

SPECIES INFORMATION SHEET

Salmo salar

English name: Salmon	Scientific name: <i>Salmo salar</i>	
Taxonomical group: Class: Actinopterygii Order: Salmoniformes Family: Salmonidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: 7.8	
Past and current threats (Habitats Directive article 17 codes): Fishing (F02), Migration barriers (J03.02.01)	Future threats (Habitats Directive article 17 codes): Fishing (F02), Migration barriers (J03.02.01)	
IUCN Criteria: A4b	HELCOM Red List Category:	VU Vulnerable
Global / European IUCN Red List Category: LC in 1996 but needs updating/NE	Habitats Directive:	
Previous HELCOM Red List Category (2007): EN		
Protection and Red List status in HELCOM countries: All: <i>TAC regulation by EU in the Baltic Sea</i> Denmark: –/ VU Estonia: <i>Protected by the law (III category). ERDB: Regular stockings. Fishery regulations</i> / CR Finland: <i>Minimum legal landing size is 60 cm, except 50 cm in the Bothnian Bay. Temporal fishing regulations during the spawning migration in the sea at the Finnish coast. Fishing is not allowed during spawning season in rivers. Stock enhancement projects in empty rivers. Regular stocking.</i> / VU Germany: <i>Protected by national and European law</i> / 3 (Vulnerable, Baltic Sea) Latvia: <i>Under the Law on the Conservation of Species and Biotopes; included in CM regulation Nr. 396 and 45. Protection by commercial fishing rules and angling rules (closed season, minimal landing size).</i> / – Lithuania: <i>Included in the Red Book. Restoration program in some rivers. Protected from fishing during spawning time in rivers 16 October - 31 December. Restricted fishery in migration routes.</i> / 5 (Rs, Restored) Poland: <i>Stocked annually in some Pomeranian rivers (in contact to the Baltic waters). Minimum landing size 60 cm. Minimum mesh size 80 mm (bar length). Closed season different in coastal and open waters. Protected area (closed for fishery) in the river mouths.</i> / CR Russia: <i>Protected in Leningrad District. Fishery is also limited in all areas.</i> / – Sweden: <i>Protected from fishing during spawning time in some areas. Minimum legal landing size 45 cm in Kattegat and 60 cm in the Baltic Sea.</i> / LC		

Distribution and status in the Baltic Sea region

This anadromous species reproduce in rivers across the whole Baltic Sea and Kattegat, and undertake long feeding migrations into saline water. Unfortunately, many Baltic rivers have lost their original wild salmon populations. The main reason for the loss has been the damming of rivers for hydropower and dredging of rapids and riffles (salmon reproduction areas) for log driving purposes. Some dams were subsequently fitted with fish ways and again support salmon populations, although the original strain may have been lost and replaced with a restocked strain.

The situation for wild salmon has improved since 1995 with a sixfold natural increase of smolt production in the Baltic Sea (HELCOM 2011). This improvement is not seen in Kattegat, where the stocks are just above the conservation limit – and with a successive decline in recruitment since the 1990s. Despite the positive development in the Baltic sea the probability to reach 50 % of the potential smolt

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production capacity is still unlikely in half of the rivers examined (ICES 2011b).

Another worrying factor is that postsmolt survival has been more than halved since the 1990s (HELCOM 2011). Combining estimated natural smolt production and postsmolt survival show that the number of adult salmon produced has not changed between 1995 and 2009, however if postsmolt survival continues to decrease this will have an adverse effect on the stock.



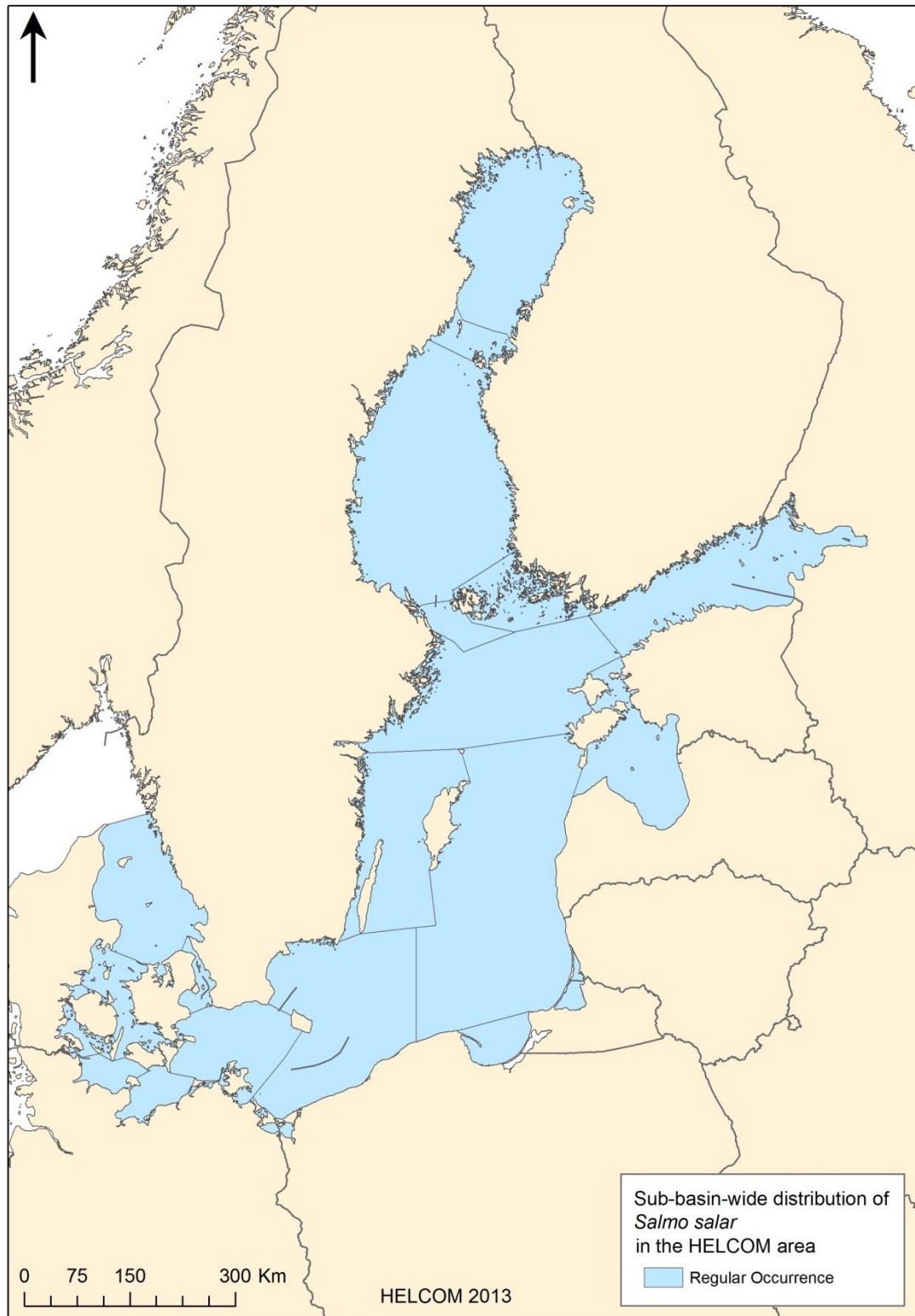
Salmon. Male during spawning time (top) and a fish caught outside spawning season (bottom). Photos by Hans Schibli, County Board of Halland.

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Distribution map

The map shows the sub-basins in the HELCOM area where the species is known to occur regularly (HELCOM 2012). Reproduction only takes place in rivers.



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Habitat and ecology

The salmon reproduce in rivers across the whole Baltic Sea, but the most productive rivers are found in the Gulf of Bothnia. Juvenile salmon stay in freshwater streams for one to four years and then spend one to several years at sea on a feeding migration before they return to spawn in the natal river. The Baltic salmon is characterized by a distinct population structure which mirrors the postglacial colonization history. Salmon from different rivers (populations) are mixed in the southern Baltic during the feeding migration, but then follow different migration routes back to the home rivers. The Baltic salmon feed mainly on herring and sprat during the sea migration (HELCOM 2011).

Description of major threats

Commercial and recreational fishing and blocking of migration routes are the main current threats towards salmon in the HELCOM area.

Assessment justification

The situation for wild salmon has improved since 1995 with a sixfold natural increase of smolt production (from 500 000 to 2500 000 individuals) in the Gulf of Bothnia, Gulf of Finland and Baltic Proper and the increase is especially strong in the Bothnian Bay which now stands for 90 % of the total smolt production in the Baltic Sea (HELCOM 2011).

Despite this positive development the number of wild salmon in the Baltic Sea has not increased in some rivers since 2001 (ICES 2011a). Another worrying factor is that postsmolt survival has decreased in the Baltic Sea during this period (from 40% to 10% between 1990s and 2000s (HELCOM 2011, ICES 2011b)). Combining estimated natural smolt production and postsmolt survival shows that the number of adult salmon produced has not changed between 1995 and 2009, however if postsmolt survival continues to decrease this will have an adverse effect on the stock. According to WGBAST report (ICES 2011b) the decrease in survival has levelled off for wild salmon.

In Kattegat the stocks are just above the conservation limit – and with a successive decline in recruitment since the 1990s.

Probability to reach 50% of the potential smolt production capacity by 2011 is very likely in five and likely in three while uncertain in six and unlikely in 13 out of the 27 rivers examined in the Baltic Sea (ICES 2011b). This means that the smolt production capacity in rivers with wild stocks of salmon is below 50% of its current potential. However, this is probably mostly due to the intense exploitation which to a large extent was made before the start of the assessment period 1986–2010, and it is very hard to say how much of the decrease has happened during the assessment period. The estimated decrease during the last 20 years is 0–30%, however, salmon is care dependent in such a way that if habitat restoration would stop it would come to decline even more in the future. This leads to the expert judgment that salmon probably experience a population decrease of more than 30% within the HELCOM area including both past and future time, fulfilling the A4b criteria of being Vulnerable. Immigration from outside the HELCOM area is unlikely to have any rescue effect due to the species strong natal homing behaviour.

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Recommendations for actions to conserve the species

This species would benefit from a range of measures including conservation and protection of unobstructed salmon rivers, fisheries management, and reduction of eutrophication in the spawning rivers, ecological flows downstream of dams and power plants, when necessary, ban of gravel extraction in such rivers, construction of fish passes across barriers along the spawning migration route. Illegal fishery also needs to be stopped.

Common names

D: Atlantischer Lachs; DK: Laks; ES: lōhi s; FI: Lohi; GB: Salmon; LA: Lasis; LI: Lašiša; PL: łosoś a; RUS: losos', syomga; SE: Lax

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