

SALMON REPORT - LATVIA

A draft chapter of

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BSRP Large Marine Ecosystem Component implemented by:
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Salmon report– Latvia

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3 Catches of salmon

3.1 Catches

Latvia: In 2004 the total catch was only 5134 salmon (24.6t) in the offshore, coastal and river fisheries. Offshore catches were 3080 salmon (16t), in coastal fishery only 2054 (8t) salmon were landed. Total salmon catches were five times less than average catches in the last decade.

In broodstock fisheries 800 (approx.6 t) salmon were caught in the rivers Daugava and Venta.

3.2 Description of basic collection of catch data

Collection of catch statistics by country

Latvia: The Latvian salmon landing statistics are based on the logbooks and landing declarations from the offshore and logbooks from coastal and inland fisheries. Catch data from a small scale recreational fishing in the River Salaca and River Venta is based on questionnaires. This data are not included in catch statistics.

National fisheries data base are administrated by Latvian Board of Fisheries of Ministry of Agriculture. Offshore fisheries logbooks and landing declarations are collected and data input operations are provided by the State Environmental Service and transmitted to the Board of Fisheries.

This fisheries data collecting system was established in 2003. Significant difficulties were found in data input quality. Therefore offshore fisheries logbooks data were corrected by the Latvian Fish resources agency (LatFRA).

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

The quality of salmon catch statistics in the Latvian fisheries in 2005 estimated as inadequate. The main reason for declining of catch statistics quality was ban of salmon utilization in the market due to dioxine problem.

Biological sampling from the catch of salmon

Latvia: The biological sampling of salmon are divided by two main types of fisheries: offshore and coastal. In total 1,500 – 2,000 salmon are sampled every year. Sampling from offshore fisheries are carried out from September till May, at least one time per month. In coastal fisheries salmon biological sampling are 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 are 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.

Biological sampling of salmon, Latvia 2005

| Country | TIME PERIOD / month number | Fisheries | Gear | NUMBER OF SAMPLES BY SUBDIVISION | | | | | Total |
|---------|-------------------------------|-----------|------|----------------------------------|----|----|----|----|-------|
| | | | | 22-28 | 29 | 30 | 31 | 32 | |
| Latvia | 1-6, 9-12 | Offshore | DN | 564 | | | | | 564 |
| Latvia | 6-11 | Coast | TN | 780 | | | | | 780 |

3.3 Distribution of catches by countries

Due to the prohibition of Baltic salmon landing (as well selling and processing) in Latvia only 8% of TAC was utilised in 2005.

Catches were distributed by the ICES sub- divisions as follows: 56% in traditional fisheries areas (26, 28 sub.- div.) and 44% in sub.- div. 25.

3.4 Fishing Effort

In 2005 12 vessels were engaged in the salmon fishery. This was a further decrease compared to the level in 2003- 2004 (32 and 17 vessels respectively). Only one of them fished more than 20 days, 9 vessels were involved in salmon fisheries.

Offshore fisheries effort decreased in the last decade from the 100 thousands DN/days to 30 thousands DN/days.

3.5 Catch Per Unit Effort

CPUE's in Latvian salmon offshore substantially increased up to 31.8 (117 kg) salmon per 100 DN.

3.6 Age Composition and Mean Weight of the Catches

In Latvia all the age determinations are based on a fish birthday on 1 January. Latvian data will be recalculated to enable comparison to other scale reading data. In total 1200 salmon were sampled in Latvia per year including both offshore and coastal fisheries.

The mean weights of salmon in Latvian offshore fisheries are based on biological sampling (till 2005 in every month). In the last year due to the low offshore fisheries activity sampling of salmon carried out occasionally, mostly in the 1 HYR. Latvian data of salmon mean weight in offshore fisheries demonstrated **increasing** of average weight of salmon.

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

Latvian scale reading data demonstrated increasing of proportion of wild salmon in the offshore fisheries catches up to 28% from the number of caught salmon.

3.8 Predation on salmon by seals and damage caused by seals to fishing gears and to salmon in fishing gears

In **Latvia**, direct catch losses of salmon by seal damages increased significantly from 2003. In the most affected area, southern part of the Gulf of Riga, the percentage of salmon damaged by seal in coastal fishery increased from 5% in 2002 to 40% in 2003 and 60% in 2004. Due to increasing of catch losses salmon fisheries in the autumn of 2005 carried out in the lower part of the river Daugava. Seal caused salmon damages were not observed in the river.

The number of seal continues increased in the last year. Due to this reason salmon fisheries in late autumn in the coastal waters (especially by gillnets) of Latvia becomes economically unfavourable.

3.9 Discards of Salmon

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.

4 Status of salmon populations

4.1 The IBSFC Salmon Action Plan

4.2 Status of wild salmon populations

4.2.5 Rivers in the assessment unit 5 (Eastern Main Basin, subdivisions 26 and 28)

Latvian rivers

There are 10 wild salmon rivers in the Latvia, mainly in the Gulf of Riga. Some rivers have been stocked by hatchery reared parr and smolt every year with the result that salmon populations in these rivers are mixture of wild and reared fish.

The wild salmon population in the river **Salaca** has been monitored by smolt trapping since 1964 and by parr electrofishing since 1993. From 1995 broodstock fishery near the Salaca river mouth has been closed to increase number of wild salmon spawners in the river. From 2000 all stockings of artificial reared salmon in the river Salaca were stopped.

In 2004, 20 sites were sampled in the river **Salaca** and tributaries- 10 in the rapid and 10 in the pool biotopes. All sites in the lower part of the main river hold 0+ age salmon parr. The 0+ salmon parr occurred in the **Salaca** tributaries- Jaunupe and Korgene, too. Mean density of 0+ salmon parr was 115.1 per 100/m² that is highest observed parr production in the period of observations (Table 4.2.5.1 and Figure 4.2.5.2). Density of 0+ wild salmon parr in the tributaries was 16.8 individuals per/100 m². Density of 1+ and older salmon parr was 3.8 per sampling unit (Table 4.2.5.1). Electrofishing surveys in in previous years demonstrated the trend of some decreasing of production in period from 1992- 1994 (Table 4.2.5.1). Since 1995 salmon spawners breeding fishery near the river mouth had been limited to increase number of wild spawning fishes in the river. Before this, every year 100- 200 adult salmon were caught in broodstock fisheries near the River **Salaca** mouth. From the closure of broodstock fisheries (1995) and artificial rearing of salmon (200) in the Salaca river basin wild salmon parr production increased reached production level close or higher than 100 parr per 100m².

Smolt trap in the river **Salaca** was in operation between 28 of April till 13 of June, 2005. In total salmon 2284 and 644 sea trout smolts were caught, 374 of them were marked using streamer tags and 1090 by finclipping for total smolt run estimation. The rate of catch efficiency was same like in previous years and fluctuated from 4- 30% (8.5 in average). As estimated, in total 28000 salmon smolts migrated from the river **Salaca** in 2005 (Table 4.7.1). This is in coherence with the high parr densities observed in the previous year.

It is almost certain that the river **Salaca** monitoring data demonstrated that number of adult salmon probably is sufficient. It seems that fisheries management and effective fisheries

control to illegal fisheries on-site are determinative factors in Latvia to reach a higher wild salmon production values in the rivers.

In the river **Venta**, wild salmon parr production increased, too (Table 4.2.5.1). In the river **Gauja**, due to high water level in the august- September wild salmon parr electrofishing was impossible. The number of parr in tributaries slightly decreased in comparison with previous year.

4.3 Potential salmon rivers

4.3.1 General

4.3.2 Potential rivers by country

Latvia

Inventory of Latvian salmon rivers was not performed. However, state financed river fish monitoring since 2003 established. This programme covers 4 river basins (the rivers Salaca, Gauja, Daugava and Venta), 25 rivers. From 2004 in within the framework of the BSRP salmon habitat inventory carried out in some rivers. The objective of this study was:

1. Mapping and measuring of salmon habitat in the separate rivers;
2. Assessment of salmon habitat quality;
3. Preparation of habitat/river restoration plans.

In 2005 salmon habitat mapping and measuring performed in the river Salaca basin, the river Venta below the waterfall and the river Gauja tributary Amata below the Karli dam.

In the river **Salaca** in total 77 rapids and rapids/pools systems qualified as salmon habitat. At present 41 of them (from the river mouth) occupied by salmon parr. The total area of native salmon habitat was 33 ha. In the river Salaca tributary Jaunupe the total area of salmon habitat measured to be 2.3 ha.

The area of potential salmon habitat in the river Salaca is 7.7 ha, 4 of them are situated upstream from the old paper mill dam foundation (upstream to the Staicele).

At present, consultations between government (Ministry of Environment) and paper mill owners going on to discuss the possibility of the demolition of this obstacle. There are two facilities how to solve the problem:

1. Monetary compensation;
2. Confiscation for the state.

Apart from resolution till 2007 the obstacle (Staicele dam foundation) should be demolish. Some releasing of sea trout parr planned in the river Salaca tributaries above the dam.

In accordance with UNDP/GEF project on the protection of biodiversity in the Biosphere preserve (Including the river Salaca basin) 5- 10 ha of overgrown salmon habitat will restore in the river Salaca in 2006- 2007.

In the river **Venta** salmon habitat was mapped and measured below the rumba waterfall. The total area of native habitat in this river stage estimated to be 20 ha.

In the upper part of the river salmon parr were not found. In 2005 artificial salmon smolt releasing carried out in the river Venta above the waterfall.

In the river **Amata** native salmon habitat below the Karli dam measured to be 5 ha. The area of salmon/sea trout habitat above the dam should be at least same. The count of migrating spawners in the Karli fish ladder demonstrated low efficiency, only 4 sea trout spawners migrated upstream in the autumn of 2005. Some artificial releasing of salmon and sea trout parr planned for 2006.

4.4 Status of reared populations

In Latvia the artificial reproduction is based on sea-run wild and hatchery origin salmon broodstock. The broodstock fishery is carried out in the coastal waters and rivers of the Gulf of Riga in October-November. The mortality of yolk sac fry has been low indicating that M74 is absent in this region. The annual smolt production in Latvian hatcheries has been about 0.85 million.

4.5 M74

There is no evidence to suggest that M74 occur in Latvian salmon populations. In the Latvian main hatchery Tome, the mortality from hatching until feeding starts varied in the range 2-10% in the years 1993-99. Parr densities in the Latvian river Salaca have not decreased during the period in the 1990s when salmon reproduction in the Gulf of Bothnia was negatively influenced by M74 (Table 4.2.5.1).

4.6 Smolt production

The wild salmon smolt production in the rivers of Latvia in 2005 estimated to be 64 thousands. The hatcheries smolt production was 820 thousands one year and 36 thousands two years old salmon smolts.

4.7 Summary of status of wild populations and situation in potential and index rivers

Rivers in the Main Basin (assessment units 4–5)

Since 1997, parr densities in the river **Salaca** in Latvia have been on a higher level than before that (Table 4.2.5.1, Figure 4.2.5.2). There has been remarkable variation in the annual parr densities, and in 2004- 2005 densities peaked after a much worse year of 2003. Also the two other monitored Latvian rivers showed high in parr densities in 2004- 2005, but there are river specific differences in the juvenile production level. With regard to the set management objective, Latvian rivers are currently estimated to be on the verge of reaching the 50% of their smolt production capacity.

5 Review and evaluation of present management measures

5.1.2. National regulatory measures

Latvia has the following national salmon fisheries regulations. In the Gulf of Riga salmon drift net and long line fishing are not permitted. In the coastal waters salmon fishing is prohibited from 1 of October to 15 of November. Salmon fishing in coastal waters has been restricted indirectly by limiting the number of gears in the fishing season. In May, October and November, only small meshed gears (mesh size below 30 mm) are permitted.

In the rivers all angling and fishing for salmon and sea trout are prohibited with the exception of licensed angling of sea trout and salmon exists in the rivers Salaca and Venta in spring time season. Daily bag limit is one sea trout or salmon.

All fishery by gill nets is prohibited all year round in a 3 km zone around the River Salaca outlet from 2003. Fisheries restriction zones were enlarged around the rivers Gauja and Venta from 1 to 2 km in 2004.

Special terminal fishery area in the Southern part of the Gulf of Riga was established in 2002 for increasing of the hatchery reared salmon fishing near the Rivers Daugava and Lielupe outlets. Regulatory measures for fishing in this region were mitigated to increase fishing effort:

- no salmon fishing prohibition in October- November
- no fishing gear number limitation in late autumn fishing.

The Latvian catch quota is divided between the offshore and coastal fisheries.

8 SEA TROUT

8.1. Nominal catch

In 2005 8.8 t or 3.3 thousand sea trout were caught in the coastal and river fisheries. In the rivers Salaca and Venta licensed angling of sea trout exist, the estimated number of caught sea trout was 200 individuals.

8.2 Status of wild and mixed sea trout populations

8.2.4. Main Basin

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 and Daugava basins) and by smolt trapping (the river Salaca). Estimated production in all Latvian rivers in 2005 was about 62 thousand smolts.

The mean density of parr in the Salaca river system in 2004- 2005 was higher than in 2003 (Table 8.2.3.1). At the same time commercial catches of sea trout are at the low level. The main reason for vulnerable status of adult sea trout stock is to intensive fisheries. Large part of sea trout are caught in the first sea winter (0+ age) by gillnets. In some coastal areas the number of illegal size young sea trout is 30- 50% from the total catch.

8.3 Reared smolt production

In 2005 the largest part of spawners collected in the two rivers, the river Daugava and Venta. Small scale broodstock fisheries carried out near the river Salaca outlet. Number of sea trout spawners and collected eggs were sufficient.

In total 63 one year, 116 thousands two year old smolts released in the rivers Gauja, Daugava and Venta in 2005. Some stockings of sea trout parr carried out in the river Gauja and Daugava tributaries.

9 Taggings

9.3 Present tagging

9.3.1. Fin-clipping

The largest part of artificial reared salmon smolts in Latvia (the river Daugava population) was finclipped in 2004- 2005. The number of tagged salmon smolts in 2005 was 0.7 mln.

9.3.2. External Tagging

In total 4000 one year salmon (the river Daugava) and 2000 two years old sea trout smolts (the river Gauja) was tagged in Latvia in 2005.