared) fish. Only Russia provides data collection according to state research programme.

The number of sampled and analysed fish varies between countries; mostly the national sampling programmes exceed the precision requirements of EC 1639/2001. Annually at least 3 - 4 thousand salmon are sampled from different fisheries.

Data on age, length, weight composition of salmon catches are available from year indicated and onward:

COUNTRY	FISHERIES	PARAMETERS			
		Lenght	Weight	Age	Sex
Denmark	Offshore	2002	1973	1973	-
Estonia	Coastal	2005	2005	2005	2005
Finland	Offshore	1986	1986	1986	
	Coastal	1986	1986	1986	
	River	1974	1974	1974	1974
Latvia	Offshore	1974	1974	1974	-
	Coastal	1978	1978	1978	1978
Lithuania					
Russia	River				
Sweden	Offshore	2002	2002	2002	2006
	Coastal	1990	1990	1990	1990
	River	1991	1991	1991	1991
Poland	Offshore	2003	2003	2003	2003

There are some problems in comparing the previous year's data by the differently stated salmon birthday. For this reason there will be a significant shift between age readings, so the data should be recalculated concerning one date of the annual year.

2.8 Proportion of wild salmon in genetic studies and scale readings of catch samples

Proportions of individual salmon stocks were assessed by DNA analysis and scale reading in the Gulf of Bothnia and Main Basin salmon catch samples in 2006. The results of the Gulf of Bothnian samples has been grouped to seven stock groups with have been seen important from a management point of view (Table 2.8.1.) . The results of the DNA microsatelite analysis of the Main Basin samples did not become ready for the group and they will be reported in the next year's WGBAST report. The proportion of individual stocks in one of the Gulf of Bothnian catch samples (pooled Finnish and Swedish in Bothnian Bay) are presented in Table 2.8.2. To illustrate changes in proportions over time in the Gulf of Bothnia, proportion estimates are presented in Figure 2.8.1.

The scale reading results of the Swedish, Latvian and Finnish catch samples are presented in the Table 2.8.3. and also partly in 2.8.1. These results suggest also significant proportions of wild salmon in the catches in the Main Basin and Gulf of Bothnia. In the Gulf of Finland the proportion of wild salmon was low.

Gulf of Bothnia – Baltic Main Basin system.

DNA information of the baseline database including 33 salmon stocks has been used together with a Bayesian estimation method to assess stock proportions. Part of the baseline data was updated in 2006 for more recent samples and information of 17 gene loci was used. For some of the baseline stocks only 8 loci was used. New samples from Swedish hatchery stocks are currently under analysis and will be used to update the catch composition estimates in the next years report. No new baseline samples were available from other stocks. According to the new sampling scheme, catch samples were in 2006 were taken from both the Finnish and Swedish side of the Bothnian Bay and also from the Baltic Main Basin.

In the Gulf of Bothnia the results indicated the proportion of wild fish to be rising until 2003 in all areas and rising further again in 2006. The proportion of wild salmon assigned by scale reading in general follows the same trend as found by genetic analysis but on a somewhat lower level (i.e. scale reading may underestimate or genetic analysis may overestimate the number of wild salmon).

In the Gulf of Finland, the clearly largest contribution (85%) was still made by locally released Neva salmon, a stock that is released by Estonia, Finland and Russia. In year 2006 the proportion of stock originating from the Gulf of Bothnian was even decreased from the level of some earlier years. The Estonian and Russian wild stocks were not recorded in these catches from the eastern part of the Gulf of Finland.

2.9 Description of gears used in salmon fisheries

A description of the gears used in the different fisheries is found in Anon. (2003). This report includes extensive descriptions of presently used gears in Sweden, Finland, Estonia, Latvia, Poland and Denmark, as well as historical gear development in the Baltic Salmon fisheries

Major gears used in the offshore fishery are driftnets and longlines. In the coastal fishery trap nets and anchored floating gillnets are more commonly used. Some regional differences and development of the gear used was also described in Anon. (2003). In the offshore fisheries some of the Finnish and Polish fishermen in the 1980'ies started to use deeper driftnets with total depth of 10 - 15m in comparison with traditional driftnets (6.4 m). In the Gulf of Bothnia and Gulf of Finland, trap net fisheries has been developed using new netting-material that the seal cannot bite through as well as fixed fences at the entrance of the traps preventing the seal from entering the traps has been developed. In Sweden a new type of trap has been developed in recent years, the so called 'push-up trap', with fixed walls that protect the catch from seals.

With continued and increasing problems from seal predating on salmon captured in fishing gear, the use of traps that protect the salmon from seal predation was raised in 2004 compared to previous years. In Sweden the number of seal-safe traps has continued to increase. An inventory of the number of both traditional and seal-safe traps will be carried out in 2007. In Finland the government has been giving support to coastal fishermen to change from traditional traps to seal-safe traps. In 2006 the number of these traps in operation in Finland was more than 100.

On the whole, with development of seal- safe fisheries and gear, the quantity of discarded seal damaged salmon in the northern Baltic have decreased slightly in spite of the increasing number of seals.

However, the new type of gears resolves a seal problem only partially. In fact, seals residing in the traditional fishing areas are likely to scare off salmon. It is practically impossible to protect the traditional types of salmon fisheries (anchored floating gill nets and drift nets in coastal waters). Also seal-safe trap nets are only partially safe, as seals attack the salmon while the fish enters the gear.

Table 2.1.1 Nominal catches, discards (incl. seal damaged salmon) and unreported catches of Baltic Salmon in tonnes round fresh weight, from sea, coast and river by country in 1972-2006 in sub-division 22-32. (mode = most likely value, 95% PI = probability interval)

Year	Reported catches by country										Reported catches total	Discard		Unreported catches		Total catches	
	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Russia	Sweden	USSR		mode	95% PI	mode	95% PI	mode	95% PI
1972	1045	na	403	117	na	na	13	na	477	107	2162	na	na	na	na	na	
1973	1119	na	516	107	na	na	17	na	723	122	2604	na	na	na	na	na	
1974	1224	na	703	52	na	na	20	na	756	176	2931	na	na	na	na	na	
1975	1210	na	697	67	na	na	10	na	787	237	3008	na	na	na	na	na	
1976	1410	na	688	58	na	na	7	na	665	221	3049	na	na	na	na	na	
1977	1011	na	699	77	na	na	6	na	669	177	2639	na	na	na	na	na	
1978	810	na	532	22	na	na	4	na	524	144	2036	na	na	na	na	na	
1979	854	na	558	31	na	na	4	na	491	200	2138	na	na	na	na	na	
1980	886	na	668	40	na	na	22	na	556	326	2498	na	na	na	na	na	
1981	844	25	663	43	184	36	45	61	705		2606	319	193-498	456	144-1101	3470	3051-4056
1982	604	50	543	20	174	30	38	57	542		2058	246	148-386	352	110-864	2727	2401-3192
1983	697	58	645	25	286	33	76	93	544		2457	302	182-471	430	135-1040	3273	2877-3825
1984	1145	97	1073	32	364	43	72	88	745		3659	428	256-678	616	192-1533	4829	4253-5659
1985	1345	91	963	30	324	41	162	84	999		4039	457	271-736	655	193-1693	5297	4661-6227
1986	848	76	1000	41	409	57	137	74	966		3608	437	264-685	624	197-1519	4792	4216-5608
1987	955	92	1051	26	395	62	267	104	1043		3995	463	278-736	656	198-1673	5256	4626-6171
1988	778	79	797	41	346	48	93	89	906		3177	381	229-600	555	178-1339	4222	3714-4935
1989	850	103	1166	52	523	70	80	141	1416		4401	542	327-847	780	246-1866	5877	5157-6856
1990	729	93	2294	36	607	66	195	148	1468		5636	801	481-1245	1098	324-2512	7737	6718-9062
1991	625	86	2171	28	481	62	77	177	1096		4803	654	382-1039	937	278-2139	6565	5699-7694
1992	645	32	2121	27	278	20	170	66	1189		4548	640	356-1046	912	254-2149	6284	5401-7456
1993 1)	575	32	1626	31	256	15	191	90	1134		3966	560	338-864	771	235-1753	5436	4729-6358
1994	737	10	1209	10	130	5	184	45	851		3181	410	248-637	594	189-1365	4292	3755-5005
1995	556	9	1324	19	139	2	133	63	795		3040	422	254-654	594	187-1339	4161	3625-4861
1996	525	9	1316	12	150	14	125	47	940		3138	475	282-738	640	200-1457	4371	3785-5146
1997	489	10	1357	38	170	5	110	27	824		3030	450	260-716	631	196-1441	4232	3653-5007
1998	495	8	850	42	125	5	118	36	815		2494	353	214-541	501	168-1102	3433	2996-4002
1999	395	14	720	29	166	6	135	25	672		2162	319	191-494	440	142-987	3001	2606-3518
2000	421	23	757	44	149	5	144	27	771		2342	242	135-391	466	159-1022	3127	2728-3642
2001	443	16	606	39	136	4	180	37	616		2076	311	189-476	423	137-945	2884	2506-3379
2002	334	16	509	29	108	11	197	66	572		1841	290	177-442	377	120-851	2577	2233-3029
2003	454	10	410	29	47	3	198	22	454		1627	251	159-373	327	109-719	2257	1973-2625
2004	370	7	654	35	34	2	88	16	879		2086	326	190-511	430	126-1007	2927	2519-3476
2005	214	7	616	25	23	3	114	15	719		1736	264	152-418	360	108-834	2410	2074-2861
2006	178	7	437	19	14	2	117	5	497		1275	210	121-331	268	73-639	1788	1532-2135

All data from 1972-1994 includes sub-divisions 24-32, while it is more uncertain in which years sub-divisions 22-23 are included. The catches in sub-divisions 22-23 are normally less than one ton. From 1995 data includes sub-divisions 22-32.

Catches from the recreational fishery are included in reported catches as follows: Finland from 1980, Sweden from 1988, Denmark from 1998. Other countries have no, or very low recreational catches.

Danish, Finnish, German, Polish and Swedish catches are converted from gutted to round fresh weight w by multiplying by 1.1.

Estonian, Latvian, Lithuanian and Russian catches before 1981 are summarized as USSR catches.

Estonian, Latvian, Lithuanian and Russian catches are reported as whole fresh weight.

Sea trout are included in the sea catches in the order of 3 % for Denmark (before 1983), 3% for Estonia, Germany, Latvia, Lithuania, Russia, and about 5% for Poland (before 1997).

Estimated non-reported coastal catches in Sub-division 25 has from 1993 been included in the Swedish statistics.

Danish coast catches are non-professional trolling catches.

1. In 1993 fishermen from the Faroe Islands caught 16 tonnes, which are included in total Danish catches.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.1.2 Nominal catches, discards (incl. seal damaged salmon) and unreported catches of Baltic Salmon in numbers from sea, coast and river by country in 1993-2006. Sub-divisions 22-32. (mode = most likely value, 95% PI = probabilistic interval)

Year	Country									reported total	Discard		Unreported catches		Total catches	
	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Russia	Sweden		mode	95% PI	mode	95% PI	mode	95% PI
1993 1)	111840	5400	248790	6240	47410	2320	42530	9195	202390	676115	95452	57720-147400	131463	40170-298800	926661	806100-1084000
1994	139350	1200	208000	1890	27581	895	40817	5800	158871	584404	75239	45640-117100	109162	34860-250700	788429	689900-919500
1995	114906	1494	206856	4418	27080	468	29458	7209	161224	553113	76802	46270-119100	108085	34130-243600	757219	659500-884400
1996	105934	1187	266521	2400	29977	2544	27701	6980	206577	649821	98362	58600-152800	132560	41510-301600	905259	783800-1066000
1997	87746	2047	245945	6840	32128	879	24501	5121	147910	553117	82230	47550-130800	115158	35860-263100	772416	666800-914100
1998	92687	1629	154676	8379	21703	1069	26122	7237	166174	479676	67818	41240-104100	96346	32310-212000	660390	576300-769700
1999	75956	2817	129276	5805	33368	1298	27130	5340	139558	420548	62085	37240-96120	85673	27800-192100	583776	507000-684300
2000	84938	4485	144260	8810	33841	1460	28925	5562	165016	477297	71425	40060-115600	101028	30450-234700	669513	576600-796600
2001	90388	3285	115756	7717	29002	1205	35606	7392	149391	439742	67802	41330-103800	89932	29110-201700	613696	532500-719900
2002	76122	3247	104641	5762	21808	3351	39374	13230	138255	405790	65383	40100-99620	83499	26570-188700	569853	493300-670500
2003 2)	108845	2055	99149	5766	11339	1040	40870	4413	115347	388824	61752	39160-91820	78574	26060-173300	542344	473400-631700
2004 2)	81425	1452	117505	7096	7700	704	17650	5480	192856	431868	67052.28	40210-103400	88987.85	26530-203400	604116.2	522800-711300
2005	42491	1412	115068	4998	5629	698	22896	3069	144584	340845	52560.61	30730-82560	72105.9	22100-164800	478594.7	413400-565700
2006	33723	1378	78566	3680	3195	488	22207	1002	97285	241524	38676.75	22710-60630	50406.28	14630-117800	336595.1	289600-399600

All data from 1993-1994, includes sub-divisions 24-32, while it is more uncertain in which years sub-divisions 22-23 are included.

The catches in sub-divisions 22-23 are normally less than one tonnes.

From 1995 data includes sub-divisions 22-32.

Catches from the recreational fishery are included in reported catches as follows: Finland from 1980, Sweden from 1988, Denmark from 1998.

Other countries have no, or very low recreational catches.

1) In 1993 Fishermen from the Faroe Islands caught 3200 individuals, which is included in the total Danish catches.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.1.3 Nominal catches of Baltic Salmon in tonnes round fresh weight, from sea, coast and river by country and region in 1972 - 2006. S=sea, C=coast, R=river.

Year	Main Basin (Sub-divisions 22-29)										
	Denmark	Finland	Germany	Poland	Sweden		USSR		Total		
	S	S+C	S	S	S	R	S	C+R	S	C+R	GT
1972	1034	122	117	13	277	0	0	107	1563	107	1670
1973	1107	190	107	17	407	3	0	122	1828	125	1953
1974	1224	282	52	20	403	3	21	155	2002	158	2160
1975	1112	211	67	10	352	3	43	194	1795	197	1992
1976	1372	181	58	7	332	2	84	123	2034	125	2159
1977	951	134	77	6	317	3	68	96	1553	99	1652
1978	810	191	22	4	252	2	90	48	1369	50	1419
1979	854	199	31	4	264	1	167	29	1519	30	1549
1980	886	305	40	22	325	1	303	16	1881	17	1898

Year	Main Basin (Sub-divisions 22-29)																								
	Denmark		Estonia		Finland			Germany	Latvia			Lithuania		Poland			Russia		Sweden			Total			
	S	C	S	C	S	C	R	S	S	C	R	S	C	S	C	R	S	C	S	C	R	S	C	R	GT
1981	844	*	23	0	310	18	0	43	167	17	0	36	na	45	na	na	56		401	0	1	1925	35	1	1961
1982	604	*	45	0	184	16	0	20	143	31	0	30	na	38	na	na	57		376	0	1	1497	47	1	1545
1983	697	*	55	0	134	18	0	25	181	105	0	33	na	76	na	na	93		370	0	2	1664	123	2	1789
1984	1145	*	92	0	208	29	0	32	275	89	0	43	na	72	na	na	81		549	0	4	2497	118	4	2619
1985	1345	*	87	0	280	26	0	30	234	90	0	41	na	162	na	na	64		842	0	5	3085	116	5	3206
1986	848	*	52	0	306	38	0	41	279	130	0	57	na	137	na	na	46		764	0	4	2530	168	4	2702
1987	955	*	82	0	446	40	0	26	327	68	0	62	na	267	na	na	81		887	0	4	3133	108	4	3245
1988	778	*	60	0	305	30	0	41	250	96	0	48	na	93	na	na	74		710	0	6	2359	126	6	2491
1989	850	*	67	0	365	35	0	52	392	131	0	70	na	80	na	na	104		1053	0	4	3033	166	4	3203
1990	729	*	68	0	467	46	1	36	419	188	0	66	na	195	na	na	109		949	0	9	3038	234	10	3282
1991	625	*	64	0	478	35	1	28	361	120	0	62	na	77	na	na	86		641	0	14	2422	155	15	2592
1992	645	*	19	4	354	25	1	27	204	74	0	20	na	170	na	na	37		694	0	7	2170	103	8	2281
1993	591	*	23	4	425	76	1	31	204	52	0	15	na	191	na	na	49		754	7	5	2283	139	6	2428
1994	737	*	2	4	372	80	1	10	97	33	0	5	na	184	na	na	29		574	11	8	2010	128	9	2147
1995	556	*	4	3	613	86	1	19	100	39	0	2	na	121	12	na	36		464	13	6	1915	153	7	2075
1996	525	*	2	4	306	53	1	12	97	53	0	14	na	124	1	na		35	551	8	5	1631	154	6	1791
1997	489	*	1	5	359	44	0	38	106	64	0	1	4	110	0	0	23	354	9	7	1458	149	7	1614	
1998	485	10	0	4	324	14	0	42	65	60	0	1	4	105	9	4	33	442	3	7	1464	137	11	1612	
1999	385	10	0	4	234	108	0	29	107	59	0	1	5	122	9	4	22	334	2	7	1212	219	11	1442	
2000	411	10	1	7	282	87	0	44	91	58	0	0	5	125	13	6	23	461	2	8	1439	182	14	1635	
2001	433	10	0	4	135	76	0	39	66	71	0	1	4	162	12	6	33	0	313	2	7	1181	178	13	1373
2002	319	15	0	6	154	59	0	29	47	61	0	1	9	178	9	10	64	0	228	2	6	1021	161	16	1198
2003	439	15	0	3	115	41	0	29	33	14	0	0	3	154	22	22	20	0	210	3	3	999	102	25	1126
2004	355	15	0	3	169	108	0	35	19	13	2	0	2	83		5	14	0	433	5	3	1108	146	11	1264
2005	199	15	0	1	188	92	0	25	15	8	0	0	2	104	5	5	12	0	314	5	2	857	129	8	993
2006	163	15	0	1	103	55	0	19	9	5	0	0	2	100	11	6	3	0	220	3	1	617	92	7	716

Table 2.1.3 Continued

Year	Gulf of Bothnia (Sub-divisions 30-31)											Main Basin+Gulf of Bothnia (Sub-divs. 22-31) Total		
	Denmark	Finland			Sweden			Total				S	C+R	GT
	S	S	S+C	C	S	C	R	S	C	R	GT			
1972	11	0	143	0	9	126	65	163	126	65	354	1726	298	2024
1973	12	0	191	0	13	166	134	216	166	134	516	2044	425	2469
1974	0	0	310	0	15	180	155	325	180	155	660	2327	493	2820
1975	98	0	412	0	33	272	127	543	272	127	942	2338	596	2934
1976	38	271	0	155	22	229	80	331	384	80	795	2365	589	2954
1977	60	348	0	142	49	240	60	457	382	60	899	2010	541	2551
1978	0	127	0	145	18	212	40	145	357	40	542	1514	447	1961
1979	0	172	0	121	20	171	35	192	292	35	519	1711	357	2068
1980	0	162	0	148	23	172	35	185	320	35	540	2066	372	2438

Year	Gulf of Bothnia (Sub-divisions 30-31)									Main Basin + Gulf of Bothnia (Sub-divisions 22-31) Total				
	Finland			Sweden			Total			S	C	R	GT	
	S	C	R	S	C	R	S	C	R					GT
1981	125	157	6	26	242	35	151	399	41	591	2076	434	42	2552
1982	131	111	3	0	135	30	131	246	33	410	1628	293	34	1955
1983	176	118	4	0	140	32	176	258	36	470	1840	381	38	2259
1984	401	178	5	0	140	52	401	318	57	776	2898	436	61	3395
1985	247	151	4	0	114	38	247	265	42	554	3332	381	47	3760
1986	124	176	5	11	146	41	135	322	46	503	2665	490	50	3205
1987	66	173	6	8	106	38	74	279	44	397	3207	387	48	3642
1988	74	146	6	1	141	48	75	287	54	416	2434	413	60	2907
1989	225	207	6	10	281	68	235	488	74	797	3268	654	78	4000
1990	597	680	14	12	395	103	609	1075	117	1801	3647	1309	127	5083
1991	580	523	14	1	350	90	581	873	104	1558	3003	1028	119	4150
1992	487	746	14	7	386	95	494	1132	109	1735	2664	1235	117	4016
1993	279	426	16	10	267	91	289	693	107	1089	2572	832	113	3517
1994	238	269	14	0	185	73	238	454	87	779	2248	582	96	2926
1995	66	302	20	0	214	97	66	516	117	699	1981	669	124	2774
1996	96	350	93	5	261	110	101	611	203	915	1732	765	209	2706
1997	44	360	110	1	295	158	45	655	268	968	1503	804	275	2582
1998	57	225	43	2	224	137	59	449	180	688	1523	586	191	2300
1999	17	175	23	1	195	133	18	370	156	544	1230	589	167	1986
2000	11	170	30	0	167	133	11	337	163	511	1450	519	177	2146
2001	9	218	26	1	175	117	10	393	143	546	1191	571	157	1919
2002	5	193	20	1	233	101	6	426	121	554	1027	588	137	1752
2003	1	167	25	2	164	73	3	331	98	432	1002	433	123	1558
2004	3	274	32	0	352	86	3	626	118	747	1111	772	129	2011
2005	6	204	37	1	275	123	7	479	160	645	863	608	167	1638
2006	1	167	17	6	195	71	7	362	88	457	624	454	95	1173

Table 2.1.3 Continued

Year	Gulf of Finland (Sub-division 32)					Sub-division 22-32		
	Finland			USSR		Total		
	S	S+C	C	S	C+R	S	C+R	GT
1972	0	138	0	0	0	1864	298	2162
1973	0	135	0	0	0	2179	425	2604
1974	0	111	0	0	0	2438	493	2931
1975	0	74	0	0	0	2412	596	3008
1976	81	0	0	0	14	2446	603	3049
1977	75	0	0	0	13	2085	554	2639
1978	68	0	1	0	6	1582	454	2036
1979	63	0	3	0	4	1774	364	2138
1980	51	0	2	0	7	2117	381	2498

Year	Gulf of Finland (Sub-division 32)											Sub-division 22-32				
	Estonia			Finland			Russia		Total			Total				
	S	C	R	S	C	R	S	R	S	C	R	GT	S	C	R	GT
1981	0	2	0	46	1	0	5	0	46	8	0	54	2122	442	42	2606
1982	0	5	0	91	7	0	0	0	91	12	0	103	1719	305	34	2058
1983	0	3	0	163	32	0	0	0	163	35	0	198	2003	416	38	2457
1984	0	5	0	210	42	0	7	0	210	54	0	264	3108	490	61	3659
1985	0	4	0	219	34	2	20	0	219	58	2	279	3551	439	49	4039
1986	24	0	0	270	79	2	28	0	294	107	2	403	2959	597	52	3608
1987	10	0	0	257	61	2	23	0	267	84	2	353	3474	471	50	3995
1988	19	0	0	122	112	2	15	0	141	127	2	270	2575	540	62	3177
1989	36	0	0	181	145	2	37	0	217	182	2	401	3485	836	80	4401
1990	25	0	0	118	369	2	35	4	143	404	6	553	3790	1713	133	5636
1991	22	0	0	140	398	2	88	3	162	486	5	653	3165	1514	124	4803
1992	6	3	0	77	415	2	28	1	83	446	3	532	2747	1681	120	4548
1993 1)	3	1	1	91	309	3	39	2	94	349	6	449	2666	1181	119	3966
1994	3	1	0	88	141	6	15	1	91	157	7	255	2339	739	103	3181
1995	1	1	0	32	200	5	25	2	33	226	7	266	2014	895	131	3040
1996	0	3	0	83	324	10	10	2	83	337	12	432	1815	1102	221	3138
1997	0	4	0	89	341	10	4	0	89	349	10	448	1592	1153	285	3030
1998	0	4	0	21	156	10	0	3	21	160	13	194	1544	746	204	2494
1999	0	10	0	29	127	7	0	3	29	137	10	176	1259	726	177	2162
2000	0	14	1	37	130	11	0	4	37	144	16	196	1486	663	193	2342
2001	0	10	2	19	111	11	0	3	19	122	16	157	1211	693	173	2076
2002	1	10	0	17	46	15	0	2	18	56	16	90	1044	643	154	1841
2003	0	7	0	3	50	8	0	1	3	57	9	69	1006	489	132	1627
2004	0	4	0	2	57	9	1	1	2	62	11	75	1113	834	139	2086
2005	0	5	0	3	72	15	1	2	3	78	17	98	866	686	185	1736
2006	0	4	1	3	81	10	1	2	3	86	13	102	627	540	108	1275

* No fishery occurred.

All data from 1972-1994, includes sub-divisions 24-32, while it is more uncertain in which years sub-divisions 22-23 are included. The catches in sub-divisions 22-32 are normally less than one tonnes. From 1995 data includes

Catches from the recreational fishery are included as follows: Finland from 1980, Sweden from 1988, Denmark from 1998.

Other countries have no, or very low recreational catches.

Danish, Finnish, German, Polish and Swedish catches are converted from gutted to round fresh weight by multiplying by 1.1.

Estonian, Latvian, Lithuanian and Russian catches before 1981 are summarized as USSR catches.

Estonian, Latvian, Lithuanian and Russian catches are reported as hole fresh weight.

Sea trout are included in the sea catches in the order of 3% for Denmark (before 1983), 3% for Estonia, Germany, Latvia, Lithuania, Russia, and about 5% for Poland (before 1997).

Estonian sea catches in Sub-division 32 in 1986-1991 include a small quantity of coastal catches.

Estimated non-reported coastal catches in Sub-division 25 has from 1993 been included in the Swedish statistics.

Danish coast catches are non-professional trolling catches.

1) In 1993 fishermen from the Faroe Islands caught 16 tonnes, which are included in total Danish catches.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.1.4 Nominal catches of Baltic Salmon in numbers, from sea, coast and river by country and region in 1996-2006.
S=sea, C=coast, R=river.

Year	Main Basin (Sub-divisions 22-29)																								
	Denmark		Estonia		Finland			Germany	Latvia			Lithuania			Poland			Russia	Sweden			Main Basin (sub-divisions 22-29) Total			
	S	C	S	C	S	C	R	S	S	C	R	S	C	R	S	C	R	S	S	C	R	SEA	COAST	RIVER	GT
1996	105934	0	263	528	58844	8337	200	2400	19400	10577	0	1485	1059		27479	222	0	5199	121631	1322	633	342635	22045	833	365513
1997	87746	0	205	1023	61469	7018	0	6840	20033	12095	0	214	665		24436	0	65	4098	68551	1415	810	273592	22216	875	296683
1998	90687	2000	0	770	60248	2368	0	8379	13605	8098	0	288	781		23305	1927	890	6522	99407	573	940	302441	16517	1830	320788
1999	73956	2000	28	741	45652	15007	0	5805	24309	9059	0	166	1132		24435	1835	860	4330	74192	408	876	252873	30182	1736	284791
2000	82938	2000	129	1190	56141	12747	0	8810	24735	9106	0	78	1382		25051	2679	1195	4648	107719	400	1005	310249	29504	2200	341954
2001	88388	2000	122	819	26616	10706	0	7717	18194	10808	0	152	1053		33017	1764	825	6584	78873	407	890	259663	27557	1715	288935
2002	73122	3000	0	1171	32870	9503	0	5762	11942	9781	85	363	2988		35636	1804	1934	12804	60242	462	699	232741	28709	2718	264168
2003	105845	3000	16	681	24975	6521	0	5766	8843	2496	0	74	966		30886	4282	5702	3982	54201	498	469	234588	18444	6171	259203
2004	78425	3000	0	594	35567	17824	50	7096	4984	2316	400	49	655		16539	0	1111	4983	99208	849	441	246851	25238	2002	274091
2005	39491	3000	0	286	36917	14736	25	4998	2787	2054	788	0	691	7	20869	1025	1002	2433	66527	698	337	174022	22490	2159	198671
2006	30723	3000	0	291	19411	9880	20	3680	1705	1490	0	9	474	5	20050	1274	883	552	45685	542	180	121815	16951	1088	139854

Year	Gulf of Bothnia (Sub-divisions 30-31)										Main Basin + Gulf of Bothnia (Sub-divisions 22-31) Total			
	Finland			Sweden			Total				SEA	COAST	RIVER	GT
	S	C	R	S	C	R	S	C	R	GT	SEA	COAST	RIVER	GT
1996	22196	84940	14000	1181	61239	20571	23377	146179	34571	204127	366012	168224	35404	569640
1997	8205	76683	17000	251	49724	27159	8456	126407	44159	179022	282048	148623	45034	475705
1998	11105	46269	5100	329	41487	23438	11434	87756	28538	127728	313875	104273	30368	448516
1999	3529	35348	3100	89	38447	25546	3618	73795	28646	106059	256491	103977	30382	390850
2000	2423	37755	4150	13	32588	23291	2436	70343	27441	100219	312685	99847	29641	442173
2001	1904	49497	3750	122	44077	25022	2026	93574	28772	124373	261690	121131	30487	413308
2002	864	42433	3900	174	55261	21417	1038	97694	25317	124050	233779	126403	28035	388218
2003	166	51922	4500	293	43047	16839	459	94969	21339	116767	235047	113413	27510	375970
2004	604	60368	5900	0	75151	17207	604	135519	23107	159230	247455	160757	25109	433321
2005	1045	39983	6700	99	55174	21749	1144	95157	28449	124750	175166	117647	30608	323421
2006	162	30575	2620	1144	34544	15190	1306	65119	17810	84235	123121	82070	18898	224089

Year	Gulf of Finland (Sub-division 32)										Sub-divisions 22-32 Total					
	Estonia			Finland			Russia		Total				SEA	COAST	RIVER	GT
	S	C	R	S	C	R	C 1)	R	S	C	R	GT	SEA	COAST	RIVER	GT
1996	0	396	0	20664	55840	1500	1485	296	20664	57721	1796	80181	386676	225945	37200	649821
1997	0	819	0	19577	54493	1500	1023	0	19577	56335	1500	77412	301625	204958	46534	553117
1998	22	761	76	4210	23876	1500	65	650	4232	24702	2226	31160	318107	128975	32594	479676
1999	12	1904	132	6234	19306	1100	95	915	6246	21305	2147	29698	262737	125282	32529	420548
2000	79	2833	254	8105	21040	1900	79	835	8184	23952	2989	35124	320869	123799	32630	477297
2001	62	1965	317	3804	17578	1900	82	726	3866	19625	2943	26434	265556	140756	33430	439742
2002	108	1968	0	3652	8219	3200	18	408	3760	10205	3608	17573	237540	136608	31643	405790
2003	17	1341	0	553	8812	1700	75	356	570	10228	2056	12854	235617	123641	29566	388824
2004	36	822	0	480	9811	1500	183	314	516	10816	1814	13146	247971	171573	26923	446467
2005	34	1092	0	536	12326	2800	213	423	570	13631	3223	17424	175736	131278	33831	340845
2006	48	817	222	507	13691	1700	121	329	555	14629	2251	17435	123676	96699	21149	241524

Data from the recreational fishery are included in Swedish and Finnish data. Recreational fishery are included in Danish data from 1998. Other countries have no, or very low recreational catches.

In 1996 sea trout are included in the Polish catches in the order of 5%.

1) Russian coastal catches have in earlier reports been recorded as sea catches.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.1.5 Nominal catches of Baltic Salmon in tonnes round fresh weight and numbers from sea, coast and river, by country and sub-divisions in 2006. Sub-divisions 22-32. S=sea, C=coast, R=river

Sub-division	Fishery	-	COUNTRY									Total
			DK	EE	FI	DE	LV	LT	PL	RU	SE	
22	S	Weight				2					23	25
		Number				337					3766	4103
23	S	Weight									0	0
		Number									52	52
24	S	Weight	66		1	8	0		0		4	79
		Number	11602		97	1673	57		7		775	14211
	C	Weight								5	5	5
		Number								21	21	21
25	S	Weight	78		67	8	2		17		72	244
		Number	14778		12164	1670	355		3451		14765	47183
	C	Weight	15						1		3	19
		Number	3000						132		429	3561
	R	Weight							1		1	2
		Number							89		171	260
26	S	Weight	19		22		6	0	82	3	75	207
		Number	4065		4300		1158	9	16592	552	15753	42429
	C	Weight					1	2	6			9
		Number					356	474	1121			1951
	R	Weight						0	5			5
		Number							5	794		799
27	S	Weight	1		4						16	21
		Number	278		745						3846	4869
	C	Weight									1	1
		Number									113	113
	R	Weight									0	0
		Number									9	9
28	S	Weight			9		1				24	34
		Number			1944		135				5561	7640
	C	Weight		1			4					5
		Number		179			1134					1313
29	S	Weight			1						6	7
		Number			161						1167	1328
	C	Weight		1	55							56
		Number		112	9880							9992
	R	Weight			0							0
		Number			20							20
30	S	Weight			1						6	7
		Number			162						1144	1306
	C	Weight			77						43	120
		Number			14667						6596	21263
	R	Weight			1						27	28
		Number			120						4035	4155
31	C	Weight			90						152	242
		Number			15908						27948	43856
	R	Weight			17						45	62
		Number			2500						11155	13655
TOTAL 24-31	S	Weight	164	0	105	18	9	0	99	3	226	624
		Number	30723	0	19573	3680	1705	9	20050	552	46829	123121
	C	Weight	15	2	222	0	5	2	12	0	199	457
		Number	3000	291	40455	0	1490	474	1274	0	35086	82070
	R	Weight	0	0	18	0	0	0	6	0	73	97
		Number	0	0	2640	0	0	5	883	0	15370	18898
TOTAL 22-31		Weight	179	2	345	18	14	2	117	3	498	1178
		Number	33723	291	62668	3680	3195	488	22207	552	97285	224089
32	S	Weight			3							3
		Number			48		507					555
	C	Weight		4	81					1		86
		Number		817	13691					121		14629
	R	Weight		1	10					2		13
		Number		222	1700					329		2251
Total 32		Weight		5	94					3		102
		Number		1087	15898					450		17435
GRAND TOTAL	S	Weight	164	0	108	18	9	0	99	3	226	627
		Number	30723	48	20080	3680	1705	9	20050	552	46829	123676
	C	Weight	15	6	303	0	5	2	12	1	199	543
		Number	3000	1108	54146	0	1490	474	1274	121	35086	96699
	R	Weight	0	1	28	0	0	0	6	2	73	110
		Number	0	222	4340	0	0	5	883	329	15370	21149
NATIONAL TOTAL		Weight	178	7	437	19	14	2	117	5	497	1275
		Number	33723	1378	78566	3680	3195	488	22207	1002	97285	241524

Data from the recreational fishery are included in Danish, Swedish and Finnish data. Other countries have no, or very low recreational catches. In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.1.6. Non-commercial catches of Baltic Salmon in numbers from sea, coast and river by country in 1997-2006 in sub-division 22-31 and sub-division 32.
(S = Sea, C = Coast).

Sub-divisions 22-31																			
Year	Denmark	Estonia		Finland		Germany	Latvia		Lithuania		Poland		Russia		Sweden		S+C Total	River Total	Grand Total
	S+C	S+C	River	S+C	River	S+C	S+C	River	S+C	River	S+C	River	S+C	River	S+C	River			
1997	na	na	na	na	17000	0	na	na	na	na	na	65	na	na	na	27969	na	45034	45034
1998	2000	na	na	na	5100	0	na	na	na	na	na	890	na	na	na	24378	2000	30368	32368
1999	2000	0	132	5100	400	0	0	0	0	0	0	100	0	0	9350	18529	16450	19161	35611
2000	2000	0	0	11667	4150	0	0	0	0	0	0	0	0	0	na	na	13667	4150	17817
2001	2000	0	0	11667	3750	0	0	0	0	0	0	na	0	0	14443	22216	28110	25966	54076
2002	3000	0	0	3500	3900	0	0	85	0	0	0	na	0	0	17906	16945	24406	20930	45336
2003	3000	0	0	3500	4500	0	0	0	0	0	0	na	0	0	14889	13424	21389	17924	39313
2004	3000	0	0	17200	5950	0	0	0	0	0	0	na	0	0	22939	14687	43139	20637	63776
2005	3000	0	0	17200	6725	0	0	0	0	0	0	na	0	0	17931	15260	38131	21985	60116
2006	3000	0	0	17200	2640	0	0	0	0	0	0	na	0	0	12757	12229	32957	14869	47826

Year	Sub-division 32							Sub-division 22-32				
	Estonia		Finland		Russia		S+C	River	Grand	S+C	River	GT
	S+C	River	S+C	River	S+C	River	Total	Total	Total	Total	Total	
1997	na	na	na	17000	na	na	na	17000	17000	na	62034	62034
1998	na	na	na	5100	na	na	na	5100	5100	2000	35468	37468
1999	0	132	10000	1100	0	0	10000	1232	11232	26450	20393	46843
2000	0	na	9300	1900	0	0	9300	1900	11200	22967	6050	29017
2001	0	na	9300	1900	0	0	9300	1900	11200	37410	27866	65276
2002	0	na	2500	3200	0	0	2500	3200	5700	26906	24130	51036
2003	0	na	2500	1700	0	0	2500	1700	4200	23889	19624	43513
2004	0	na	3400	1500	0	0	3400	1500	4900	46539	22137	68676
2005	0	na	3400	2800	0	0	3400	2800	6200	41531	24785	66316
2006	0	na	3400	1700	0	0	3400	1700	5100	36357	16569	52926

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.2.1 Nominal catches of Baltic Salmon in numbers from sea and coast, excluding river catches, by country in 1993-2006 and in comparison with TAC. Sub-divisions 22-32.

Year	Baltic Main Basin and Gulf of Bothnia (Sub-divisions 22-31)										Total	TAC	Landing in % of TAC
	Fishing Nation												
	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Russia	Sweden				
1993 1)2)	111840	5400	248790	6240	47410	2320	42530	9195	202390	676115	650000	104	
1994	139350	1200	208000	1890	27581	895	40817	5800	158871	584404	600000	97	
1995	114906	1494	206856	4418	27080	468	29458	7209	161224	553113	500000	111	
1996	105934	791	174317	2400	29977	2544	27701	5199	185373	534236	450000	119	
1997	87746	1228	153375	6840	32128	879	24436	4098	119941	430671	410000	105	
1998 3)	92687	770	119990	8379	21703	1069	25232	6522	141796	418148	410000	102	
1999	75956	769	99536	5805	33368	1298	26270	4330	113136	360468	410000	88	
2000	84938	1319	109066	8810	33841	1460	27730	4648	140720	412532	450000	92	
2001	90388	941	88724	7717	29002	1205	34781	6584	123479	382821	450000	85	
2002	76122	1171	85671	5762	21723	3351	37440	12804	116139	360183	450000	80	
2003	108845	697	83584	5766	11339	1040	35168	3982	98039	348460	460000	76	
2004	81425	594	114363	7096	7300	704	16539	4983	175208	408212	460000	89	
2005	42491	286	92681	4998	4841	691	21894	2433	122498	292813	460000	64	
2006	33723	291	60028	3680	3195	483	21324	552	81915	205191	460000	45	

Year	Gulf of Finland (Sub-division 32)					
	Fishing Nation			Total	TAC	Landing in % of TAC
	Estonia	Finland	Russia			
1993 1)	874	98691	8200	107765	120000	90
1994	800	53487	3200	57487	120000	48
1995	338	32935	5035	38308	120000	32
1996	396	76504	1485	78385	120000	65
1997	819	74070	1023	75912	110000	69
1998	783	28086	65	28934	110000	26
1999	1916	25540	95	27551	100000	28
2000	2912	29144	79	32135	90000	36
2001	2027	21382	82	23491	70000	34
2002	2076	11871	18	13965	60000	23
2003	1358	9365	75	10798	50000	22
2004	858	10292	183	11333	35000	32
2005	1126	12862	213	14201	17000	85
2006	865	14198	121	15184	17000	89

All data from 1993-1994, includes sub-divisions 24-32, while it is more uncertain in which years sub-divisions 22-23 are included.

The catches in sub-divisions 22-23 are normally less than one tonnes. From 1995 data includes sub-divisions 22-32.

Estonia: Offshore catches reported by numbers, coastal catches converted from weight. Catches from the recreational fishery are included as follows: Finland from 1980, Sweden from 1988, and Denmark from 1998. Other countries have no, or very low recreational catches.

Estimated non-reported coastal catches in sub-division 25, have from 1993 been included in the Swedish catches.

Sea trout are included in the sea catches in the order of 5% for Poland before 1997.

1) In 1993 Polish, Russian and Faroe Ilands numbers are converted from weight.

2) In 1993 Fishermen from Faroe Ilands caught 3100 salmon included in the total Danish catches.

3) In 1998 German numbers are converted from weight.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.4.1: Fishing efforts of Baltic salmon at sea, at the coast and in the river in 1987-2004 in subdivision 22-31 (excluding Gulf of Finland). The fishing efforts are expressed in number of gear-days (number of fishing days times the number of gear) and are reported per half year (HYR). The coastal fishing effort on stocks of assessment area 1 refers to the total Finnish coastal fishing effort. The coastal fishing effort on stocks of assessment area 2 refers to the Finnish coastal fishing effort in area 3 and the Swedish coastal fishing effort in area 2. The coastal fishing effort on stocks of area 3 refers to the Finnish and Swedish coastal fishing effort in area 3.

Effort		Area 1			Area 2			Area 3		
		Offshore driftnet	Offshore longline	Commercial Coastal driftnet	Commercial coastal trapnet	Commercial coastal other gear	Commercial coastal trapnet	Commercial coastal other gear	Commercial coastal trapnet	Commercial coastal other gear
1987	I	1523587	1447789	233703	14951	99171	9667	67956	9634	88375
	II	2122115	2142495	95009	43259	164084	41234	175555	30097	437726
1988	I	1914340	1568397	240296	25398	126509	17893	127284	16826	423237
	II	1623306	1173796	16092	39460	118718	48936	132120	36463	374801
1989	I	1833110	1216741	320879	26015	197177	20803	132953	17414	154266
	II	1956293	829833	57311	29927	148415	28071	251729	20063	308801
1990	I	1487996	1517064	339960	43175	120228	35247	105160	27503	135350
	II	1515556	1050816	24366	47749	140541	47096	128380	36231	144260
1991	I	1763644	1138104	398447	34855	185839	31535	139274	31492	178861
	II	1397820	534334	32973	43500	275215	53178	221086	35203	225466
1992	I	1553470	1174250	448853	53069	179395	30342	135902	29157	191465
	II	1556474	555475	24726	49407	172123	45152	146772	30569	147919
1993	I	1649367	835887	595034	51095	162849	35201	61293	35783	70857
	II	774882	288516	26783	50649	125396	51060	100180	39086	144853
1994	I	1380558	753481	538689	29200	116753	18881	110042	18667	133865
	II	1363667	217771	42617	33271	77930	52531	100885	32188	71983
1995	I	1756044	633759	394522	20053	68728	13086	66889	12847	67961
	II	954980	78073	58336	35505	83800	39916	80370	26112	73944
1996	I	828908	854241	48742	7081	46687	8535	44996	5032	41991
	II	606402	314326	29944	35670	53723	42139	47610	22809	48254
1997	I	681679	937311	87216	7402	51848	10025	43644	6452	43555
	II	549884	516218	30991	39201	55584	43746	38279	25712	41084
1998	I	1173608	1054785	89338	5269	3636	4341	2123	3861	1974
	II	710037	182425	23055	13463	4755	21369	3327	10374	3247
1999	I	1026458	965912	101733	8553	4792	7856	2976	5460	2470
	II	629706	570516	24849	16866	4532	33945	2739	13240	2601
2000	I	1014465	1298280	85034	7000	3227	6905	1571	5468	1375
	II	1052352	721174	21974	16361	5096	22908	4016	12697	3996
2001	I	826321	1287066	98962	8624	2088	8180	1451	6647	1305
	II	888630	603027	3695	19270	1791	26529	1210	15468	1208
2002	I	932780	1212680	82572	11419	1330	10424	487	8763	440
	II	502728	968273	3785	16608	2448	29788	2764	15081	2712
2003	I	1147643	1349736	92732	8868	3602	7718	3658	4837	3029
	II	1250532	936069	2290	23706	5179	17425	6794	9330	4602
2004	I	970489	1143981	93460	8427	2154	9365	982	4777	1330
	II	876820	341040	10190	15149	2031	26935	733	7998	918
2005	I	1105592	714264	77607	8580	2327	8512	1786	4590	1772
	II	825431	362482	6616	14751	2128	23548	5011	8061	1482
2006	I	1094849	982913	74339	5075	784	5732	608	2800	410
	II	789339	381858	3944	10125	548	11071	344	5093	388

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.4.2 Number of fishing vessels in the offshore fishery for salmon by country and area from 1999-2006. Number of fishing days divided in 4 groups, from 1-9 fishing days, from 10-19 fishing days, from 20-39 fishing days and more than 40 fishing days (from year 2001 also from 60 to 80 and > 80 days). Sub-divisions 22-31 and Sub-division 32.

1999	Sub-divisions 22-31	Denmark	5	7	4	4	20
		Estonia	0	0	0	na	na
		Finland	13	13	11	20	57
		Germany	na	na	na	na	na
		Latvia	4	5	6	13	28
		Lithuania	na	na	na	na	na
		Poland	23	23	8	33	87
		Russia	2	1	2	7	12
		Sweden	10	8	9	38	65
	Total	57	57	40	115	269	
	Sub-div. 32	Finland	2	3	3	39	47
	Sub-divs 22-32		59	60	43	154	316

2000	Sub-divisions 22-31	Denmark	8	9	2	9	28
		Estonia	0	0	0	4	4
		Finland	15	8	14	12	47
		Germany	na	na	na	na	na
		Latvia	3	4	10	14	31
		Lithuania	na	na	na	na	na
		Poland	40	23	12	22	97
		Russia	na	na	na	na	na
		Sweden	11	12	7	29	59
	Total	77	56	45	90	266	
	Sub-div. 32	Estonia	0	0	1	0	1
		Finland	3	6	7	20	36
	Sub-divs 22-32		80	62	53	110	305

Year	Area	Country	Effort in days per ship						Total
			>80 days	60- 80	40-59	20-39	10-19	1-9	
2001	Sub-divisions 22-31	Denmark	3	2	4	2	2	9	22
		Estonia	0	0	0	0	0	2	2
		Finland	2	1	5	12	7	10	37
		Germany	na	na	na	na	na	na	na
		Latvia	0	1	0	3	2	24	30
		Lithuania	na	na	na	na	na	na	na
		Poland	7	9	18	11	12	12	69
		Russia	na	na	na	na	na	na	na
		Sweden	4	1	2	11	8	25	51
	Total	16	14	29	39	31	82	211	
	Sub-div. 32	Finland	0	0	0	4	3	15	22
	Sub-divs 22-32		16	14	29	43	34	97	233

Table 2.4.2 Continued

Year	Area	Country	Effort in days per ship						
			>80 days	60- 80	40-59	20-39	10-19	1-9	Total
			Number of fishing vessels						
2002	Sub-divisions 22-31	Denmark	3	3	2	3	5	12	28
		Estonia	0	0	0	0	0	2	2
		Finland	na	na	na	na	na	na	0
		Germany	na	na	na	na	na	na	na
		Latvia	0	0	1	3	4	20	28
		Lithuania	na	na	na	na	na	na	0
		Poland	na	na	na	na	na	na	50
		Russia	na	na	na	na	na	na	0
		Sweden	2	0	1	11	11	29	54
		Total	5	3	4	17	20	63	162
	Sub-div. 32	Finland	0	0	0	5	5	19	29
	Sub-divs 22-32		5	3	4	22	25	82	191

Year	Area	Country	Effort in days per ship						
			>80 days	60- 80	40-59	20-39	10-19	1-9	Total
			Number of fishing vessels						
2003	Sub-divisions 22-31	Denmark	1	2	8	2	6	11	30
		Finland	0	3	5	10	16	21	55
		Germany	na	na	na	na	na	na	na
		Latvia	0	0	0	1	4	27	32
		Lithuania	na	na	na	na	na	na	0
		Poland	1	0	1	21	12	46	81
		Russia	na	na	na	na	na	na	0
		Sweden	1	0	1	7	8	24	41
			Total	3	5	15	41	46	129
		Sub-div. 32	Estonia	0	0	0	0	1	0
		Finland	0	0	0	3	2	12	17
	Sub-divs 22-32		3	5	15	44	49	141	257

Year	Area	Country	Effort in days per ship						
			>80 days	60- 80	40-59	20-39	10-19	1-9	Total
			Number of fishing vessels						
2004	Sub-divisions 22-31	Denmark	0	0	1	9	1	16	27
		Finland	0	1	6	12	10	24	53
		Germany	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		Latvia	0	0	0	1	1	15	17
		Lithuania	0	0	0	0	0	0	0
		Poland	0	1	10	26	15	44	96
		Russia	na	na	na	na	na	na	n.a.
		Sweden	1	2	4	7	8	24	46
			Total	1	4	21	55	35	123
		Sub-div. 32	Estonia	0	0	0	0	0	1
		Finland	0	0	0	0	1	14	15
	Sub-divs 22-32		1	4	21	55	36	138	255

Table 2.4.2 Continued

Year	Area	Country	Effort in days per ship						
			>80 days	60- 80	40-59	20-39	10-19	1-9	Total
			Number of fishing vessels						
2005	Sub-divisions 22-31	Denmark	0	0	3	2	5	6	16
		Finland	0	1	6	12	8	18	45
		Germany	na	na	na	na	na	na	na
		Latvia	0	0	0	0	0	12	12
		Lithuania	0	0	0	0	0	0	0
		Poland	1	3	9	25	2	16	56
		Russia	na	na	na	na	na	na	na
		Sweden	5	2	3	8	6	14	38
		Total	6	6	21	47	21	66	167
	Sub-div. 32	Estonia	na	na	na	na	na	na	na
		Finland	0	0	0	0	2	6	8
Sub-divs 22-32		6	6	21	47	23	72	175	

Year	Area	Country	Effort in days per ship						
			>80 days	60- 80	40-59	20-39	10-19	1-9	Total
			Number of fishing vessels						
2006	Sub-divisions 22-31	Denmark	2	1	0	3	0	3	9
		Finland	0	3	5	8	6	5	27
		Germany	na	na	na	na	na	na	na
		Latvia	0	0	0	0	3	6	9
		Lithuania	0	0	0	0	0	0	0
		Poland	na	na	na	na	na	na	na
		Russia	na	na	na	na	na	na	na
		Sweden	4	8	0	8	5	12	37
		Total	6	12	5	19	14	26	82
	Sub-div. 32	Estonia	na	na	na	na	na	na	na
		Finland	0	0	0	1	1	14	16
Sub-divs 22-32		6	12	5	20	15	40	98	

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.5.1 Catch per unit effort (CPUE) in number of salmon caught per 100 nets and per 1,000 hooks by fishing season in the Danish, Estonian, Finnish, Latvian, Russian and Swedish offshore fisheries in the Main Basin, in the Gulf of Bothnia, and in the Gulf of Finland from 1980/1981 (Denmark from 1983/84) to 2006.

Fishing season	Denmark			
	Sub-divisions 22-25		Sub-divisions 26-29	
	Driftnet	Longline	Driftnet	Longline
1983/1984	10.3	26.5	11.9	52.3
1984/1985	11.7	na	18.9	35.9
1985/1986	11.4	na	24.4	30.8
1986/1987	8.8	na	22.1	44.3
1987/1988	12.9	23.6	19.8	35.6
1988/1989	11.9	51.7	12.3	30.7
1989/1990	16.4	69.9	14.2	30.0
1990/1991	13.7	80.8	13.8	49.2
1991/1992	14.7	48.7	7.2	11.5
1992/1993	19.8	49.7	7.5	32.4
1993/1994	33.7	110.1	10.5	45.6
1994/1995	17.6	75.2	8.3	64.1
1995/1996	18.8	101.5	30.3	123.6
1996/1997	13.2	109.9	47.2	135.5
1997/1998	5.6	56.6	41.4	51.7
1998/1999	19.5	138.9	39.6	121.3
1999/2000	19.2	56.5	23.2	41.5
2000/2001	12.8	50.4	26.3	36.9
2002	11.9	69.7	18.3	63.3
2003	27.6	106.3	27.2	*
2004	18.3	236.4	46.7	108.8
2005	9.2	136.4	22.2	67.4
2006	15.3	71.7	22.9	*

Fishing season	Finland					
	Sub-divisions 22-29		Sub-divisions 30-31		Sub-division 32	
	Driftnet	Longline	Driftnet	Longline	Driftnet	Longline
1980/1981	6.6	27.1	5.3	18.4	na	5.5
1981/1982	8.0	43.5	5.2	28.4	na	12.1
1982/1983	9.2	34.5	6.6	21.9	na	14.3
1983/1984	14.4	46.9	12.4	53.2	na	20.5
1984/1985	12.5	43.7	11.0	34.1	na	13.5
1985/1986	15.9	34.5	10.3	17.9	na	15.7
1986/1987	18.9	63.9	5.3	14.7	na	25.6
1987/1988	8.0	42.0	4.0	9.0	na	17.0
1988/1989	7.0	36.0	4.0	6.0	na	10.0
1989/1990	15.0	57.0	13.0	41.0	na	16.0
1990/1991	16.8	42.4	13.3	50.7	na	21.2
1991/1992	8.5	24.5	9.0	21.1	na	30.8
1992/1993	9.1	16.6	8.0	23.1	na	16.6
1993/1994	5.9	20.0	6.5	12.7	na	23.9
1994/1995	7.9	21.0	4.3	10.2	5.7	26.7
1995/1996	22.1	41.6	10.2	*	5.6	19.7
1996/1997	19.2	56.9	9.7	*	9.7	32.2
1997/1998	14.1	29.3	6.7	*	6.7	24.0
1998/1999	15.7	39.7	5.7	*	5.7	25.7
1999/2000	13.3	29.1	5.7	*	3.1	25.5
2000/2001	20.4	23.0	5.8	*	*	28.2
2002	11.0	43.4	3.3	*	7.8	22.0
2003	11.0	55.4	4.3	*	5.3	8.0
2004	18.0	101.6	5.8	*	4.9	13.6
2005	15.1	58.4	4.1	*	4.4	17.3
2006	7.3	38.0	0.0	*	5.7	12.7

Table 2.5.1 Continued.

Fishing season	Estonia		Latvia		Russia		Sweden	
	Sub-divisions 28-29 32		Sub-divisions 26 and 28		Sub-division 26		Sub-divisions 22-29	
	Driftnet	Driftnet	Driftnet	Longline	Driftnet	Longline	Driftnet	Longline
1980/1981	na	na	5.0	31.7	na	*	na	na
1981/1982	na	na	5.3	26.0	na	*	na	na
1982/1983	na	na	4.0	15.6	na	*	na	na
1983/1984	na	na	9.4	55.0	na	*	na	na
1984/1985	na	na	6.1	27.0	na	*	na	na
1985/1986	na	na	10.6	13.8	na	*	10.2	41
1986/1987	na	na	13.2	*	na	*	16.8	44.4
1987/1988	na	na	11.5	*	na	*	14.0	42
1988/1989	na	na	8.6	*	na	*	12.6	41.7
1989/1990	na	na	25.7	*	na	*	22.4	88.3
1990/1991	na	na	15.5	*	na	*	21.0	74.3
1991/1992	na	na	9.3	*	na	*	14.4	32
1992/1993	9.1	3.7	11.8	*	na	*	18.2	24.5
1993/1994	11.1	12.4	8.5	*	na	*	25.0	73.7
1994/1995	6.8	7.6	11.6	*	na	*	14.0	*
1995/1996	15.3	6.9	18.5	*	na	*	16.7	114.7
1996/1997	5.6	*	21.1	*	na	*	22.2	63.2
1997/1998	2.8	1.4	15.3	*	na	*	15.6	36.8
1998/1999	*	*	19.9	*	23.9	*	18.1	92.7
1999/2000	*	*	18.7	*	16.5	*	16.9	52.1
2000/2001	na	na	30.3	*	30.4	*	27.7	33.6
2002	na	na	20.9	*	24.7	*	13.9	80.9
2003	na	na	37.4	*	12.7	*	na	na
2004	na	na	20.7	22.0	22.1	*	24.6	120.6
2005	na	na	16.9	*	19.2	*	16.1	87.3
2006	na	na	11.8	*	9.3	*	8.3	35.9

* No fishery occurred.

All data from 1980/1981-1993/1994 includes sub-divisions 24-32, while it is more uncertain which years sub-divisions 22-23 are included. The catches in sub-division 22-23 are normally less than one ton. From 1995 data includes sub-divisions 22-32. Estonian data from sub-div. 28-29 has earlier been given as sub-div. 24-29.

In 2006 data from Finland, Russia and Sweden are preliminary.

Table 2.8.1. Medians of the stock group proportion estimates (% of catch) in Finnish Atlantic salmon catch samples in 2000-2006 based on data of 8 DNA microsatellite loci, and the proportions of wild salmon estimated by scale reading from the same samples.

	Gulf of Bothnia, wild			G. of Bothnia, hatchery, FIN			G. of Bothnia, hatchery, SWE			Gulf of Finland, wild			Gulf of Finland, hatchery			Western Main B., wild, SWE			Others / Eastern Main Basin			Sample size	Scale reading - wild%
	2.5 %	97.5 %		2.5 %	97.5 %		2.5 %	97.5 %		2.5 %	97.5 %		2.5 %	97.5 %		2.5 %	97.5 %		2.5 %	97.5 %			
1. Åland Sea																							
2000	44	37	52	15	10	21	40	33	47	-	-	-	-	-	-	-	-	-	1	0	2	412	22
2002	73	62	82	16	9	25	10	4	17	-	-	-	-	-	-	-	-	-	1	0	3	218	58
2003	84	70	93	13	6	26	2	0	10	-	-	-	-	-	-	-	-	-	0	0	2	209	64
2004	70	60	79	16	9	25	14	9	21	-	-	-	-	-	-	-	-	-	0	0	0	256	65
2005	76	66	84	16	9	26	7	3	11	-	-	-	-	-	-	-	-	-	0	0	1	315	64
2006	83	73	95	12	1	22	4	1	9	-	-	-	-	-	-	-	-	-	1	0	3	133	68
2. Bothnian Sea																							
2000	38	26	51	45	33	57	17	8	25	-	-	-	-	-	-	-	-	-	0	0	1	293	23
2002	40	28	52	57	45	69	0	0	4	-	-	-	-	-	-	-	-	-	2	0	5	179	43
2003	77	67	85	22	14	32	0	0	2	-	-	-	-	-	-	-	-	-	1	0	2	218	64
2004	69	53	81	26	14	42	2	0	9	-	-	-	-	-	-	-	-	-	2	0	5	145	42
2005	56	44	65	32	24	44	11	6	17	-	-	-	-	-	-	-	-	-	1	0	2	269	33
2006	67	59	74	29	22	36	3	1	6	-	-	-	-	-	-	-	-	-	1	0	3	279	62
3. Bothnian Bay																							
2000	40	30	51	48	36	58	12	6	18	-	-	-	-	-	-	-	-	-	0	0	1	300	14
2002	47	37	57	47	37	56	6	2	12	-	-	-	-	-	-	-	-	-	0	0	1	180	32
2003	64	53	74	31	22	43	4	0	10	-	-	-	-	-	-	-	-	-	0	0	1	203	37
2004	28	16	43	62	46	76	10	3	18	-	-	-	-	-	-	-	-	-	0	0	1	135	38
2005	67	57	76	31	22	41	2	0	5	-	-	-	-	-	-	-	-	-	0	0	0	262	34
06FIN	73	62	80	26	19	37	0	0	3	-	-	-	-	-	-	-	-	-	0	0	1	269	46
06SWE	68	59	76	10	5	16	22	16	29	-	-	-	-	-	-	-	-	-	0	0	1	212	
06ALL	67	61	73	20	15	26	12	9	16	-	-	-	-	-	-	-	-	-	0	0	0	481	
4. Gulf of Finland - east																							
2002	1	0	6	4	1	8	1	0	4	0	0	8	87	79	93	0	0	0	4	1	9	150	6
2003	33	25	41	12	6	20	0	0	2	0	0	0	54	49	58	0	0	0	0	0	1	448	31
2004	34	25	41	7	3	14	1	0	3	0	0	2	57	51	64	0	0	2	0	0	2	229	30
2005	24	19	30	0	0	2	0	0	1	0	0	2	75	69	80	0	0	0	0	0	1	260	19
2006	11	8	15	1	0	3	0	0	1	0	0	1	85	81	89	0	0	0	2	1	5	264	9
5. Gulf of Finland - west																							
2002	3	1	6	0	0	2	2	0	5	10	4	17	57	48	68	0	0	0	27	19	36	136	3
2003	16	9	24	0	0	4	4	0	10	19	8	34	41	26	57	1	0	4	17	9	28	148	10
6. Main Basin																							
2002	49	24	73	19	0	47	14	1	28	6	0	15	5	1	13	2	0	8	2	0	12	71	52
2003	70	58	81	0	0	6	17	6	29	0	0	2	4	2	7	5	3	9	3	1	6	215	49
2004	71	58	82	3	0	10	24	13	35	1	0	4	0	0	4	1	0	4	0	0	2	111	

Table 2.8.2. Stock proportions (%) in the pooled Finnish and Swedish Bothnian Bay catch in 2006.

STOCK	MEAN	SD	2.50%	MEDIAN	97.50%
1 Tornionjoki	23.9	3.8	16.6	23.8	31.4
2 Tornionjoki	5.6	2.2	1.8	5.5	10.2
3 Simojoki	2.6	1.0	0.9	2.5	4.8
4 Iijoki	8.6	1.6	5.7	8.5	11.9
5 Oulujoki	6.2	1.2	4.1	6.1	8.6
6 Kalixälven	14.5	3.3	8.4	14.4	21.3
7 Råneälven	0.0	0.0	0.0	0.0	0.1
8 Luleälven	8.5	1.6	5.6	8.4	12.0
9 Åbyälven	5.8	1.8	2.5	5.7	9.6
10 Byskeälven	17.0	2.2	12.8	16.9	21.5
11 Skellefteälven	2.7	0.9	1.2	2.6	4.7
12 Vindelälven	2.5	0.8	1.2	2.4	4.1
13 Umeälven	0.0	0.1	0.0	0.0	0.1
14 Öreälven	0.0	0.1	0.0	0.0	0.1
15 Lögdeälven	1.0	0.5	0.2	1.0	2.3
16 Ångermanälven	0.1	0.3	0.0	0.0	1.0
17 Indalsälven	0.9	0.8	0.0	0.8	2.6
18 Ljungan	0.1	0.3	0.0	0.0	1.2
19 Ljusnan	0.0	0.1	0.0	0.0	0.4
20 Dalälven	0.0	0.1	0.0	0.0	0.2

Table 2.8.3. Results from sampling and scale reading of the proportion of wild salmon, years 2006 and total 2002-2006 (W=wild, R=reared).

Sampling date/period	Fishing nation	Subdiv	Area	Gear	Age 1			Age 2			Age>2			Total	%wild	Season
					W	R	Total	W	R	Total	W	R	Total			
2006015-19	SW	25	Sea	Long line	3	3	6	70	74	144	31	17	48	198	53%	Winter 2006
20060201	SW	25	Sea	Long line				30	18	48	17	10	27	75	63%	Winter 2006
20060522	SW	26	Sea	Drift net	2	3	5	28	13	41	7	10	17	63	59%	Spring 2006
200606-07	SW	31	Coast	Trap net	13	8	21	115	24	139	32	5	37	197	81%	Summer 2006
200606-07	SW	31	Coast	Trap net	3	2	5	70	13	83	32	6	38	126	83%	Summer 2006
200606-07	SW	31	Coast	Trap net	4	1	5	25	13	38	12	6	18	61	67%	Summer 2006
200606-08	SW	31	Coast	Trap net	4	9	13	71	32	103	17	4	21	137	67%	Summer 2006
20061019-21	SW	25	Sea	Drift net	140	88	228	33	6	39	1		1	268	65%	Autumn 2006
20061127	SW	26	Sea	Long line	14	26	40	12	11	23	9		9	72	49%	Autumn 2006
20061128	SW	25	Sea	Long line	20	24	44	15	5	20	3		3	67	57%	Autumn 2006
200606-08	Fi	30	Coast	Trap net	2	56	58	241	109	350	32	6	38	446	62%	Summer 2006
200606-08	Fi	31	Coast	Trap net	23	135	158	232	330	562	47	61	108	828	36%	Summer 2006
200606-08	Fi	32	Coast	Trap net	4	96	100	18	131	149	1	10	11	260	9%	Summer 2006
2006	LV	26-28	Sea	Drift net	39	100	139	20	86	106	2	6	8	253	24%	Spring 2006
Total																
2002	All	25-29	Sea	All	95	97	192	75	119	194	8	12	20	406	44%	All
2003	All	25-29	Sea	All	206	331	537	286	401	687	107	104	211	1435	42%	All
2004	All	25-29	Sea	All	298	443	741	456	408	864	117	93	210	1815	48%	All
2005	All	25-29	Sea	All	41	16	57	172	79	251	114	49	163	471	69%	All
2006	All	25-29	Sea	All	179	144	323	188	127	315	68	37	105	743	58%	All
2002	All	30-31	All	All	28	52	80	72	78	150	9	12	21	251	41%	All
2003	All	30-31	All	All	244	422	666	1037	467	1504	221	99	320	2490	62%	All
2004	All	30-31	All	All	127	292	419	591	304	895	141	71	212	1526	56%	All
2005	All	30-31	All	All	150	487	637	1018	828	1846	247	196	443	2926	48%	All
2006	All	30-31	All	All	24	20	44	281	82	363	93	21	114	521	76%	All
2003	All	32	All	All	46	290	336	187	399	586	14	50	64	986	25%	All
2004	All	32	All	All	61	181	242	120	224	344	20	51	71	657	31%	All
2005	All	32	All	All	69	315	384	38	170	208	8	59	67	659	17%	All
2006	All	32	All	All	4	96	100	18	131	149	1	10	11	260	9%	All

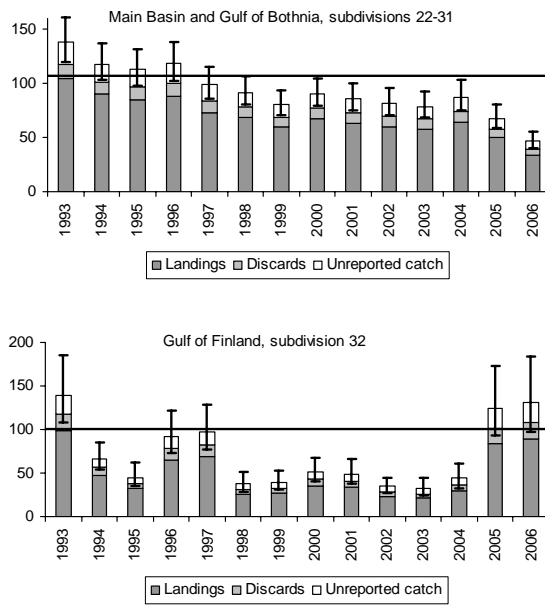


Figure 2.2.1 Catches of salmon in % of TAC. Estimates of discards and unreported catches are based on estimates presented in Table 5.3.11

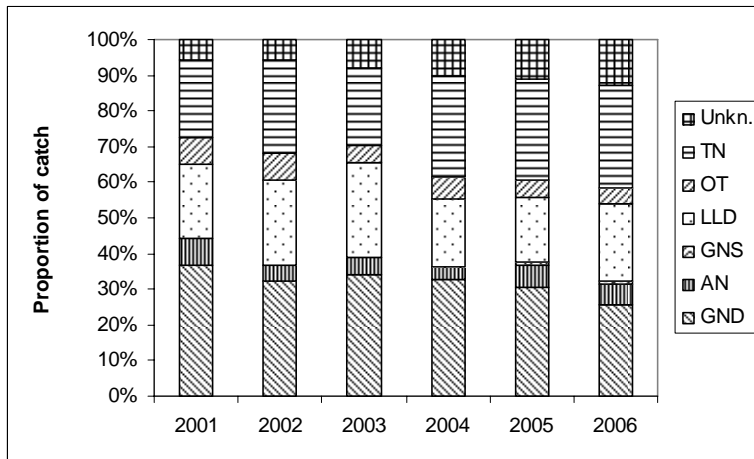


Figure 2.2.2 Proportion of catch of Baltic salmon by weight in different types of tackle 2001-2006. Variables: GND=driftnet, AN=angling, GNS=gillnet, LLD=longline, OT=other, TN=trapnet, Un=unknown

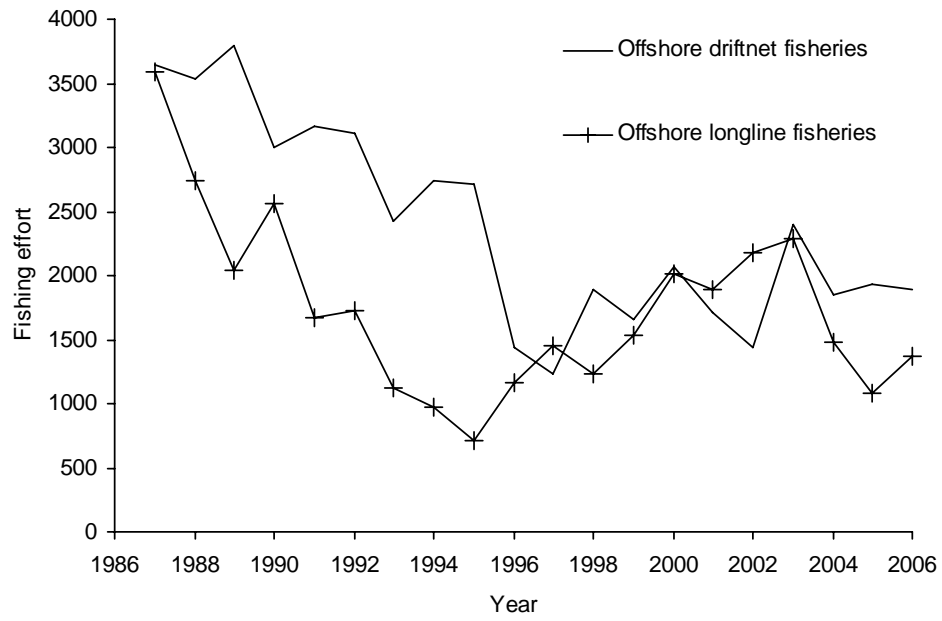


Figure 2.4.1 Fishing effort in Main Basin offshore fisheries (x 1000 gear-days)

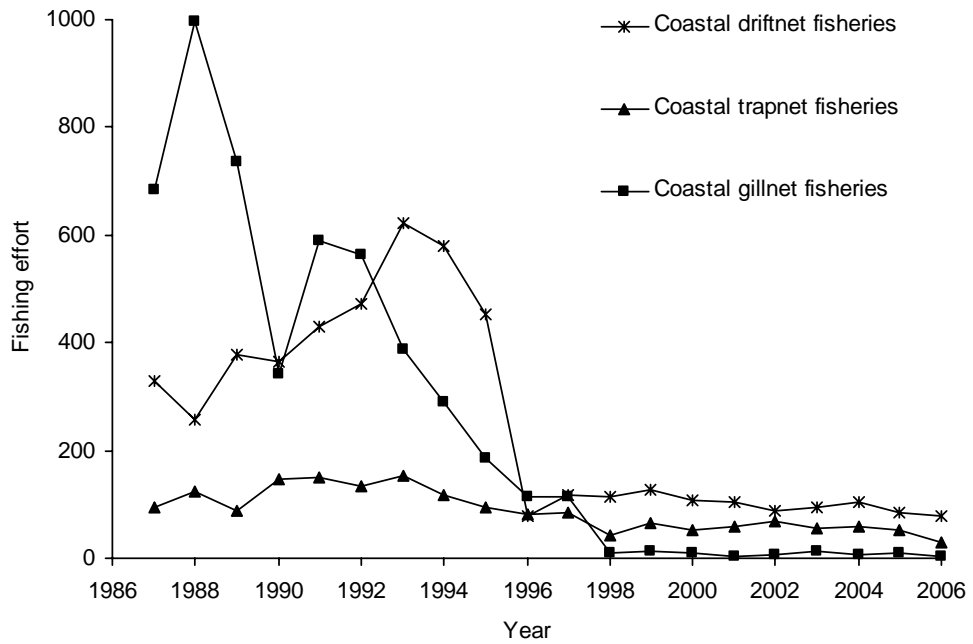
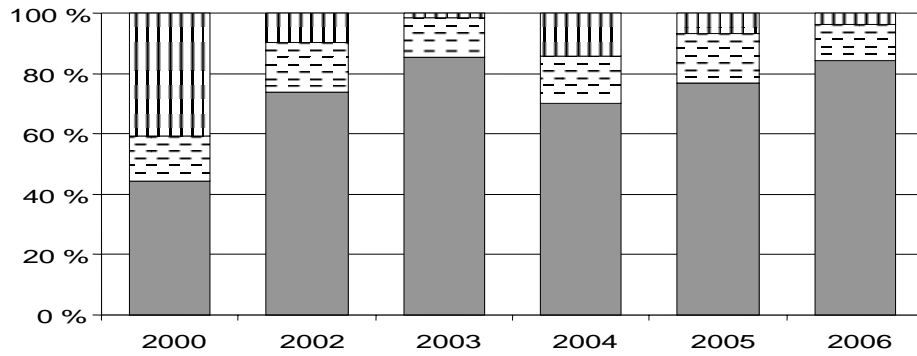
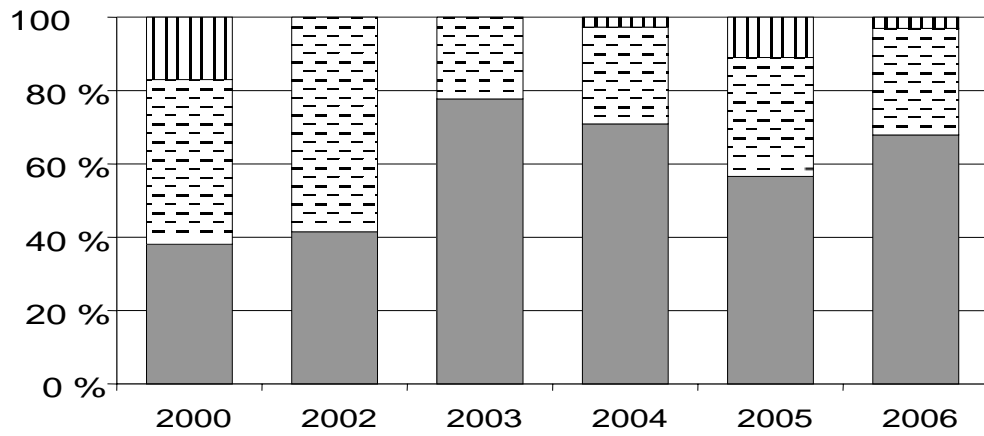


Figure 2.4.2. Effort in Main Basin and Gulf of Bothnia coastal fisheries (x 1000 gear-days)

3a. Åland Sea catches.



3b. Bothnian Sea catches.



3d. Bothnian Bay catches.

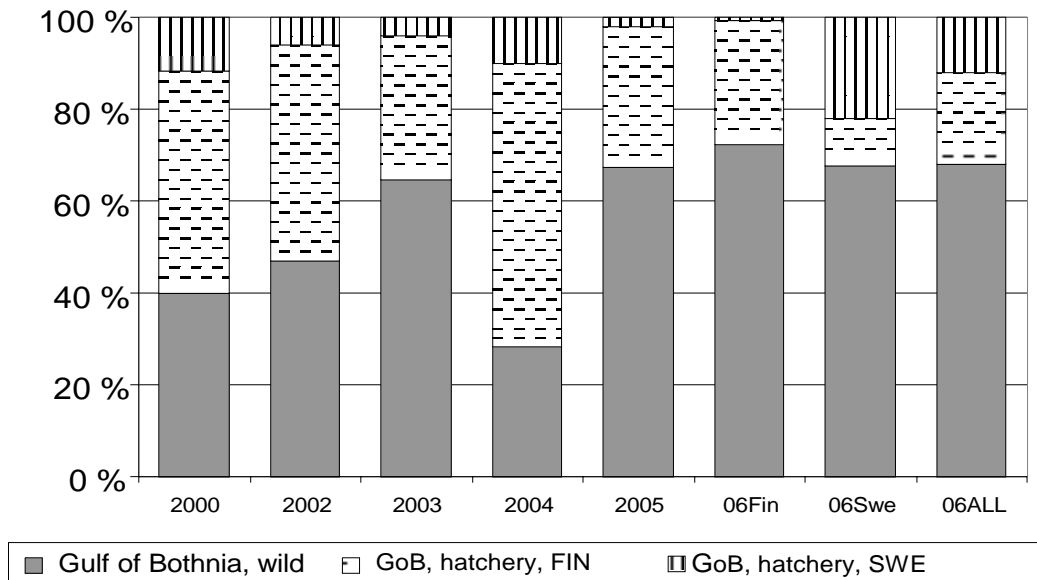


Figure 2.8.1. Stock group proportions estimates in salmon catch samples in the Gulf of Bothnia in 2000-2006 with DNA microsatellite data.