

7 Sea trout

Due to continuous concern on the status and information on sea trout in the Baltic Sea a Study Group on Data Requirements and Assessment Needs for Baltic Sea Trout (SGBALANST) was established by ICES resolution 2008/2/DFC03. The WGBAST reviewed the findings of the Study Group (ICES 2009).

7.1 Nominal catch

The total sea trout catch in the Baltic Sea was 558 tonnes in 2008 which is a reduction of 348 tonnes (38%) compared to 2007. Catches of sea trout increased from 200 t in 1979 to 1865 t in 1993 and have since then, except for the years 1996–1997 and 2005, been at a level of 1000–1300 tons, however, during 2000–2008 a decreasing trend is continued (Tables 7.1.1 and 7.1.2).

The Main Basin is still the most important area for professional sea trout catches; however the catch in this area was only slightly above 50% of total catch in 2008. Total catches there have decreased from 1023 t in 2002 to 257 t in 2008. Out of them close to 67% was caught by Poland. Catches in the Gulf of Bothnia have from 1996–1998 until 2001 been around 200–300 tons, since then have been decreasing to around 120–130, rising in 2007 to 196 tonnes and to 212 t in 2008. In the Gulf of Finland catches decreased from 100–150 tons in years 1996–1999 to 30–50 tonnes in 2002–2006 and have for the three years been stable with a catch of around 86–89 tonnes (Tables 7.1.1 and 7.1.2). The actual catch of sea trout may be overestimated because due to TAC restrictions salmon can be reported as sea trout (see Section 2).

Catches in the recreational fishery is known with little accuracy. Information has been gathered in both Sweden and Finland in recent years (Petersson *et al.*, 2009; Jokikokko 2003). The annual estimated catch for the Gulf of Bothnia could be as high as 400 to 500 tonnes (ICES 2009) while catches in Finland in 2008 were 197 tonnes (Sub-division 29–32) and the commercial catch was in 2008 77 tonnes. The figure compares to a registered catch in the commercial fishery of 4 tonnes in Sweden in the off-shore fishery and some 42 tonnes in rivers. In spite of figures being incomplete the share caught in recreational fishery, according to the data available, constitute approximately 43% of total catches.

The total catch in the recreational fishery in Denmark and in Poland is not known, but in recent years approximately 50% of the Danish reported catch of tagged sea trout comes from angling.

A better knowledge on catch and effort in the recreational fishery is strongly needed.

7.1.1 Sampling of sea trout

Sampling strategies for biological samples and procedures for are sea trout very similar to those of salmon and are described in Section 2.6. In total just over 1700 sea trout were sampled (Table 7.1.1.1).

7.2 Status of wild and mixed sea trout populations

Sea trout populations existed previously in numerous small rivers and brooks and in most salmon rivers.

The status and development in the populations varies between different parts of the Baltic Sea.

Information on average parr densities and status of trout populations were compiled by SGBALANST (ICES 2009). Large variations in both parr densities (Figure 7.2.1) and status of populations are found; in some areas the densities are close to the potential taking latitude, river size and habitat quality into consideration (Figure 7.2.2), while in other areas on average are much below what can be expected.

Also the number of spawners varies very much: from less than 100 in some large northern rivers to several thousands in some rivers in the southern Baltic.

7.2.1 Monitoring methods

Monitoring sea trout populations in the Baltic area is carried out in all countries around the Baltic Sea. The intensity and period during which monitoring has been going on, varies between countries (ICES 2008c). Some countries started monitoring during recent years, while very long data series exist for a few streams (ICES 2008c).

In all countries monitoring is carried out by surveying densities of parr in the nursery streams, however with varying intensity and a standardized minimum programme of sampling should exist in all countries. Sampling by observing parr densities is in a couple of countries used to calculate the smolt production by a relation of parr to smolt survival either developed in the same stream or in different streams (ICES 2008c). In most countries (not in Denmark or Poland) this is supplemented with monitoring of smolt escapement by trapping and counting smolt numbers in one or more streams.

In only three rivers (all in Sweden) the number of spawners is monitored by trapping and inspection of the ascending sea trout. In another 9 rivers (one in Poland, two in Denmark and the remaining in Sweden) the number of spawners is monitored by automatic fish counters, where accurate determination of species and exact size, sex etc. is not always possible. Observations of both smolt and spawner number makes it possible to estimate sea survival. There is a need for index rivers with coverage of all major sea areas, and for a common classification system, to facilitate the use of information from these on a wider scale.

An indication on spawning intensity by count of redds is collected from a number of streams in Poland, Lithuania and Denmark (ICES 2008c). In a couple of streams in Denmark the catch in sports fisheries has also been used to estimate the development in the spawning run.

Tagging and marking are important methods for obtaining quantitative and qualitative information on trout populations (see also Section 7.4).

7.2.2 Gulf of Bothnia

Presently a total of 64 rivers and brooks still exist in Gulf of Bothnia, of which 25 are wild and 31 are mixed populations (Table 7.2.2.1).

The condition in the sea trout populations in the Swedish rivers with sea trout is uncertain in many rivers, but low or very low in the rivers with information (Table 7.2.2.1). Out of five Finnish rivers with sea trout the status in three of these populations is poor. Catches have declined considerably over a long time period, indicating reduction in population size. As an example Swedish catches in the rivers Torneälven and Kalixälven are presented in Figure 7.2.2.1.

Populations are also affected by human activities influencing freshwater habitats, mostly through damming, dredging, pollution and siltation of rivers (Table 7.2.2.2).

Many populations have been depleted or are threatened by an intensive gillnet fishery both shortly after entering the sea and during feeding and spawning migration.

Carlin tagging results of the northern populations in the Gulf of Bothnia show a large and increasing proportion, often the majority, of the sea trout to be caught already during the first year in sea. The trout are caught as bycatch in the whitefish fishery by gillnets and fyke nets. Based on the tagging data, the proportion of fish caught under-sized during the first sea year is still increasing even though the total effort of gillnet fishery by professional fishermen has not changed during past ten years (Figures 7.2.2.2, and 7.2.2.3). In the Gulf of Bothnia sea trout become mature mainly after 3 sea winters (SW) ($L > 55$ cm). According to the tagging data less than 5% of the catch has been 3SW or older fish in the last 15 years, i.e. the vast majority are caught before they reach maturity. Tagging data shows that Finnish sea trout migrate partly to the Swedish side of the Gulf of Bothnia (ICES 2009). Correspondingly Swedish sea trout have been caught at the Finnish coast, but tagging results from recent years have not been available.

Only very few sea trout ascend some of the larger rivers to spawn (Figure 7.2.2.4). The average number for the period 2000–2008 was 99 in River Kalixälven, 247 in River Piteälven and 52 in River Vindelälven. A low increase in the number of spawners over time was evident for all three rivers.

River Byskeälven in the same region has been monitored since 2002 and has shown a declining trend in number of ascending spawners. In a few rivers in the area there was a slight positive trend in river catches in the sports fishery, while in most rivers there was no trend. Knowledge of the status of especially populations in smaller rivers on the Swedish side is limited, but all available data indicate that the larger part of the populations in the northern part of sub-division 31 is so small that only a few spawners enter the rivers.

The results of the electro fishing surveys indicate decreasing and very low densities of parr in many streams and the sea trout populations are thus in a precarious state on both the Swedish (Sub-division 31) and the Finnish side of the Gulf of Bothnia (Sub-divisions 30 and 31) (Table 7.2.2.3 and 7.2.2.4). In river Tornionjoki smolt trapping showed that the wild trout production was in recent years about 10 000–15 000 smolts in the whole river system.

7.2.3 Gulf of Finland

The situation for the sea trout populations in the Gulf of Finland resembles that in the Gulf of Bothnia (Figures 7.2.1 and 7.2.2). The number of streams with sea trout was revised in 2007 and it is now estimated that there are 193 rivers and brooks in this region (Table 7.2.3.1 and Table 7.2.3.2), out of them 81 have wild stocks. The rest are supported by releases.

Status of populations in 32 rivers is unknown and status of 17 is very poor.

Main factors influencing the status of stocks are overexploitation, habitat degradation, migration barriers and variation in water flow (ICES 2009) (Tables 7.2.2.2 and 7.2.3.3). As in the Gulf of Bothnia, sea fishery targeting other species catches part of the fish before they have reached maturity.

Parr densities of sea trout in the Finnish rivers of the Gulf of Finland were between 0 and 34 individuals per 100 m² (Table 7.2.2.4, River Ingarskilanjoki).

Sea trout populations exist in 41 Estonian rivers and brooks in the Gulf of Finland region out of them 32 have wild populations (Table 7.2.3.1). Parr densities in Estonian

rivers in 1996–2008 varied from 0 to 98 0+ parr and from 0 to 54 1+ parr per 100 m² (Table 7.2.3.4). Rivers with higher smolt production are situated in the central part of the North Estonian coast.

Sea trout in the Gulf of Finland migrate mostly inside but to a minor extent also out of the Gulf itself (ICES 2009). Finnish tagging results show about 5–10% of the tag recoveries being returned from Estonia and some also from Russia. Correspondingly Estonian tagged sea trout has partly been recaptured at the Finnish coast.

The wild sea trout populations in the Finnish part of the Gulf of Finland are in very poor condition (Table 7.2.3.1). The main threat is a high exploitation rate in the gillnet fishery, including bycatches in the effective whitefish and pikeperch fishery in the Gulf of Finland. Tagging experiments show that the average age of recaptured trout has decreased considerably during the last ten years.

Sea trout is a protected species in the Russian waters discharging to Gulf of Finland. Wild sea trout populations are found in 45–50 Russian rivers or streams (Table 7.2.3.1 and Table 7.2.3.2). Out of 22 rivers with known status 12 of them is in poor state due to human activity (Table 7.2.2.2 and Table 7.2.3.3). The majority of sea trout rivers and brooks are situated in the north coast of Gulf of Finland, but the rivers with higher smolt production are in the southern area. The total smolt production was estimated to be minimum 10 000–15 000 smolts. Smolt trap experiments indicate that between 2500 and 8000 sea trout smolts of natural origin migrates to the sea from the largest Russian trout river Luga annually. The observed smolt number was in 2008 approx. 2500 (5000 in 2007). Parr densities of sea trout in the Russia have in recent years been very variable with a maximum of approx. 80 parr per 100 m² (Table 7.2.3.5).

7.2.4 Main Basin

In the Main Basin there are 789 rivers and streams with sea trout populations and of these 387 are wild.

The status of sea trout populations was revised in 2007 and is known in 146 and unknown in 168 rivers with wild populations (Table 7.2.3.1 and Table 7.2.3.2). Status of 110 populations is poor, mainly due to habitat degradation and dam building (Table 7.2.2.2 and Table 7.2.3.3).

In the western part of the Baltic Sea, the trout populations have improved in recent years and the status of the populations is on average within 80% of optimal, taking latitude, river size and habitat conditions into account (Figure 7.2.2). This is the case in both Denmark and southern part of Sweden (Sub-divisions 22, 23, 24 and 25). While the situation in Denmark is still not optimal, the main reason for the improvement is increased accessibility to spawning and rearing areas. This has been achieved by removal of impassable barriers and replacing non-functional fish passes with by-passes where other organisms can also pass (i.e. no cascades). In addition the bottom area with suitable spawning material has been increased by adding spawning gravel to many streams. Through restoration projects the habitat quality has been improved in some streams.

At the same time the number of spawners has increased due to improved survival during the sea phase of the sea trout. This is believed to be a result of restrictions in both recreational net fishing and by continued revision of closed areas around river mouths (Heinimaa *et al.*, 2007; ICES 2009). Thus, the Danish trout populations are improving, even if they are still not near the potential production if habitat conditions were optimal. Specifically in some areas, erosion and bed-load transport of fine sedi-

ment (sand) affects the survival of trout eggs in spawning nests and also results in a uniform physical shape of the streams.

In Estonia, sea trout occurs in 31 rivers and brooks discharging into the Main Basin. All of them are small and have mostly wild populations. The condition of populations in most cases is weak varying much between years, as a result of changes in hydrology. The Rivers Pidula and Õngu have dams close to the outlet. Below the dams are rearing stations taking water from reservoirs.

In Latvia, sea trout occur in 15 rivers and in a few small rivers and brooks discharging into the Gulf of Riga and Baltic Main Basin. The Salaca, Gauja and Venta rivers have the highest wild smolt production in Latvia. Sea trout populations were supported by releases of reared fry, parr and smolt mostly into the upper sections of dammed rivers. Wild sea trout parr were monitored by electrofishing surveys (the rivers Salaca, Gauja, Venta, Saka, Vitrupe, Riva basins) and by smolt trapping (the river Salaca). Estimated production in all Latvian rivers was in 2008 about 61 thousand smolts, i.e. the same as in 2007.

In Sweden 207 sea trout rivers are found in the Main Basin. Out of them 200 have wild sea trout populations, and seven are supported by releases. While data on status of most of Swedish rivers is not available the parr densities in Emån and Mörrumsån increased in 2007, but decreased again in 2008 (Table 7.2.4.1). Spawning populations in two Swedish rivers in subdivision 27 were either stable or had a slightly decreasing trend.

In Lithuania there are nine sea trout rivers, six of them belong to the Nemunas drainage basin. In two rivers there are wild populations. The current total natural smolt production is estimated to be about 26 000 smolts. The parr densities obtained from electrofishing survey in general increased from previous years (Table 7.2.4.2), and the density of spawning redds also increased (ICES 2009).

Most Polish rivers had larger population of sea trout than salmon in the past. All Polish sea trout are of the widely migrating type. According to an evaluation in 2007, they occur in 23 rivers, mainly in Pomerania (10) but also in Vistula R. (4) and Odra R. (7) systems. All are mixed due to stocking for many years. River catch totalled of 24 125 fish (48.1 t). Main source of river sea trout catch is Vistula R. In other rivers only recreational and brood stock fishery exists. Spawning areas in all rivers are reduced by many impassable dams. After construction of a hydro power station in the Vistula (Wloclawek) the catch of ascending sea trout in this part of the river was reduced, and has remained at a lower level than prior to dam construction in 1968 (Figure 7.2.4.1). An inventory of spawning nests in a few Pomeranian rivers in recent years indicates increased populations in some rivers and decreased in others. The density of parr was estimated for only a few sites in Pomeranian rivers (Table 7.2.4.3). Electrofishing on spawning areas of some rivers shows that the densities of both 0+ and older parr vary with years but in some places is still very high.

In recent years predators such as cormorants (*Phalacrocorax carbo*) have increased dramatically in the Baltic area. Studies have shown that cormorants can have severe effects on fish stocks (Bzoma, 2004; Leopold *et al.*, 1998). Where large cormorant colonies occur in the vicinity of important salmonid rivers, there are good reasons to investigate whether cormorants have a significant negative impact on the stock.

Ulcerative dermal necrosis (UDN) is a chronic dermatological disease of salmonid fish. Infected fish develop severe lesions on the skin which penetrate into the skeletal muscle. In fresh water the lesions become additionally infected with *Saprolegnia* fun-

gus (Johansson *et al.*, 1982). The infected ascending adults are frequently reported to die before spawning, thus reducing the effective population size. Recently the UDN have been found on ascending sea trout adults in the Polish rivers Slupia, Parsęta, Rega, and Wieprza, and in kelts in the Gulf of Gdansk. In 2007 UDN became much more intensive, especially in Slupia R. resulting in death of more than half of spawners caught for stripping. In 2008 the situation was similar in Slupia and also in other rivers. UDN was observed already in summer on spawners in lower parts of rivers. Many observations suggest that in some rivers (e.g. Slupia) a large part of spawning run died.

In Denmark, due to improvements in habitat and water quality an increased smolt production has been found in recent years. It is estimated that the number of wild smolts produced in Danish rivers is approx. 215 000 smolts annually. Available information on parr densities from the Danish island Bornholm shows some of the highest parr densities in the Baltic Sea area, however these fluctuates considerably between years (Table 7.2.4.4). The variation in these populations is in general resulting from varying water flows.

7.3 Reared smolt production

Total number of reared smolts directly released in Sub-division 22–32 in 2008 was 3 870 000 and was on similar level as in 2006–2007. Out of this 2 400 000 smolts were released into the Main Basin, 1 000 000 into the Gulf of Bothnia and 350 000 into the Gulf of Finland (Table 7.3.3).

Latvian, Polish and Swedish releases of smolts are carried out in rivers and river mouths, while a majority of Finnish smolts and part of Estonian smolts are released directly into the sea. Releases in Denmark are taking place only in river mouths.

The sea trout fishery in the Gulf of Bothnia and in the northern part of the Gulf of Finland primarily exploits feeding fish or fish on their spawning run. Due to continuous releases of hatchery-reared fish, the sea trout fishery is almost independent of natural reproduction also because the wild sea trout populations in Sub-division 31 are so weak, that they do not support any fishery.

In Finnish rivers spawners are scarce, but the eggs obtained from nature are sufficient to supplement hatchery spawners to avoid the effects of inbreeding, since smolt production is mainly based on reared brood stocks. Stocking with reared sea trout smolts is increasing since 2006 and in 2008 reached 1.22 mill smolts (Table 7.3.3).

In Swedish rivers of the Gulf of Bothnia, the number of spawners varied among rivers but in most of them the number of spawners was sufficient for brood stock purposes. Stocking with smolts there since 1980s was on average level of 400 000–600 000 smolts (Table 7.3.3).

In Estonia sea trout is produced in two hatcheries: in Ongu (Hiiumaa Island) and in Polula (northern Estonia). The number of spawners obtained was sufficient for rearing in both hatcheries. The production consists mostly of two-year-old smolts which are released into coastal waters. Releases are kept on level of 30 000 smolts (Table 7.3.2 and 7.3.3).

All Polish sea trout rivers are dammed and the spawning grounds are small, requiring the sea trout population to be supported by stocking. Juvenile fish are reared from broodstocks and from spawners caught in each river separately. Tagging experiments showed that many smolts released to lower parts of Pomeranian rivers

stray thus their population can be mixed. More than 8 million alevins and fry, and 1.4 million smolts were released to Polish river in 2008 (Table 7.3.1, 7.3.2 and 7.3.3).

Denmark and Sweden released to the Main Basin 400 000 and 150 000 smolts respectively in 2008. Latvian releases since 2005 are kept on level of 220 000–270 000 (Table 7.3.3).

Apart from direct smolt releases there are other forms of reared stocking material released as an enhancement of stocks, i.e. eggs, alevins, fry and parr (Table 7.3.1). Calculated number of smolts originating from these (Table 7.3.2) is included every year to the amount of regular smolt releases. In 2009–2011 such enhancement will produce 215 000 smolts for the whole Baltic, of which 146 000 will migrate in 2010 into the Main Basin, mainly (Table 7.3.1). Total number of smolts from enhancement releases in recent years is still less than in the very beginning of the 2000th century (Table 7.3.2).

7.4 Tagging

The total number of fin clipped sea trout smolt was 1 066 000 and was 12% lower than in 2007.

Data on numbers of adipose fin clipped sea trout are given in Table 7.4.1. In almost all cases fin clippings were aimed at distinguishing between reared/enhanced sea trout from the wild production. There is an increasing trend in number of fin clipped parr and smolt since 2003.

In 2008 almost 31% of all reared sea trout smolt production was fin clipped, which was similar to 2007, and more comparing to 2006.

Most fin clippings (in numbers) were carried out in Sub-divisions 25 and 30.

Starting in 2005 it is mandatory in Sweden to finclip all reared salmon and sea trout.

Only 35% of the Estonian sea trout smolts were fin clipped in 2008. In Latvia 1- and 2 year old fin clipped smolts, constituting about 60% of released smolt. In Poland all released sea trout smolts in Sub-divisions 24 and 25 were adipose fin clipped.

7.4.1 External tagging

In 2008 the total number of tagged sea trout was 78 555 (Table 7.4.1.1).

The recapture rate of sea trout shows a continued decreasing trend in last years in the Gulf of Bothnia, Gulf of Finland (Figure 7.4.1.1). In the Main Basin (Figure 7.4.1.2), however, recapture rate varies a bit between years at a very low level between 0.1–0.5%. In the Gulf of Bothnia recapture rate in Sweden was similar as in Finland in the period 1980–2002. Based on Finnish data, there is observed lower recapture rate of salmon and sea trout in the Gulf of Bothnia than in Gulf of Finland. Tagging results indicates a long-term variation in the survival and the fluctuation seems to follow the same path in all countries. According to tagging data the survival of the released smolts is at present lower than a long-term average.

There is a need to increase the number of reported tags from the fisheries in all countries with tagging programmes.

7.5 Recommendations for management actions

The Working Group acknowledges the findings of Study Group on Data Requirements and Assessment Needs for Baltic Sea Trout (SGBALANST) (ICES 2009), and it is recommended that international assessment of sea trout populations be developed.

Sea trout have been managed on a national level, but in most sea areas long migrating strains are found and consequently this is not always sufficient. Management on a national level means that each nation must take responsibility for protection of sea trout rivers and adopt strategies for the protection and development of these, as well as fishing regulations.

To facilitate the use of information from index rivers on a wider scale, a common classification system of habitats should be established, and it is recommended that this is elaborated through a common workshop.

7.5.1 Gulf of Bothnia and Gulf of Finland

The present situation is very alarming and populations in especially Sub-division 31 are considered to be at the risk of extinction. Therefore the Group recommends immediate action to be taken, to safeguard the remaining wild sea trout populations in the region. Adequate fishing regulations should be enforced locally in Sub-divisions 29–32 to reduce the fishing mortality of sea trout.

The Working Group recommends urgent restrictions for the sea trout fishery, where trout are caught both purposely and as a bycatch. A spatial fishing restriction, minimum mesh size for gillnets and effort limitations should be implemented for the fisheries in the sea and rivers in each region. At present, a ban of nearshore (< 3 m depth) fishing has been enforced in Sweden for Bothnian Bay during spring (1 April–10 June) and fall (1 October–31 December) and the minimum landing size has been raised to 50 cm in both Sweden and Finland.

At present, the fishing is directed towards young age groups and the proportion of sea trout caught undersized has increased, i.e. a large portion does not reach sexual maturity. The Group recommends that the minimum size of sea trout should be raised. A minimum size of 65 cm would allow female fish to spawn at least once, corresponding to nets with mesh sizes of 65 mm bar length. The problem of early catch of immature trout could be considerably reduced by prohibiting the use of mesh sizes below 50 mm (bar length). The use of special technical devices such as “escape windows” (a structure provided with large mesh size) in the trapnet fishery could also be promoted.

Gillnet fishing should be totally prohibited or strictly restricted in the sea trout rivers and at the river mouth.

The restoration of rearing habitats and improving migration possibilities are recommended.

7.5.2 Main Basin

Trout populations in the Main Basin area have in general a better status than they have in the northern areas. Based on the present knowledge there is not a need for immediate management actions.

Populations in Sub-divisions 22 and 23 appear to be on average below optimal. The reason for this is not clear, but should be investigated and appropriate measures taken.

Because of large natural variability in the Main Basin area and because the status of trout populations were reported by ICES 2009 only on a larger scale and furthermore only for rivers with reported good habitat quality, there is a need for more detailed information from specific rivers. It should be considered if regional assessment units should be established similar to salmon populations.

In the Main Basin area trout populations are reported to be limited from both poor habitat conditions and migration obstacles. Habitat improvements by restoration should be promoted where needed and accessibility to spawning and rearing areas should be secured.

In the Main Basin sea trout (and salmon) are caught in commercial off-shore international fishery, and in coastal fisheries. There is a lack of reliable information on the total catch of sea trout in these fisheries. The catch of salmon is restricted by TAC, whereas this is not the case for trout. This has the result, that salmon may be reported as trout. Also, the catch of trout may not always appear in log-books. It is recommended that actual catches of sea trout in this fishery be evaluated with more precision.

There is an almost complete lack of knowledge to catches in other fisheries, such as recreational and coastal fisheries in various parts of the Baltic. The same is true for other local fisheries, such as for example herring fisheries. At the same time it is known that catches in the recreational fishery can be substantial. It is recommended that these fisheries are evaluated.

Table 7.1.1. Nominal catches (in tonnes round fresh weight) of sea trout in the Baltic Sea by country in 1979-2008 in sub-divisions 22-32

Year	Country								Total
	Denmark ^{1,4}	Estonia	Finland ²	Germany ⁴	Latvia	Lithuania	Poland ⁹	Sweden	
1979	3	na	89	na	na	na	105 ³	3	200
1980	3	na	173	na	na	na	74 ³	3	253
1981	6	2	310	na	5	na	66 ³	3	392
1982	17	4	326	1	13	na	111	3	475
1983	19	3	332	na	14	na	133	3	504
1984	29	2	387	na	9	na	185	3	617
1985	40	3	368	na	9	na	166	13	599
1986	18	2	349	na	8	na	140	49	566
1987	31	na	373	na	2	na	200	47	653
1988	28	3	582	na	8	na	170	112	903
1989	39	3	666	18	10	na	184	169	1,089
1990	48 ³	4	841	21	7	na	488	154	1,563
1991	48 ³	3	829	7	6	na	309	171	1,373
1992	27 ³	9	837	na	6	na	281	249	1,409
1993	59 ³	15	1250 ⁷	14	17	na	272	138	1,865
1994	33 ^{8,3}	8	1,150	15 ⁸	18	na	222	161	1,607
1995	69 ^{8,3}	6	502	13	13	3	262	125	993
1996	71 ^{8,3}	16	333	6	10	2	240	166	844
1997	53 ^{8,3}	10	297	+	7	2	280	156	805
1998	60 ^{8,3}	8	460	4	7	na	468	145	1,158
1999	110	10	440	9	10	1	626	115	1,321
2000	58	14	445	9	14	1	812	99	1,452
2001	54	10	363	10	12	1	716	85	1,252
2002	35	16	196	12	13	2	863	76	1,215
2003	40	9	183	9	6	+	823	65	1,136
2004	46	10	145	12	7	1	764	61	1,045
2005	14	10	159	15	9	2	586	61	855
2006	44	20	260	12	7	1	530	60	934
2007	26	17	266	9	8	1	525	55	906
2008 ⁵	18	14	274	4	8	2	172	65	558

¹Additional sea trout catches are included in the salmon statistics for Denmark until 1982 (table 3.1.2).

²Finnish catches include about 70 % non-commercial catches in 1979 - 1995, 50 % in 1996-1997, 75 % in 2000-2008.

³Rainbow trout included.

⁴Sea trout are also caught in the Western Baltic in Sub-divisions 22 and 23 by Denmark, Germany and Sweden.

⁵ Preliminary data.

⁶Catches reported by licensed fishermen and from 1985 also catches in trapnets used by nonlicensed fishermen.

⁷Finnish catches include about 85 % non-commercial catches in 1993.

⁸ICES Sub-div. 22 and 24.

+ Catch less than 1 tonne.

⁹Catches in 1979-1997 included sea and coastal catches

Table 7.1.1.1. Overview of sea trout samples collected for biological sampling in 2008.

Country	TIME PERIOD			NUMBER OF SAMPLED FISH BY SUBDIVISION					
	/month number	Fisheries	Gear	22-28	29	30	31	32	Total
Denmark ¹									
Estonia	1-12	Coastal	Gillnet		5			324	329
Finland	4-9	Coastal, River	All gears			x	x	x	<100
Latvia	1-12	Coast	Gillnet	642					642
Lithuania	Autumn	Coast							?
Poland	1-12	Offshore,Coastal	Longline, Gillnet	570					570
Russia	5-11	River	Trapnet					31	31
Russia	9-11	Coast	Gillnet					75	75
Sweden	5-6	Coast	Trapnet			9	16		25
Sweden	6-7	River trap		10		50	27		87
Germany ¹									
Total									1759

1) no sampling.

Table 7.1.2 Nominal catches (in tonnes round fresh weight) of sea trout in the Baltic Sea. S=Sea, C=Coast and R=River.

Year																Total Main Basin	Gulf of Bothnia						Total Gulf of Bothnia	Gulf of Finland				Total Gulf of Finland	Grand Total	
	Denmark ^{1,4}		Estonia	Finland ²			Germany ⁴		Latvia		Lith.		Poland				Sweden ⁴			Finland ²				Sweden						
	S + C	C	S	S + C	R	C	S + C	R	C	R	S ⁹	S + C	R	S ⁶	C ⁶		R	S	C	R	S ⁶	C ⁶		R	C	S	C			R
1979	3	na		10		na	na		na		na	81 ³	24	na	na	3	121	6	na	na	na	na	6	na		73	0	73	200	
1980	3	na		11		na	na		na		na	48 ³	26	na	na	3	91	87	na	na	na	na	87	na		75	0	75	253	
1981	6	na		51		na	na		na		na	45 ³	21	na	na	3	131	131	na	na	na	na	131	2		128	0	130	392	
1982	17	na		52		1	13		na		na	80	31	na	na	3	197	134	na	na	na	na	134	4		140	0	144	475	
1983	19	na		50		na	14		na		na	108	25	na	na	3	219	134	na	na	na	na	134	3		148	0	151	504	
1984	29	na		66		na	9		na		na	155	30	na	na	5	294	110	na	na	na	na	110	2		211	0	213	617	
1985	40	na		62		na	9		na		na	140	26	na	na	13	290	103	na	na	na	na	103	3		203	0	206	599	
1986	18	na		53		na	8		na		na	91	49	7	9	8	243	118	na	1	24	na	143	2		178	0	180	566	
1987	31	na		66		na	2		na		na	163	37	6	9	5	319	123	na	1	26	na	150	na		184	0	184	653	
1988	28	na		99		na	8		na		na	137	33	7	12	7	331	196	na	na	44	42	282	3		287	0	290	903	
1989	39	na		156		18	10		na		na	149	35	30	17	6	460	215	na	1	78	37	331	3		295	0	298	1,089	
1990	48 ³	na		189		21	7		na		na	388	100	15	15	10	793	318	na	na	71	43	432	4		334	0	338	1,563	
1991	48 ³	1		185		7	6		na		na	272	37	26	24	7	613	349	na	na	60	54	463	2		295	0	297	1,373	
1992	27 ³	1		173		na	6		na		na	221	60	103	26	1	618	350	na	na	71	48	469	8		314	0	322	1,409	
1993	59 ³	1		386		14	17		na		na	202	70	125	21	2	897	160	na	na	47	43	250	14		704 ⁷	0	718	1,865	
1994	33 ^{8,3}	2		384		15 ⁸	18		+		na	152	70	76	16	3	769	124	na	na	24	42	190	6		642	0	648	1,607	
1995	69 ^{8,3}	1		226		13	13		3		na	187	75	44	5	11	647	162	na	na	33	32	227	5		114	0	119	993	
1996	71 ^{8,3}	2		76		6	10		2		na	150	90	93	2	9	511	151	25	na	20	42	238	14		78	3	95	844	
1997	53 ^{8,3}	2		44		+	7		2		na	200	80	72	7	7	474	156	12	na	16	54	238	8		82	3	93	805	
1998	60	8		103		4	7		na		208	184	76	88	3	6	747	192	12	0	9	39	252	6		150	3	159	1,158	
1999	110 ^{8,3}	2		84		9	10		1		384	126	116	51	2	3	898	248	12	0	18	41	319	8		93	3	104	1,321	
2000	58	4		64		9	14		1		443	299	70	42	4	3	1011	197	12	0	14	36	259	10		56	3	69	1,339	
2001	54	2	5	57		10	12		1		486	219	11	23	1	3	884	2	221	7	0	14	44	288	8		68	3	79	1,251
2002	35	5	2	75		12	13		2		539	272	53	11	1	3	1023	0	78	7	0	23	38	147	11		31	3	45	1,215
2003	40	2	1	71		9	6		+		583	169	72	3	1	0	958	0	70	11	0	15	30	127	7		27	2	36	1,121
2004	46	3	1	35	0	12	7		1		606	122	36	9	2	3	883	1	62	11	0	18	29	120	7	0	33	2	43	1,045
2005	14	4	1	37	0	15	7	1	1	0	480	86	20	5	2	2	675	0	69	11	0	22	31	133	6	0	37	3	46	855
2006	44	10	1	38	0	12	7		1	0	419	94	17	6	2	1	652	1	139	5	0	19	33	197	10	0	72	3	86	934
2007	26	4	2	36	0	9	8		1	0	357	130	39	6	2	1	620	0	144	8	0	14	32	198	13	0	71	3	88	906
2008 ⁵	18	4	1	39	0	4	8	0	0	2	35	89	48	4	2	3	257	0	146	9		17	40	212	10	0	77	2	89	558

¹Additional sea trout catches are included in the salmon statistics for Denmark until 1982 (table 3.1.2).²Finnish catches include about 70 % non-commercial catches in 1979 - 1995, 50 % in 1996-1997, 75% in 2000-2001.³Rainbow trout included.⁴Sea trout are also caught in the Western Baltic in Sub-divisions 22 and 23 by Denmark, Germany and Sweden.⁵ Preliminary data.⁶Catches reported by licensed fishermen and from 1985 also catches in trapnets used by nonlicensed fishermen.⁷Finnish catches include about 85 % non-commercial catches in 1993.⁸ICES Sub-div. 22 and 24.

+ Catch less than 1 tonne.

⁹Catches in 1979-1997 included sea and coastal catches, since 1998 coastal (C) and sea (S) catches are registered separately

na=Data not available

Table 7.2.2.1 Status of wild and mixed sea trout populations in 2007

Area	Country	Potential smolt production	Smolt production (% of potential production)											
			<5 %		5-50 %		> 50 %		Uncertain		Total			
			wild	mixed	wild	mixed	wild	mixed	wild	mixed	wild	mixed		
Gulf of Bothnia	Finland	< 1	0	0	0	0	0	0	0	0	0	0	0	
		1-10	0	3	0	1	0	0	0	0	0	0	4	
		11-100*	0	0	0	1	0	0	0	0	0	0	1	
		> 100	0	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	3	0	2	0	0	0	0	0	0	0	5	
	Sweden**	< 1	0	0	0	0	0	0	0	0	0	0	0	0
		1-10	0	0	0	0	0	0	0	0	0	0	0	0
		11-100	0	0	0	0	0	0	0	0	0	0	0	0
		> 100	0	0	0	0	0	0	0	0	0	0	0	0
Uncertain		0	0	0	0	0	0	25	26	25	26	25	26	
Total	0	0	0	0	0	0	25	26	25	26	25	26		
Total		0	3	0	2	0	0	25	26	25	26	25	31	
Gulf of Finland	Estonia	< 1	0	0	2	4	3	1	14	0	19	5	5	
		1-10	0	1	5	2	6	3	0	0	11	6	6	
		11-100	0	0	0	0	0	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	1	7	6	9	4	14	0	30	11	11		
	Finland	< 1	2	2	0	0	0	0	0	0	2	2	2	
		1-10	1	0	1	2	0	0	0	0	2	2	2	
		11-100	0	0	0	2	0	0	0	0	0	0	2	
		> 100	0	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	1	0	1	0	0	
	Total	3	2	1	4	0	0	1	0	5	6	6		
	Russia	< 1	1	0	3	0	2	0	2	0	8	0	0	
		1-10	7	0	2	0	0	0	2	0	11	0	0	
		11-100*	1	1	1	0	0	0	0	0	2	1	1	
> 100		0	0	0	0	0	0	0	0	0	0	0		
Uncertain		0	0	0	0	0	0	19	0	19	0	0		
Total	9	1	6	0	2	0	23	0	40	1	1			
Total		12	4	14	10	11	4	38	0	75	18			
Main Basin	Denmark	< 1	4	100	25	28	56	15	27	142	112	285		
		1-10	1	6	5	4	14	46	0	0	20	56		
		11-100	0	0	1	1	1	10	0	0	2	11		
		> 100	0	0	0	0	0	0	0	0	0	0		
		Uncertain	0	0	0	0	0	0	0	0	0	0		
	Total	5	106	31	33	71	71	27	142	134	352			
	Estonia	< 1	4	0	4	2	5	0	9	0	22	2		
		1-10	0	0	4	0	1	1	1	0	6	1		
		11-100	0	0	0	0	0	0	0	0	0	0		
		> 100	0	0	0	0	0	0	0	0	0	0		
		Uncertain	0	0	0	0	0	0	0	0	0	0		
	Total	4	0	8	2	6	1	10	0	28	3			
	Latvia	< 1	0	0	0	0	0	0	0	0	0	0		
		1-10	0	0	0	2	11	0	2	11	13	13		
		11-100	0	1	0	0	1	0	1	1	2	2		
		> 100	0	0	0	0	0	0	0	0	0	0		
		Uncertain	0	0	0	0	7	0	0	7	7	7		
	Total	0	1	0	2	19	0	3	19	22	22			
	Lithuania	< 1	0	0	0	0	0	0	0	0	0	0		
		1-10	0	0	0	2	0	0	0	0	0	2		
		11-100	0	1	0	0	0	0	0	0	0	1		
		> 100*	0	0	0	1	0	0	0	0	0	1		
		Uncertain	0	0	0	0	0	0	0	0	0	0		
	Total	0	1	0	3	0	0	0	0	0	4			
	Poland	< 1	0	1	0	1	0	4	0	0	0	6		
		1-10	0	0	0	1	0	2	0	0	0	3		
		11-100*	0	0	0	4	0	1	0	0	0	5		
> 100		0	0	0	0	0	0	0	0	0	0			
Uncertain		0	0	0	0	0	0	0	0	0	0			
Total	0	1	0	6	0	7	0	0	0	14				
Russia	< 1	0	0	0	0	0	0	0	0	0	0			
	1-10	0	0	0	0	0	0	0	0	0	0			
	11-100	0	0	0	0	0	0	0	0	0	0			
	> 100	0	0	0	0	0	0	0	0	0	0			
	Uncertain	0	0	0	0	0	0	3	0	3	0			
Total	0	0	0	0	0	0	3	0	3	0				
Sweden**	< 1	0	0	0	0	0	0	0	0	0	0			
	1-10	0	0	0	0	0	0	0	0	0	0			
	11-100	0	0	0	0	0	0	0	0	0	0			
	> 100	0	0	0	0	0	0	0	0	0	0			
	Uncertain	0	0	0	0	0	0	200	7	200	7			
Total	0	0	0	0	0	0	200	7	200	7				
Total		9	109	39	46	96	79	243	168	387	402			
Grand total		21	116	53	58	107	83	306	194	487	451			

* includes large river systems, see Table 7.2.1 ** data from 2006

Table 7.2.2.2 Factors influencing status of sea trout populations

Area	Country	Potential smolt production	Number of populations					Other	Uncertain
			Over exploitation	Habitat degradation	Dam building	Pollution			
Gulf of Bothnia*	Finland	< 1	0	0	0	0	0	0	0
		1-10	4	4	2	1	0	0	0
		11-100	1	1	0	0	0	0	0
		> 100	0	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0	0
	Total	5	5	2	1	0	0	0	
Total		5	5	2	1	0	0		
Gulf of Finland	Finland	< 1	4	4	4	0	0	0	
		1-10	4	2	2	1	0	0	
		11-100	2	2	1	0	0	0	
		> 100	0	0	0	0	0	0	
		Uncertain	0	1	1	0	0	0	
	Total	10	9	8	1	0	0		
	Russia	< 1	5	5	0	4	0	0	
		1-10	11	9	2	7	0	0	
		11-100	3	3	1	3	0	0	
		> 100	0	0	0	0	0	0	
		Uncertain	11	11	3	8	0	0	
	Total	30	28	6	22	0	0		
	Estonia	< 1	1	5	0	0	0	0	
		1-10	6	3	1	4	0	0	
		11-100	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	
	Total	7	8	1	4	0	0		
	Total		47	45	15	27	0	0	
	Main Basin*	Estonia	< 1	0	1	0	0	0	0
1-10			0	0	0	0	0	0	
11-100			0	0	0	0	0	0	
> 100			0	0	0	0	0	0	
Uncertain			0	0	0	0	0	0	
Total		0	1	0	0	0	0		
Latvia		< 1	0	1	0	0	0	0	
		1-10	5	3	3	0	2	0	
		11-100	0	0	1	0	0	0	
		> 100	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	
Total		5	4	4	0	2	0		
Lithuania		< 1	0	0	0	0	0	0	
		1-10	0	4	5	2	0	0	
		11-100	0	1	2	1	0	0	
		> 100**	0	1	1	1	1	0	
		Uncertain	0	0	0	0	0	0	
Total		0	5	8	4	1	0		
Poland		< 1	2	3	3	1	0	0	
		1-10	2	2	3	0	0	0	
	11-100**	2	3	5	2	0	0		
	> 100	0	0	0	0	0	0		
	Uncertain	0	0	0	0	0	0		
Total	6	8	11	3	0	0			
Russia	< 1	0	0	0	0	0	0		
	1-10	0	0	0	0	0	0		
	11-100	0	0	0	0	0	0		
	> 100	0	0	0	0	0	0		
	Uncertain	3	2	0	2	0	0		
Total	3	2	0	2	0	0			
Denmark	< 1	0	0	0	0	0	397		
	1-10	0	0	0	0	0	76		
	11-100	0	0	0	0	0	13		
	> 100	0	0	0	0	0	0		
	Uncertain	0	0	0	0	0	0		
Total	0	0	0	0	0	486			
Total		14	20	23	9	3	486		
Grand total		66	70	40	37	3	486		

* data from Sweden were unavail; ** includes large river systems, see Table 7.2.1.6.

Table 7.2.2.3 Densities of sea trout parr in electrofishing surveys in Swedish tributaries in the Gulf of Bothnia, Sub-div. 31, in 1982-2007.

River	0+														>0+													
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Torneälven tributaries ¹⁾	0.36	0.62	0.66	2.03	5.89	3.82	8.50	4.73	11.07	1.33	3.14	0.00	0.00	0.19	1.74	1.61	0.00	1.02	1.46	0.00	2.78	7.26	9.55	4.50	4.40	0.70	0.70	0.50
Kalixälven tributaries	0.18	0.43	0.18	0.38	1.09	0.78	0.85	2.30	4.51	1.27	2.54	8.70	na	1.45	0.93	0.45	0.95	0.55	1.02	1.08	0.98	1.46	2.13	1.16	1.23	7.10	na	0.85
Råneälven tributaries	0.26	0.00	0.00	0.00	0.19	0.04	2.53	0.76	na	0.10	0.10	0.00	0.00	0.00	4.10	0.00	0.00	0.35	0.00	0.38	1.92	0.45	na	0.02	0.10	0.20	0.04	0.17
Piteälven tributaries								1.44	1.81	0.40	1.29	2.20	1.10	0.50	0.50	1.05	0.87	0.66	1.40	1.00								0.43
Äbyälven tributaries	0.00	0.00	0.00	na	6.35	0.50	1.47	1.22	0.00	na	5.48	1.90	na	0.50	5.00	0.00	1.18	na	6.73	2.28	3.13	0.58	2.03	na	1.40	5.70	na	0.24
Byskeälven tributaries	1.74	0.12	0.00	1.60	1.86	0.75	1.30	0.40	0.65	na	14.30	0.80	0.90	0.53	1.14	0.64	0.62	1.25	0.98	1.00	2.72	0.72	0.20	na	1.66	5.20	11.20	0.84
Kågeälven tributaries	0.00	0.00	0.00	na	1.57	na	0.00	na	na	na	70	na	na	na	14.2	0.40	0.00	na	5.83	na	2.80	na	na	na	1.15	na	na	na
Rickleån tributaries	21.9	0.00	13.8	16.6	35.2	1.50	na	28.6	26.0	20.6	na	19.5	na	14.18	10.0	0.00	0.35	7.55	5.00	7.80	na	17.5	7.10	1.95	na	18.1	na	2.42
Sävarån tributaries	4.66	2.21	7.15	1.98	16.2	5.63	8.01	17.9	5.59	6.87	na	11.1	na	3.10	15.4	4.78	9.12	5.13	8.24	8.54	6.80	16.6	11.6	9.01	na	21.1	na	3.60
Vindelälven tributaries	1.56	11.3	12.2	8.58	44.3	4.69	26.5	66.2	0.59	15.4	2.35	7.90	6.50	1.05	16.6	11.0	11.6	11.9	13.1	17.7	9.39	14.2	13.3	4.06	0.00	9.80	4.2	1.80
Öreälven tributaries	0.80	56	1.46	0.00	1.12	4.74	5.24	12.3	7.92	4.03	2.70	13.80	1.70	0.33	9.88	2.75	11.5	7.60	3.46	3.30	6.92	3.72	7.12	7.18	5.55	23.50	3.9	0.85
Lögdeälven tributaries	9.31	7.22	64.2	14.9	45.0	6.95	13.8	33.8	13.9	56.7	56.0	17.8	1.54	1.22	15.9	6.91	7.52	16.2	24.8	21.7	15.2	13.8	15.0	7.87	19.0	16.3	0.39	1.16

¹⁾ Finnish and Swedish sites combined

Table 7.2.2.4 Densities of 0+ sea trout parr (individuals/100m²) in Finnish rivers in 1995-2007
* tributaries of Tornionjoki

River	0+																			
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Pakajoki*	0.1	3.2	5.3	4.6	3.3	0	0	0	1.2	0.7	3.6	7.7	19.7	13	26.7	2.7	4	2.6	7.9	4.2
Äkäsjoki*	0.7	5.5	3.4	1.1	1.7	4.6	0	0	0.7	4.2	16.6	2.1	6.8	4.9	15.4	1.5	7.7	2.8	13.6	4.7
Lestijoki	-	0.1	0.2	0.4	1.1	0.1	0	0	0	0	0	0.2	0.1	1	0.1	0.2	1.1	0	0.2	0.1
Isojoki	-	-	-	-	-	-	1	7.5	7.6	2.9	4.9	2.7	2.7	11.8	1.4	2.6	1.3	3.8	4.3	8.1
Ingarskilanjoki	-	-	-	-	-	-	-	-	-	-	-	-	9.4	13.6	0	0.2	13.6	33.5	11.7	25.7

Table 7.2.3.1 Status of wild and mixed sea trout populations in 2007

Area	Country	Potential smolt production	Smolt production (% of potential production)										
			<5 %		5-50 %		> 50 %		Uncertain		Total		
			wild	mixed	wild	mixed	wild	mixed	wild	mixed	wild	mixed	
Gulf of Bothnia	Finland	< 1	0	0	0	0	0	0	0	0	0	0	0
		1-10	0	3	0	1	0	0	0	0	0	0	4
		11-100*	0	0	0	1	0	0	0	0	0	0	1
		> 100	0	0	0	0	0	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0	0	0	0	0	0
	Total	0	3	0	2	0	0	0	0	0	0	0	5
	Sweden**	< 1	0	0	0	0	0	0	0	0	0	0	0
		1-10	0	0	0	0	0	0	0	0	0	0	0
		11-100	0	0	0	0	0	0	0	0	0	0	0
		> 100	0	0	0	0	0	0	0	0	0	0	0
Uncertain		0	0	0	0	0	0	25	26	25	26	26	
Total	0	0	0	0	0	0	25	26	25	26	26		
Total		0	3	0	2	0	0	25	26	25	31		
Gulf of Finland	Estonia	< 1	0	0	2	4	3	1	14	0	19	5	
		1-10	0	1	5	2	6	3	0	0	11	6	
		11-100	0	0	0	0	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	
	Total	0	1	7	6	9	4	14	0	30	11		
	Finland	< 1	2	2	0	0	0	0	0	0	2	2	
		1-10	1	0	1	2	0	0	0	0	2	2	
		11-100	0	0	0	2	0	0	0	0	0	2	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	1	0	1	0	
	Total	3	2	1	4	0	0	1	0	5	6		
	Russia	< 1	1	0	3	0	2	0	2	0	8	0	
		1-10	7	0	2	0	0	0	2	0	11	0	
		11-100*	1	1	1	0	0	0	0	0	2	1	
> 100		0	0	0	0	0	0	0	0	0	0		
Uncertain		0	0	0	0	0	0	19	0	19	0		
Total	9	1	6	0	2	0	23	0	40	1			
Total		12	4	14	10	11	4	38	0	75	18		
Main Basin	Denmark	< 1	4	100	25	28	56	15	27	142	112	285	
		1-10	1	6	5	4	14	46	0	0	20	56	
		11-100	0	0	1	1	1	10	0	0	2	11	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	
	Total	5	106	31	33	71	71	27	142	134	352		
	Estonia	< 1	4	0	4	2	5	0	9	0	22	2	
		1-10	0	0	4	0	1	1	1	0	6	1	
		11-100	0	0	0	0	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	
	Total	4	0	8	2	6	1	10	0	28	3		
	Latvia	< 1	0	0	0	0	0	0	0	0	0	0	
		1-10	0	0	0	2	11	0	2	11	13	13	
		11-100	0	1	0	0	1	0	1	1	2	2	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	7	0	0	7	7	7	
	Total	0	1	0	2	19	0	3	19	22	22		
	Lithuania	< 1	0	0	0	0	0	0	0	0	0	0	
		1-10	0	0	0	2	0	0	0	0	0	2	
		11-100	0	1	0	0	0	0	0	0	0	1	
		> 100*	0	0	0	1	0	0	0	0	0	1	
		Uncertain	0	0	0	0	0	0	0	0	0	0	
	Total	0	1	0	3	0	0	0	0	0	4		
	Poland	< 1	0	1	0	1	0	4	0	0	0	6	
		1-10	0	0	0	1	0	2	0	0	0	3	
		11-100*	0	0	0	4	0	1	0	0	0	5	
> 100		0	0	0	0	0	0	0	0	0	0		
Uncertain		0	0	0	0	0	0	0	0	0	0		
Total	0	1	0	6	0	7	0	0	0	14			
Russia	< 1	0	0	0	0	0	0	0	0	0	0		
	1-10	0	0	0	0	0	0	0	0	0	0		
	11-100	0	0	0	0	0	0	0	0	0	0		
	> 100	0	0	0	0	0	0	0	0	0	0		
	Uncertain	0	0	0	0	0	0	3	0	3	0		
Total	0	0	0	0	0	0	3	0	3	0			
Sweden**	< 1	0	0	0	0	0	0	0	0	0	0		
	1-10	0	0	0	0	0	0	0	0	0	0		
	11-100	0	0	0	0	0	0	0	0	0	0		
	> 100	0	0	0	0	0	0	0	0	0	0		
	Uncertain	0	0	0	0	0	0	200	7	200	7		
Total	0	0	0	0	0	0	200	7	200	7			
Total		9	109	39	46	96	79	243	168	387	402		
Grand total		21	116	53	58	107	83	306	194	487	451		

* includes large river systems, see Table 7.2.1 ** data from 2006

Table 7.2.3.2 Status of wild and mixed sea trout populations in large river systems in 2007

Country	River (Area)	Potential smolt production	Smolt production (% of potential production)										
			<5 %		5-50 %		> 50 %		Uncertain		Total		
			wild	mixed	wild	mixed	wild	mixed	wild	mixed	wild	mixed	
Lithuania	Nemunas (Main Basin)	< 1	0	0	0	0	0	0	0	0	0	0	0
		1-10	0	0	0	0	0	0	0	0	0	0	0
		11-100	1	0	1	3	0	1	0	0	2	4	
		> 100	0	0	0	0	0	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0	0	0	0	0	0
Total		1	0	1	3	0	1	0	0	2	4		
Poland	Odra (Main Basin)	< 1	0	0	0	2	0	0	0	3	0	5	
		1-10	0	0	0	2	0	0	0	0	0	2	
		11-100	0	0	0	0	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	4	0	0	0	3	0	7		
Poland	Vistula (Main Basin)	< 1	0	0	0	1	0	0	0	2	0	3	
		1-10	0	0	0	1	0	0	0	0	0	1	
		11-100	0	0	0	0	0	0	0	0	0	0	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	2	0	0	0	2	0	4		
Russia	Luga (Gulf of Finland)	< 1	1	0	1	0	0	0	0	0	2	0	
		1-10	1	0	1	0	0	0	0	0	2	0	
		11-100	1	0	0	1	0	0	0	0	1	1	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	1	0	1	0	
Total		3	0	2	1	0	0	1	0	6	1		
Finland	Tornion-joki (Gulf of Bothnia)	< 1	0	0	0	0	0	0	0	0	0	0	
		1-10	1	4	2	0	0	0	0	0	3	4	
		11-100	1	0	0	1	0	0	0	0	1	1	
		> 100	0	0	0	0	0	0	0	0	0	0	
		Uncertain	0	0	0	0	0	0	0	0	0	0	
Total		2	4	2	1	0	0	0	0	4	5		

Table 7.2.3.3 Factors influencing status of sea trout populations in large river systems

Country	River	Potential smolt production	Number of populations					
			Overexploitation	Habitat degradation	Dam building	Pollution	Other	No influence
Lithuania	Nemunas (Main Basin)	< 1	0	0	0	0	0	0
		1-10	0	0	1	0	0	0
		11-100	0	2	4	1	1	0
		> 100	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0
Total		0	2	5	1	1	0	
Poland	Odra (Main Basin)	< 1	5	3	3	4	0	0
		1-10	2	1	2	1	0	0
		11-100	0	0	0	0	0	0
		> 100	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0
Total		7	4	5	5	0	0	
Poland	Vistula (Main Basin)	< 1	0	2	2	2	1	0
		1-10	1	1	1	1	0	0
		11-100	0	0	0	0	0	0
		> 100	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0
Total		1	3	3	3	1	0	
Russia	Luga (Gulf of Finland)	< 1	2	1	0	0	0	0
		1-10	2	1	1	1	0	0
		11-100	2	2	0	2	0	0
		> 100	0	0	0	0	0	0
		Uncertain	1	0	0	0	0	0
Total		7	4	1	3	0	0	
Finland	Tomionjoki (Gulf of Bothnia)	< 1	0	0	0	0	0	0
		1-10	7	6	0	0	0	0
		11-100	2	1	0	0	0	0
		> 100	0	0	0	0	0	0
		Uncertain	0	0	0	0	0	0
Total		9	7	0	0	0	0	

Table 7.2.3.4 Densities of wild sea trout parr (individuals/100 m²) in Estonian rivers of the Gulf of Finland and Main Basin in 1997-2008

River	0+												>0+												
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Pada	-	-	1	-	1.9	48.8	5.3	7.8	19.3	76	24.4	15.4	-	-	18	-	18.6	1.4	1.3	4.4	15.6	10.2	10.6	5.6	
Puritse	0	0	0	0	0	0	0	0	0	1.2	2.3	0.4	0	0	0	0	0	0	0	0	0	0.2	0.3	0	
Kunda	7	16	1	15	0.9	12.2	0.3	23.8	1.2	11	5.7	27	21	2	11	3	4.3	1.2	1	0.3	6.5	1.1	2	0.4	
Toolse	-	-	3	-	-	-	0	0.5	21.4	20.6	6.9	28.5	-	-	4	-	3.4	-	1.9	1.1	8.4	8.5	6.3	7.8	
Seija	0	0	+	23	9.3	3.4	0	0.4	7.4	0.3	22.2	15.4	<1	+	+	7	0.8	10	0.5	0.4	1.1	0.2	0.1	0.2	
Vainupea	44	2	34	9	0	22.3	0	10.9	15.5	2.7	5.5	25.8	13	13	15	9	0	0	4.2	0	15.5	8	0.7	7.4	
Mustoja	22	+	8	7	2.1	6.3	0.4	0.6	19.6	35.5	30.2	31.7	+	+	9	2	5	2	11.9	2.4	4.8	2.0	3.8	3.2	
Alja	88	16	84	1	46.3	32.9	0.4	2	6.6	2.0	1.9	25.6	5	5	15	2	6.6	6.1	1.9	0.5	0	1.0	0.5	0.4	
Vosu	-	-	52	-	-	-	0.2	8.7	39.1	47.2	5	13.7	-	-	19	-	-	-	3.3	3.5	8.6	15.0	4.3	5.7	
Loobu	16	+	12	1	3.1	5.1	1.3	4.8	9.6	8.4	3.9	25.4	+	+	21	2	1.3	6	0.7	1.2	1	1.5	3.2	1.4	
Valgeõgi	<1	0	0.1	0	0.3	-	0	1.6	1	3.2	3.6	3.2	0	0	0.1	1	0.4	-	0.2	0.8	1.1	0.7	2.1	3.2	
Pudisoo	-	4	-	-	4.2	5.5	1	26.3	21.5	0.8	8.9	19.6	2	2	-	-	5.1	2	0.5	0	14.9	15.4	0.7	6.7	
Loo	-	20	-	-	-	-	0	1.1	3.4	10.2	2.2	29.2	2	2	-	-	-	-	11.7	0	6.9	0.0	1.9	2	
Kaberla	-	2	-	-	21.6	-	0	0	53.5	0.0	0	31.6	4	4	-	-	2.3	-	1	0	0	0	0	0	
Valka	-	1	-	-	-	-	0	-	-	21.3	14.3	34	8	8	-	-	-	-	-	-	-	1.3	7.1	7.3	
Prita	-	0	0.6	0.1	1.5	0.5	0	0	0.4	1.6	0.1	7.4	+	+	0.6	0.1	0.7	2.1	0.3	0	0.1	0.4	0.1	5.1	
Väana	-	4	0.2	4	25.1	6.7	0	2.5	2.4	14.3	12.4	22.5	-	4	5	0.2	3.9	6	3.5	0.2	0.8	4.1	2.4	5.5	
Kella	7	+	1	1.4	2.6	1.1	0	7.4	1.8	0.4	3.7	24.0	+	+	1	2	0.7	1.1	1.1	0	0.5	0.0	0	3.8	
Vasalemma	10	2	15	9	5.6	4.8	0	1.9	10.8	3.0	7.1	10.9	9	9	6.9	-	11.6	2.6	4	1	3.8	4.6	3.3	1.2	
Kloostri	0	0	0	0	0	0	0	0	0	15.1	1.8	3.4	0	0	0	0	0	0	0	0	0	1.3	9.1	1.7	
Vhiterpalu	-	2	+	-	2.5	-	0	0.3	2.4	8.9	0.2	1.3	2	2	0.5	-	3.7	-	2.3	0.3	8	2.0	0.4	0.2	
Veskiõgi	-	-	0	-	0	11	0	0	3.2	0.0	0.9	6.2	-	-	0	9	1.1	-	2.3	23.6	6.4	3.0	0.9	1.9	
Nõva	-	0	0.5	-	0	9	1	0.7	1.1	2.6	3.1	2.8	-	-	0	0.5	-	0	2.1	2.2	1.2	1.6	0.2	1.1	
Rõudli	-	-	7	-	-	-	0	0	9.4	6.8	9.5	19.5	-	-	0	-	-	-	1	0.9	4.4	1.9	2	2.6	
Hõbringi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.8	1.4	0.7	
Mägara	-	-	-	-	-	-	-	-	23.1	-	3.4	14.5	-	-	-	-	-	-	-	-	0	-	2.1	0	
Timrikanal	-	-	-	-	-	-	7.3	-	19.8	8.4	7.1	31.5	-	-	-	-	-	-	0.8	-	-	2.9	1	4.9	
Haademeste	-	-	-	-	-	-	0.4	-	-	4.4	0.7	31.4	-	-	-	-	-	-	3.1	-	-	3.8	3.2	0.3	
Kadaka	-	-	-	-	-	-	0	-	-	3.8	3.1	-	-	-	-	-	-	-	13.4	-	-	53.9	6.9	-	
Privilisa	-	-	-	-	-	-	3.3	-	-	4.9	0	-	-	-	-	-	-	-	-	1.3	-	9.0	0	-	
Lemme	-	-	-	-	-	-	1.8	-	-	1.6	14.8	-	-	-	-	-	-	-	1.8	-	-	34.7	2.1	-	
Loodu	-	-	-	-	-	-	0.5	-	-	6.1	21.6	-	-	-	-	-	-	-	4	-	-	15.2	1.6	-	
Treimani	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
Kõlga	-	-	-	-	-	-	0	-	43.8	98.0	36.9	63.2	-	-	-	-	-	-	3.4	-	-	0.0	3.2	1.5	
Mõnniku	-	-	-	-	-	0 ^{*)}	-	24.1	4.4	0	44.7	-	-	-	-	-	-	0 ^{*)}	-	-	14.6	18.8	0	1.1	
Taaliku	-	-	-	-	-	-	-	-	-	2.4	28.7	7.5	-	-	-	-	-	-	-	-	-	19.8	16.1	24.2	
Tirtsu	-	-	-	-	-	-	-	0	0.0	0.8	7.1	-	-	-	-	-	-	-	-	-	1	1.5	0	0.9	
Kiruma	-	-	-	-	-	-	-	17.7	17.9	11.2	12.8	-	-	-	-	-	-	-	-	-	-	6.4	44.3	0	15.6
Rõula	-	-	-	-	-	-	-	-	10.2	6.6	7.7	-	-	-	-	-	-	-	-	-	-	23.0	13.7	21.9	
Punapea	-	-	-	-	-	-	-	17	38.5	0.0	18.8	-	-	-	-	-	-	-	-	-	6.5	0.6	0	5.7	
Nutri	-	-	-	-	-	-	-	-	0	-	-	33.6	-	-	-	-	-	-	-	-	0	-	-	9.2	
Vanaõgi	-	-	-	-	-	-	-	19.6	-	-	19.9	-	-	-	-	-	-	-	-	-	11.3	-	-	40.5	
Jamaja	-	-	-	-	-	-	-	-	-	-	69.2	-	-	-	-	-	-	-	-	-	-	-	-	2.8	
Õngu	-	-	-	-	-	-	-	1.1	1.0	-	-	14.2	-	-	-	-	-	-	-	-	1.1	7.8	-	30.8	

- no electrofishing + high water level, counting impossible *) - river dry

Table 7.2.3.5 Densities of sea trout parr (number/100 m²) in the Russian rivers)
discharging to Gulf of Finland (sub-div 32)
- no fishing

River	0+					>0+				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Vidon	-	0.3	1	-	-	-	2.7	4.5	-	-
Lemovzha	-	5.5	3.5	23.1	-	-	2	5.6	2.3	-
Ukhora	10.7	-	0.7	6.8	-	9.3	-	17.7	1.5	-
Azika	-	0	2	0	-	-	1	1	6.3	-
Solka	-	2.8	9.5	1.1	3.1	-	9.4	8	13.5	1.5
Khabolovka	3.1	1.3	9.4	0.8	1.8	9.4	4.2	3.9	4.5	1.8
Sista	-	1.2	1	4.1	4	-	2.9	2.9	7.8	8.3
Voronka	-	0	0	0.8	-	-	0.7	3.7	4.5	-
Sestra	-	-	1	-	-	-	-	0.3	-	-
Kuokkalan	-	-	1.9	-	-	-	-	5.7	-	-
Huumosen-oja	1.6	0	-	-	-	5.8	10.7	-	-	-
Zelenogorsky	0.4	0.5	-	-	-	0.4	1	-	-	-
Bystrii	8.3	-	-	21.8	2	10.8	-	-	7.3	8
Uschkovsky	0.5	16.3	-	0	0.4	2.8	7.5	-	6.4	3.6
Smolyakov	-	-	-	0.5	-	-	-	-	0.1	-
Pikku Vammeljoki	-	-	15	-	-	-	-	60	-	-
Gladyshevka	0.8	1	5.8	0.4	0.7	1.3	1	6.7	4.7	3.8
Puro (Repino)	-	-	-	0	-	-	-	-	80	-
Roschinka	5.4	-	-	-	-	2.5	-	-	-	-
Privetnaya	0	7.6	0.8	0.3	-	0.7	6.7	1.2	1.4	-
Notkopuro	-	-	53	-	-	-	-	31.8	-	-
Jukkola east	32.2	30	-	58	-	67.8	60	-	58	-
Jukkola middle	16	0	-	-	-	3.6	25.5	-	-	-
Jukkola west	-	14	-	-	-	-	32.7	-	-	-
Toivola	0	90	-	-	-	9.1	25	-	-	-
Lososinka	0.2	4	-	-	-	1.2	6.5	-	-	-
Kello-oja	0.2	0.2	-	0	-	2.5	3.3	-	1.8	-
Penttilan-oja	21.1	60	-	8	-	14.7	27.5	-	28	-
Koivistonpuro	-	70.5	-	0	-	-	18.1	-	35	-
Melnichnyi	-	4.1	-	-	-	-	2.3	-	-	-
Rompotinpuro	-	78.8	-	-	-	-	43.5	-	-	-
Gorhovka	0	0	-	-	-	0	0.2	-	-	-
Petrovka	0	-	0.3	-	-	-	0.2	1.3	-	-
Malinovka	0	-	0.2	0.3	3.2	0	-	0	1.5	3
Gusinaya	3.2	-	-	-	-	0	-	-	-	-
Seleznevka	12	1.9	3	-	1	0	2.1	3.9	-	0.8
Gusinovka/ trib. of Seleznevka	-	-	-	-	14.5	-	-	-	-	7.3
Polevaya	4.4	6.3	0	-	-	1.5	7.3	0	-	-
Velikaya	0.7	0	0.3	-	-	0	0.4	0.6	-	-
Peschanaya	0	2.3	1.7	-	-	0	0.2	4.3	-	-
Serga	0	1.2	1.2	-	-	0	2.3	1.8	-	-
Kanan-oja	-	-	11	-	-	-	-	7.9	-	-

Table 7.2.4.1 Densities of sea trout parr in electrofishing surveys in the rivers Emån

River	0+																>0+																	
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Emån	47.0	42.0	2.5	0.2	0.3	1.9	6.9	0.9	1.2	1.4	1.0	2.0	2.3	11.0	1.9	36.0	5.7	2.0	3.1	0.6	0.6	0.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.3	0.4	1.1	1.7	1.1
Mörrumsån	11.0	19.0	18.0	6.0	8.0	6.0	7.0	3.0	5.0	9.0	3.0	3.0	8.0	7.0	2.0	54.0	7.7	3.0	1.0	7.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0	10.0	0.4

Table 7.2.4.2. Densities of sea trout parr (number/100 m²) in electrofishing survey in Lithuanian rivers, Main Basin (sub-div. 26) in 2004-2008

River	0+ and >0+ combined*				
	2004	2005	2006	2007	2008
Neris	3.3	1.8	1.6	2.3	4.4
Žeimena	1	0	3.1	4.7	3.3
Šventoji	3.4	4	1.5	2.5	5.9
Minija	5.1	9.06	8.8	7.1	31.5
Jūra	2.3	3.13	2.6	1.7	12.9
Dubysa	7.5	11.6	7.9	18.1	35.8
Bartuva	2.7	2.69	4.8	8.5	33.2
Akmena	10.2	24.3	10.4	28.8	57.9
Šyša	8.4	14.6	15.5	12.5	25.9
Baltic - Šventoji basin		11.36	8.8	5.6	8.9

* parr of age 0+ and >0+ were counted together and reported as a one value

Table 7.2.4.3. Densities of sea trout parr(number/100m²) in electrofishing survey in Polish rivers in 2004-2008

River	0+					>0+				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Parsęta	69	33	83.5	46.6	30.4	5.2	3.9	8.9	3.7	12.6
Wieprza	27	27	14	5.4	13.4	4.8	7.1	1.8	6.3	0.9
Słupia	19	-	13.8	22.2	7.4	2.4	-	3.4	10.2	0
Łeba	271	89	138.2	-	116.4	6.5	64	35.3	-	43
Drwęca	18	-	-	-	-	0.2	-	-	-	-
Reda	14	-	36.5	1.8	45.1	15	-	7	4	14.9

Table 7.2.4.4 Densities (N parr /100 m² stream) of sea trout parr in Danish electrofishing surveys in a number of streams on the island Bornholm. Avg. Number of sites: 30 (min: 2, max: 65) - no fishing.

River	0+																	>0+														
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bornholm area	39.9	65.8	470.8	18.3	62.7	124.3	97.9	134.0	47.1	68.3	77.3	132.0	91.9	-	102.5	56.9	3.7	1.8	35.6	24.8	9.0	29.6	44.1	41.1	14.4	8.0	15.7	16.6	36.2	-	2.5	4.7

Table 7.3.1 Release of sea trout eggs, alevins, fry and parr into Baltic rivers in 2008.
The number of smolts is added to Table 8.3.2 as enhancement.

Region	Egg	Alevin	Fry	Parr				Smolt			
				1-s old	1-y old	2-s old	3-s old	2009	2010	2011	Total
Sub-divs. 22-29	(1)	(1)	(4)	(6)	(9)	(10)	(10)				
Denmark			220400	98800				0	12540		12540
Estonia								0	0		0
Finland		21000				76300		11445	210		11655
Latvia								0	0		0
Poland		6809727	1226909	8625	30000			3600	105422		109022
Sweden	22850		19900	1200				0	898		898
Lituania			144000	42000	43000			5160	6840		12000
Total	22850	6830727	1611209	150625	73000	76300	0	20205	125910	0	146115
Sub-divs. 30-31	(2)	(3)	(5)	(7)	(8)	(8)	(10)				
Finland	432600	670000	84500	11900	234000			0	28080	14617	42697
Sweden			137246	55160	45441	2280		0	5727	6055	11781
Total	432600	670000	221746	67060	279441	2280	0	0	33807	20672	54478
Sub-div. 32	(1)	(1)	(4)	(6)	(9)	(10)	(10)				0
Estonia				25600				0	1536		1536
Finland				30000	35400			4248	1800		6048
Russia				128100				0	7686		7686
Total	0	0	0	183700	35400	0	0	4248	11022	0	15270
Grand total											
Sub-divs. 24-32	455450	7500727	1832955	401385	387841	78580	0	24453	170738	20672	215863

	Rate of survival to smolt	Time to smoltification		Rate of survival to smolt	Time to smoltification
(1)=	1.0%	2 years	(6)=	6.0%	2 years
(2)=	0.5%	3 years	(7)=	6.0%	3 years
(3)=	1.5%	3 years	(8)=	12.0%	2 years
(4)=	3.0%	2 years	(9)=	12.0%	1 year
(5)=	2.0%	3 years	(10)=	15.0%	1 year

Table 7.3.2 Estimated number of sea trout smolts originating from eggs, alevins, fry and parr releases in 1997-2008.

	1997 ¹	1998 ²	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 ³	2010 ⁴	2011 ⁴
Sub-divs. 22-29															
Denmark	8664	56415	55284	30858	25555	45759	7912	17790	17508	13695	13695	13704	12540	12540	0
Estonia	0	1500	2616	0	0	2100	1200	400	1110	0	0	0	0	0	0
Finland	809	147	55	440	22670	33965	19550	18735	160	0	0	0	11445	210	0
Latvia	1932	142454	17467	13815	8644	11007	960	5340	15227	6462	3189	19015	6840	0	0
Poland	3918	153918	146000	167496	148500	84240	68400	91000	63236	77690	61459	107686	84901	105422	0
Sweden	9676	19655	14756	13129	39333	42690	5320	29335	2055	27700	4425	1623	2210	898	0
Lituania	0	0	0	0	0	0	0	1670	2400	4350	7440	18180	12990	6840	0
Total	24999	374089	236178	225738	244702	219761	103342	164270	101696	129897	90208	160207	130926	125910	0
Sub-divs. 30-31															
Finland	720	43708	57481	54268	80662	26523	42828	36670	1890	31362	11787	22704	29892	32550	14617
Sweden	0	104376	55862	84237	78440	43614	24092	22921	36170	20207	22756	24561	16690	16497	6055
Total	720	148084	113343	138505	159102	70137	66920	59591	38060	51569	34543	47265	46582	49047	20672
Sub-div. 32															
Estonia	0	0	0	0	0	0	2412	2532	4407	2100	420	0	0	1536	0
Finland	0	1861	3623	20910	5500	2049	419	340	3429	345	11574	8997	4353	1800	0
Russia	0	0	708	3882	3630	7800	200	1630	1281	6690	3924	0	312	7686	0
Total	0	1861	4331	24792	9130	9849	3031	4502	9117	9135	15918	8997	4665	11022	0
Grand total															
Sub-divs. 24-32	25719	524034	353852	389035	367576	299747	173293	228363	148873	190601	140669	216468	182173	185978	20672

¹Without 1994 and 1995 releases²Without 1995 releases³Without 2009 releases⁴Without 2009 and 2010 releases

Table 7.3.3 Sea trout smolt releases (x1000) to the Baltic Sea by country and sub-division in 1988-2008.

area	country	age	year																					
			1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Main Basin 22-29	DK	1yr															634	614	562	562	398	387	387	
		2yr																30	30	30	30	21	9	9
	EE	1yr																						3
		2yr																30	23	25	2	21	20	17
	FI	1yr			11				1	0		4		26		28	1		15		35	52	45	
		2yr		129	169	165	123	103	171	144	181	153	182	168	258	197	131	134	244	303	164	187	218	
		3yr		35	16	0		26	1	8	0	13	17	25	35	34	24	9	16	16	15		8	
	LT	1yr																					20	
	LV	1yr													114	160	170			74	91	113	63	
		2yr													2	10	67			116	177	112	132	
PL	1yr													151	211	30	16	46	322	455	188	501		
	2yr													845	733	739	804	765	843	968	1261	878		
SE	1yr	13	9	8	19	41	18	6		4	23	19	90	7	10	108	10	116	11	131	15	76		
	2yr	32	51	78	61	44	46	84	90	60	95	87	76	100	93	40	48	103	44	36	63	78		
Main Basin Total			45	224	282	246	208	192	263	243	245	289	305	386	1396	1421	1935	1925	1921	2322	2513	2406	2436	
Gulf of Bothnia 30-31	FI	1yr			9						7		1		5							33		
		2yr		358	579	700	716	527	525	510	663	639	483	540	462	478	503	451	305	358	477	541	608	
		3yr		99	30	5	18	39	15	1	28	12	49	10	34	75	28	11	15	6	27	9	27	
	SE	1yr			19	7				6		1											40	
	2yr	445	392	406	406	413	376	460	642	554	429	407	372	405	424	380	428	361	413	569	530	410		
GoB Total			445	848	1042	1118	1147	942	1001	1159	1244	1087	939	923	901	982	911	890	681	776	1072	1113	1086	
Gulf of Finland 32	EE	2yr															14	6	8	9	12	10		
		FI	1yr		5		22			4	5	15	12	13	5		38		4				11	
			2yr		191	260	249	306	312	284	342	128	228	277	386	355	372	367	290	281	190	279	247	316
	3yr			0	0	24	6			1	33	92	40	7	24	18	6	16				0		
	RU	1yr																4	3		13	95	25	
	2yr																1		0					
GoF Total				197	261	270	330	318	287	348	177	331	331	398	380	427	373	329	291	198	301	364	352	
Grand Total			490	1269	1584	1634	1685	1452	1551	1749	1666	1707	1575	1706	2677	2830	3219	3144	2893	3296	3886	3883	3873	

Table 7.4.1 Adipose finclipped sea trout released in the Baltic Sea area in 2008.

Country	Species	Stock	Age	Number		River	Sub-division	Other tagging
				parr	smolt			
Estonia	sea trout	Pudisoo	2		10,800	Pudisoo	32	1000 Carlin
Sweden	sea trout	Luleälven	1		12,183	Luleälven	31	
		Luleälven	2		84,099	Luleälven	31	2000 Carlin
		Skellefteälven	2		28,523	Skellefteälven	31	1000 Carlin
		Umeälven	2		21,763	Umeälven	31	1000 Carlin
		Skellefteälven	2		7,000	Gideälven	30	1000 Carlin
		Ångermanälven	2		44,138	Ångermanälven	30	1000 Carlin
		Indalsälven	1	17491		Indalsälven	30	
		Indalsälven	1		15,058	Indalsälven	30	
		Indalsälven	2		68,498	Indalsälven	30	2500 Carlin
		Ljungan	2		36,200	Ljungan	30	2000 Carlin
		Ljusnan	1	2300		Harmängersån	30	
		Ljusnan	1	1200		Norrålaån	30	
		Ljusnan	1	2500		Ljusnan	30	
		Ljusnan	1		12,500	Ljusnan	30	
		Ljusnan	2		49,000	Ljusnan	30	1550 Carlin
		Ljusnan	3		2,210	Ljusnan	30	
		Ljusnan	1	700		Söderhamnsån	30	
		Dalälven	2		894	Gaveån	30	
		Dalälven	2		4,948	Kustutsättningar	30	2000 Carlin
		Vistula, Dalälven	2		50,657	Dalälven	30	2500 Carlin
		Åvaån	1		2,333	Åkersström	27	
		Åvaån, Indal	1	2300		Stockholms St.	27	
		Åvaån, Indal	2		15,000	Stockholms St.	27	
		Åvaån	0	1200		Övriga vattendrag	27	
		Åvaån	1		11,233	Övriga vattendrag	27	
		Åvaån	2		5,100	Övriga vattendrag	27	
		Indal, Åvaån	1		37,468	Kustutsättningar	27	
		Indal, Åvaån	2		14,600	Kustutsättningar	27	
		Åvaån	1		2,333	Trosaån	27	
		Åvaån	1		1,900	Nyköpingsån	27	
		Åvaån	2		5,100	Nyköpingsån	27	
		Åvaån	1		2,333	Kustutsättningar	27	
		Mörrum	1		13,136	Mörrumsån	25	997 Carlin
Mörrum	1		3,450	Kustutsättningar	25			
Poland	sea trout	Łeba	1		69,026	Łeba	25	
		Ślupia	1		145,101	Ślupia	25	3000 Carlin
		Ślupia	2		2,000	Ślupia	25	
		Parzęta	2		118,570	Parzęta	25	2000 Carlin
		Rega	1		3,000	Rega	25	2000 Carlin
Latvia	sea trout	Odra	1		49,800	Rega	24	2000 Carlin
		Dougava	2		48,000	Dougava	28	
		Gauja	2		61,500	Gauja	28	
		Roja	2		6,500	Roja	28	
Total sea trout					27,691	1,065,954		

Table 7.4.1.1 Number of Carlin-tagged sea trout released into the Baltic Sea in 2008.

Country	22	24	25	26	27	28	29	30	31	32	Total
Estonia							1,000			1,000	2,000
Finland							4981	3392	10168	4967	23,508
Sweden			997					12,550	4,000		17,547
Latvia						3,000					3,000
Poland		2,000	7,000	23,500							32,500
Total	0	2,000	7,997	23,500	0	3,000	5,981	15,942	14,168	5,967	78,555

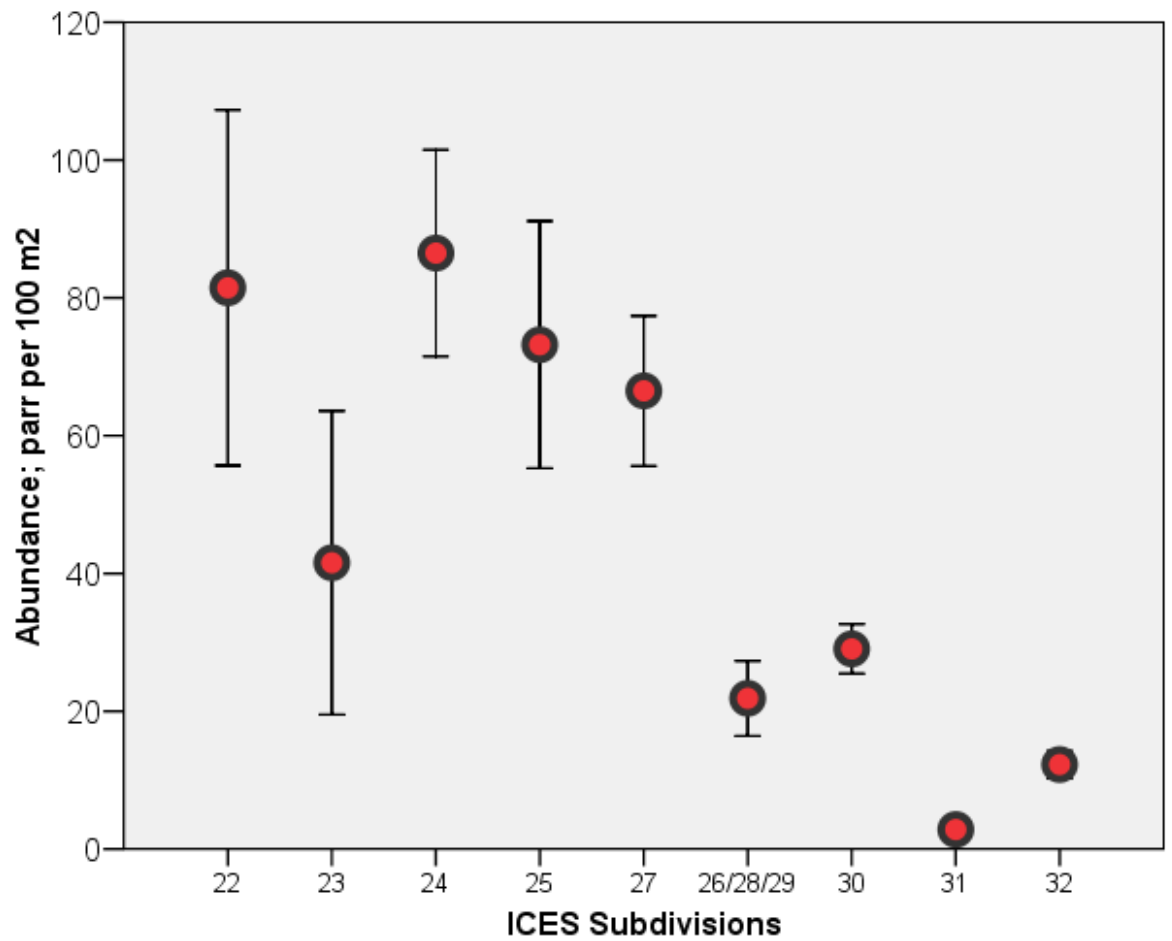


Figure 7.2.1. Average parr abundance (all ages) from electrofishing in 295 rivers debouching in different ICES subdivisions. Only data from 2000–2008. Notice that the abundance is not adjusted for differences in size of catchments.

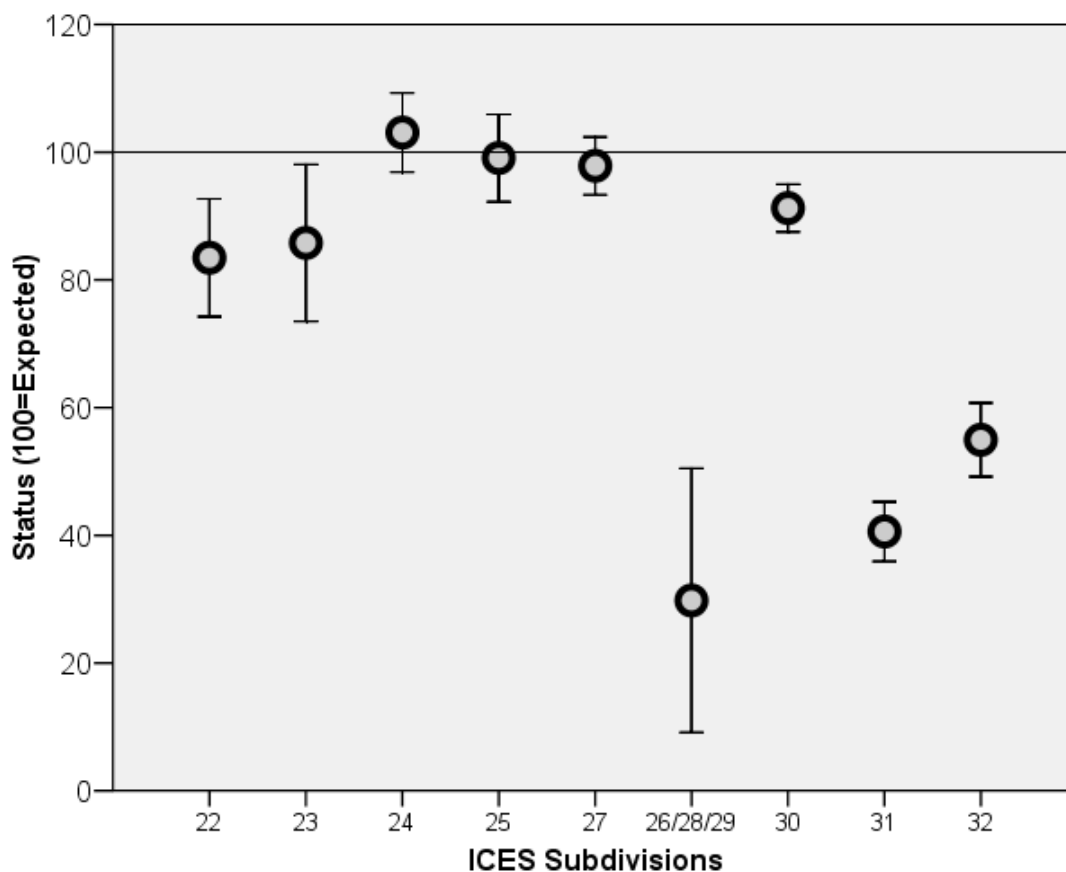


Figure 7.2.2. Stock status defined as: observed abundance for each river and year was divided by the predicted abundance and expressed as percentage, taking latitude, habitat quality and river size into consideration (ICES 2009); of sea trout parr from rivers in different subdivision expressed as percentage of predicted abundance if the river habitat was good and the populations stable. Average and 95% confidence interval shown. Only data from 2000–2008.

Sea trout catches in two rivers of the sub-division 31

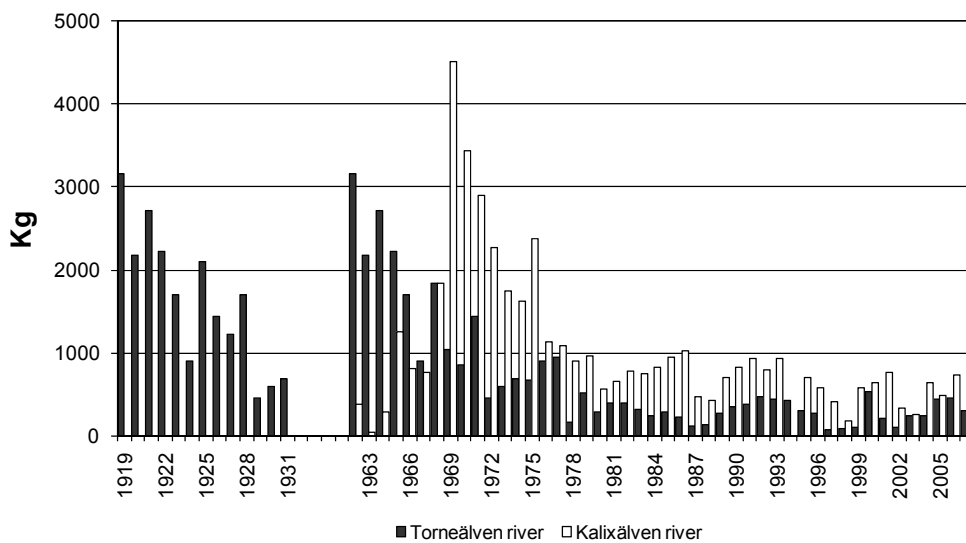


Figure 7.2.2.1 Sea trout catches in two rivers of the Sub-division 31 between 1919–2007 (The Swedish Board of Fisheries, Fisheries Research Office in Lulea, unpub. data).

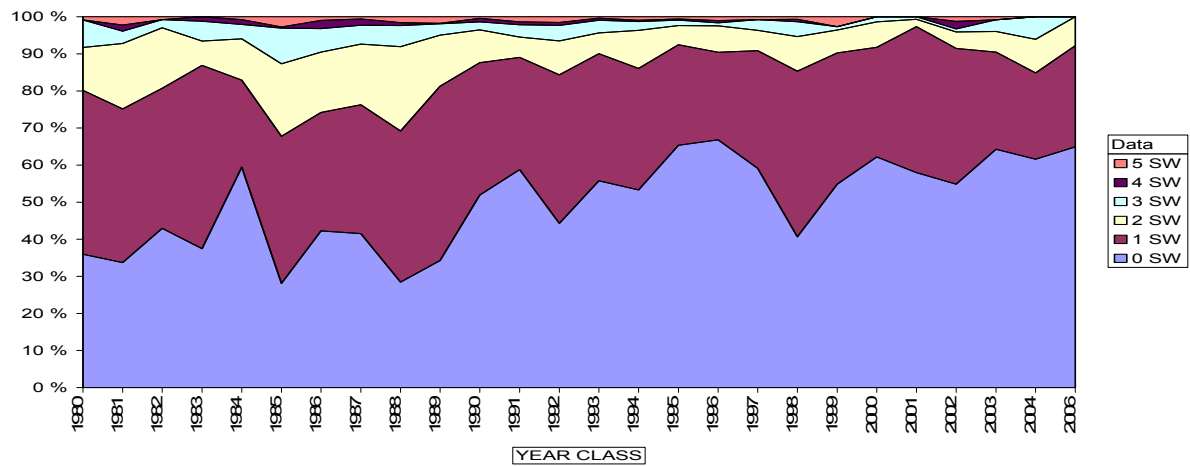


Figure 7.2.2.2. Age distribution of recaptured Carlin-tagged sea trout released in the Bothnian Bay (Sub-division 31) area in Finland in 1984–2006.

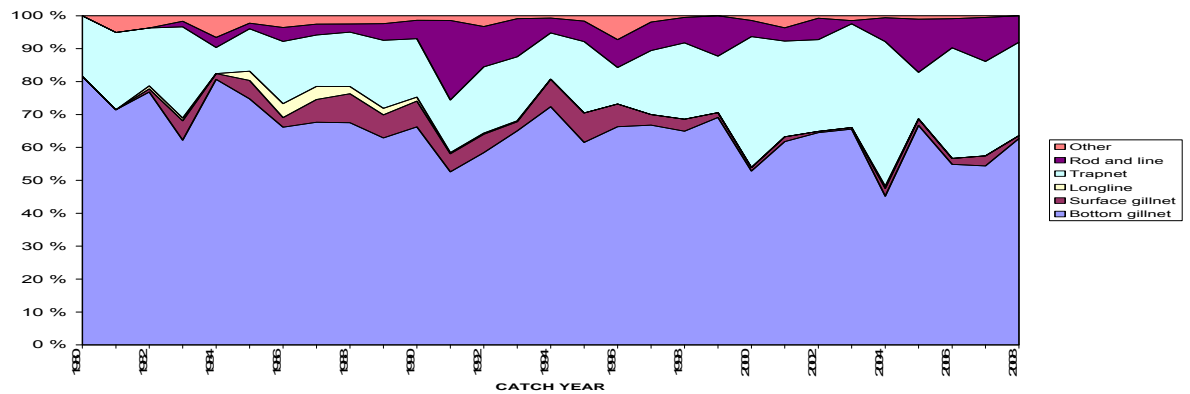


Figure 7.2.2.3 Distribution of fishing gear in recaptures of recaptured Carlin-tagged sea trout caught in the Bothnian Bay (Sub-division 31) area in Finland in 1980–2008.

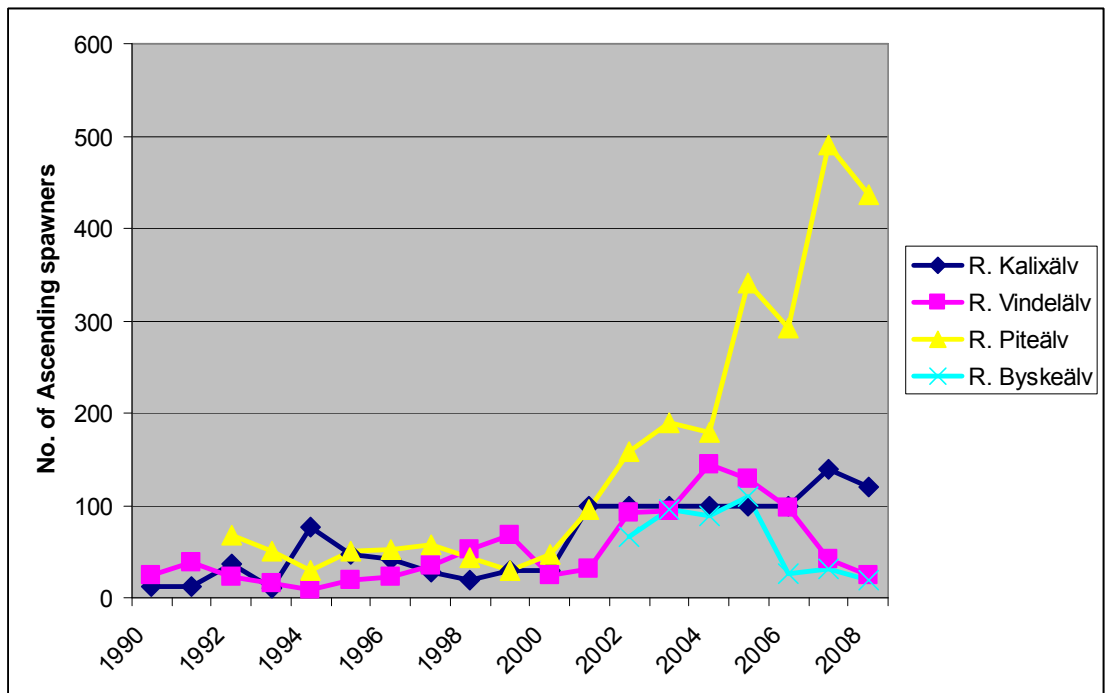


Figure 7.2.2.4. Number of ascending spawners in four rivers debouching in the Bothnian Bay.

Sea trout catches in Vistula River in the Tczew area in the years 1953-1985

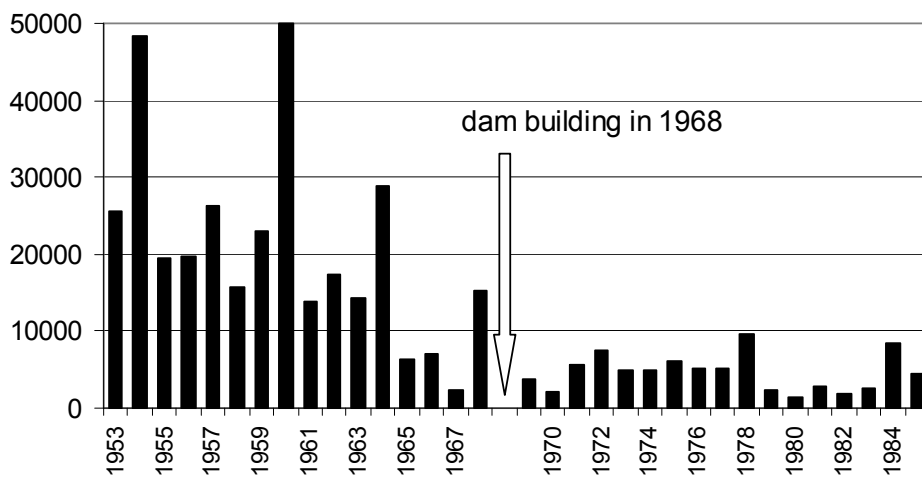


Figure 7.2.4.1 Sea trout catches (kg) in Vistula River in the Tczew area in the years 1953–1985 (Department of Migratory Fish, Inland Fisheries Institute, unpub. data).

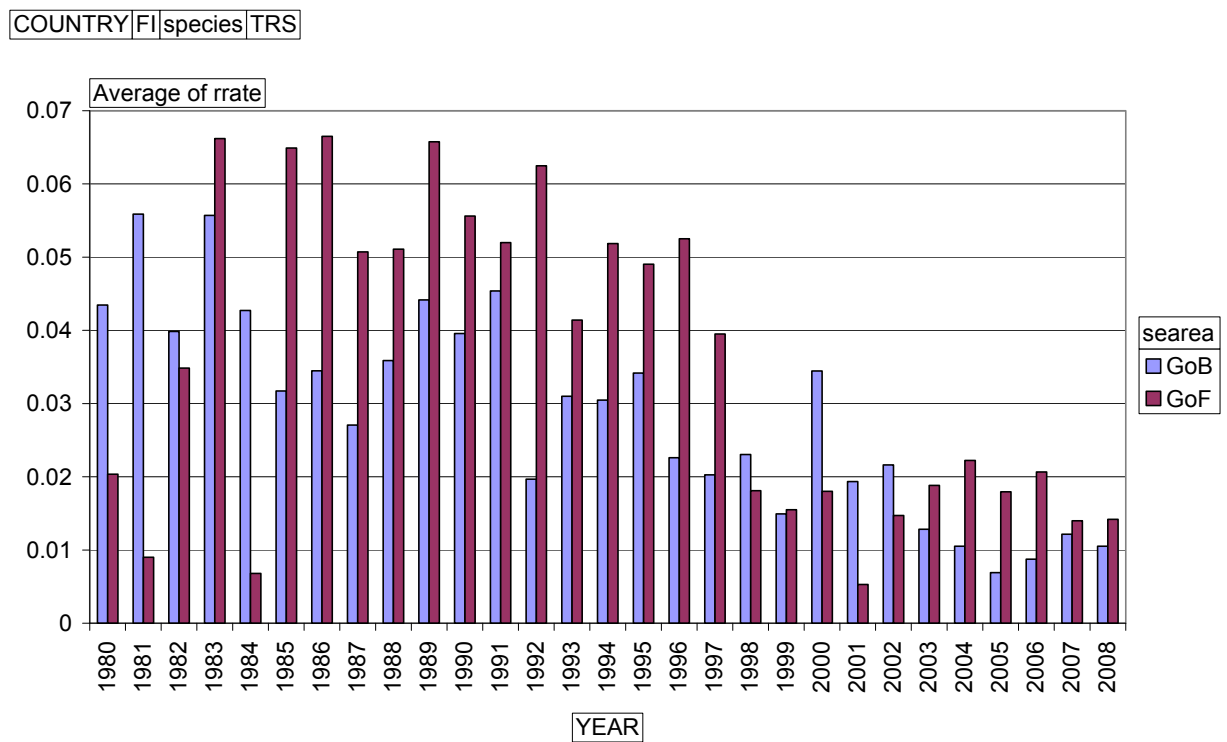


Figure 7.4.1.1. Return rates of Carling tagged sea trout released in Gulf of Bothnia and Gulf of Finland in 1980–2008.

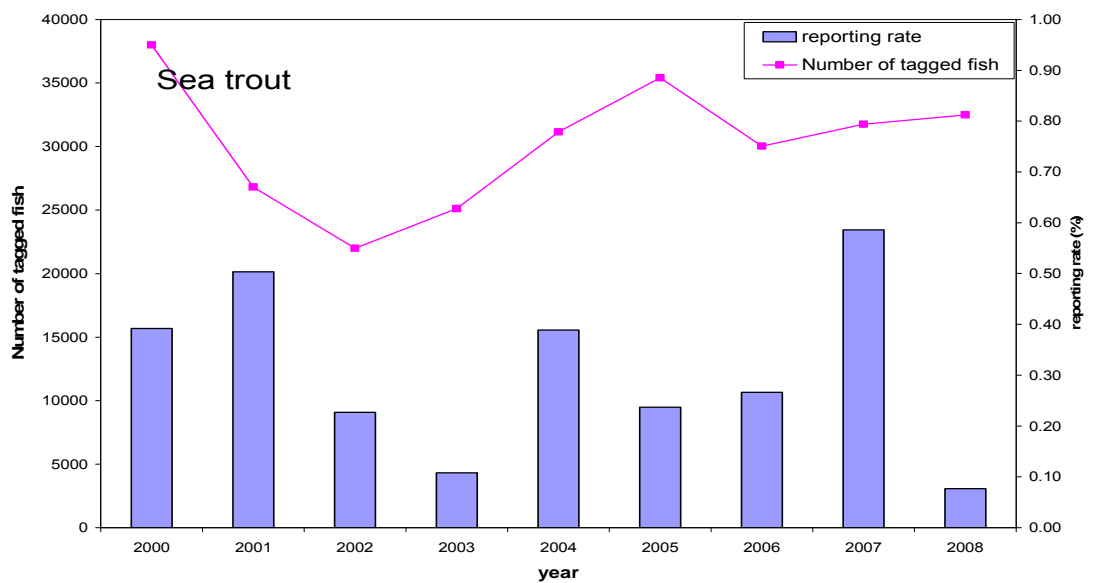


Figure 7.4.1.2 Reporting rates for sea trout in 1995–2008 in Poland.