

Status of the Baltic Sea trout stocks in 2006

Estonia

Mart Kangur, Mari-Liis Viilmann, Martin Kesler
Tartu University, Estonian Marine Institute
Herki Tuus
Ministry of Environment

Tallinn January 2007

Electric fishing

In late summer-autumn of 2006 the status of the natural sea trout stocks was monitored by electric fishing in 9 rivers draining into subdivision (SD) 28, in 6 rivers of SD 29 and 28 rivers SD 32.

> older than 0+ parrs.

SD 28

The mainland rivers. Electric fishing carried out in middle of august.

In the Brook Kolga discharge was very small, depth in stationary station 10-20 cm. Density 0+ parr 98 parr/100 m², > 0 parr/100 m². In 2005 the figures were 44 and 0 parr/100 m².

In the brooks Männiku, Priivitsa, Loode and in the River Lemme and lower stretches of Timmkanal (channel between the rivers Rannametsa and Ura) discharge was close to zero. 0+ (0-6.1 parr/100 m² and > trout 0-35 parr/100 m²) were found only in some separated pools. In 2005 electric fishing was carried out in the Timmkanal, density of 0+ and > trout was practically same as in upper part of channel in 2006, 0+ 21, > 4.7 parr/100 m².

In the River Häädemeeste and Brook Kadaka, which were not electro fished in 2005, the density in 2006 was 0+ 4.4 and 3.8, > 3.8 and 54 parr/100 m². In 2003 the density was 0.2 and 3.6 parr/100 m² and 0 and 10 accordingly.

In the River Pärnu under Sindi dam there were no changes. During period 1996-2006 was found only single trout.

Reproduction of trout in small rivers and brooks of the Gulf of Riga suffered hardly in each drought year. In autumn 2006 the rivers not visited later, possibilities for ascending brood fish in this year are uncertain, but probably not the best. In general in the rivers discharging into the SD 28 were not changes in reproduction of trout during 2000s.

SD 29

Island Saaremaa, electric fishing in end of October

In the downstream of ditch Taaliku not electro fished in 2005 density of 0+ trout 2.4 and >19.8 in 2006. In 2004 was found only single > trout.

In the River Leisi downstream not electro fished in 2005 density of 0+ and > trout was zero, in 2004 0+ 0.7, > 0 parr/100 m². In new station, tributary ditch Angla, density of 0+ trout 31 and > 1.1 parr/100 m² in 2006.

In the River Punapea density of 0+ trout 38 and > 0.6 parr/100 m². The figures were 17 and 6.5 in 2005.

In the Kiruma ditch and in River Tirtsi density of 0+ in 2005 and 2006 was same: 17.7 and 17.9, 0 and 0 parr/100 m². Density of > was in Kiruma in 2006 seven times higher, in Tirtsi both years very close: 1.0 and 1.5 per 100 m².

In the Brook Pidula density of 0+ trout 10, > 23 parr /100 m² in 2006. In 2005 brook was not electro fished. In 2004 the figures were on same level.

In the Brook Jämaja discharge was small and the brook divided to pools. The same occur in all dry years. Density of 0+ 1.0, > 7.8 parr /100 m² in 2006. In 2004 the figures were 16.1 and 0.9 accordingly (river not electro fished in 2005).

No general changes in reproduction of sea trout in island Saaremaa watercourses in 2000s.

SD 32

Electric fishing done in September.

Data on parr density in 2006 and 2005 are in table.

River	2006 parr/100 m ²		2005 parr/100 m ²	
	0+	>	0+	>
Pühajõgi	0	1.0	3.5	4.4
Mägara	1.4	3.4	23	0
Purtse	3.4	0.6		
Pada	76	10	19	16
Kunda	17	1.7	1.2	6.5
Selja	0.3	0.2	5.1	1.0
Toolse	20	8.5	24	14
Vainupea	2.7	8.0	16	16
Mustoja	36	2,0	20	4.8
Altja	2.0	1.0	6.6	0
Võsu	47	15	39	8.6
Loobu	10	1.4	11	1.0
Valgejõgi	3.2	0.7	1.0	0.8
Pudisoo	0.8	15	22	15
Loo	10	0	3.4	6.9
Valkla	21	1.3		
Kaberla	0	0	54	0
Jägala	0	0	0	0
Pirita	1.6	0.2	0.7	0.2
Vääna	22	6.1	2.8	0.8
Keila	0.4	0	1.8	0.4
Vasalemma	5.5	7.4	11	3.8
Kloostri	15	1.3	2.0	2.9
Vihterpalu	8.9	2.0	35	8.0
Veskijõgi	0	6.0	3.2	6.4
Nõva	5.4	0.1	1.1	1.6
Riguldi	8.3	1.9	12	6.3
Höbringi	0.5	3.8	5.2	0

In the River Pühajõgi parr density is small and was same in previous year. The tributary Mägara was in pools and trout found only in largest pool under first waterfall.

2006 is first year when trout offspring found in the River Purtse.

In the River Pada parr density of trout is high in most years.

In the rivers Kunda, Selja, Toolse, Mustoja, Võsu, Loobu, Valgejõgi, Pudisoo, Pirita, Vasalemma and Vihterpalu monitored a long period density of trout parrs is on common level.

In the River Vainupea and particularly brook Altja trout parr density related to beaver activities. In Altja 0+ parr density from average 48 in 1995-2002 dropped to 2.4 in 2003-2006. Reproduction suffered in both watercourses and in brook Loo in drought years.

In brook Kaberla reproduction of trout related very strongly to discharge. In 2006 river bed was totally dry.

In the River Jägala a single trout parr in period 1997-2006 found in 2001.

In the River Vääna sea trout parr density is highly variable. The situation was good in 2006.

In the rivers Keila, Veskiõgi, Nõva and Riguldi (tributary Höbringi) the sea trout parr density is small and so was in 2006 also.

The River Kloostri monitored only two years and this is short period for conclusions.

Management measures

In fishing rules no major changes in 2006, but some small changes took place.

- 1) Ban of use the trap nets with wings in the rivers in case of river lamprey fishery. Now the traps can be up to 1 m wide, 0,5m high and without wings and leader. This measure should be diminish the loss of juvenile salmonids in the river and makes it easier to spawners to ascend upstream.
- 2) In 2007 three small rivers were included to the list where fishing is prohibited at sea on the river mouth (500 m) during the spawning migration in the autumn.
- 3) Also small step was made to prevent the mortality of juvenile sea trout and salmon during the smolt run caused by herring coastal fishery with gillnets in spring, especially in the vicinity of river mouths where stockings regularly occur. Our tagging data and control practice have shown that the coastal herring fishery with the gillnets in spring may cause serious damage on on salmon and sea trout smolts. Thus, since 1 of January 2007 the gillnets less than 35 mm (bar length) is prohibited to use, except for smelt fishery in early spring (under ice) and outside the 5 m depth range.
- 4) Minimum landing size in Estonian waters is 50 cm TL.

Stocking

Into the watercourses SD 29 released 21 000, into SD 32 released 9000 2-yr-old smolts. River restoration works are not started.

Sea trout brood stock is established (based on 3 populations: Pudi-soo, Kunda and Mustoja) in Põlula Fish Rearing Centre for the purpose to preserv the local gene pool and to get a material for reproduction.

Research and habitat improvement

Research project is planned with the aim of to examine or re-examine the present and potential sea trout rivers and brooks all over the coast of Estonia. About 20 rivers or brooks is planned to examine during one year. Whole project will take about 3-4 years.

During the project the potential spawning grounds will be mapped and their size and condition will be described and evaluated. Also, migration obstacles will be defined and other problematic issues will be described and relevant suggestions and advice will be given with the aim to improve the sea trout reproduction. Program will probably start in May 2007.

Afterwards the collected information can be used to improve the reproduction in these rivers and brooks.

Problems related with the rehabilitation of the rivers

Basically there is a lack of knowledge, how to restore the spawning grounds and nursery areas, because only very few of such projects are done so far.

That means the additional information and knowledge related with the habitat improvement actions is necessary and very welcome.