

## SPECIES INFORMATION SHEET

*Petromyzon marinus*

English name: <b>Sea lamprey</b>	Scientific name: <i>Petromyzon marinus</i>	
Taxonomical group: Class: Cephalaspidomorphi Order: Petromyzontiformes Family: Petromyzontidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: 7.5 years	
Past and current threats (Habitats Directive article 17 codes): Migration barriers (J03.02.01), Eutrophication (H01.05), Fishing (F02)	Future threats (Habitats Directive article 17 codes): Migration barriers (J03.02.01), Eutrophication (H01.05), Fishing (F02)	
IUCN Criteria: <b>C2a(i)</b>	<b>HELCOM Red List Category:</b>	<b>VU Vulnerable</b>
Global / European IUCN Red List Category: LC/LC	Habitats Directive: Annex II, V	
Previous HELCOM Red List Category (2007): EN		
Protection and Red List status in HELCOM countries: Denmark –/ <b>VU</b> , Estonia –/–, Finland –/–, Germany –/* (Not threatened, Baltic Sea), Latvia –/–, Lithuania –/1 (E=Endangered), Poland <i>Illegal to catch, kill or disturb</i> / <b>EN</b> , Russia <i>Included in the Red Books of St Petersburg, Leningrad District and Russian Federation as endangered species, which means it is illegal to fish for and land this species</i> / <b>EN</b> , Sweden <i>Illegal to fish for and land this species all year round. Regional programs for restoration of river habitats</i> / <b>NT</b>		

## Distribution and status in the Baltic Sea region

The sea lamprey (*Petromyzon marinus*) is distributed throughout the HELCOM area, but is very rare in most basins. It may have been more common in the past but in the Baltic Proper and the Gulfs it has been very rare at least since the early 1800s. In Finland, for example, fishermen have caught this species less than 20 times during the last 200 years. It is equally rare in the Russian part of the Gulf of Finland and only occasional catches are reported in Estonia, Latvia and Lithuania. It is reported more often in Germany and Poland and there may be a spawning population in the Oder River but this has not been confirmed. In Sweden the sea lamprey occurs along the west coast, but even in the Sound and in the southern Baltic Sea it is a very rare, occasional visitor. Spawning of sea lamprey has been verified in



Photo by Natalia Chernova



Sea lamprey. Photos: Natalia Chernova, Zoological Institute, St Petersburg (top), Anders Salesjö Photography, Undervattenbilder.se (bottom).

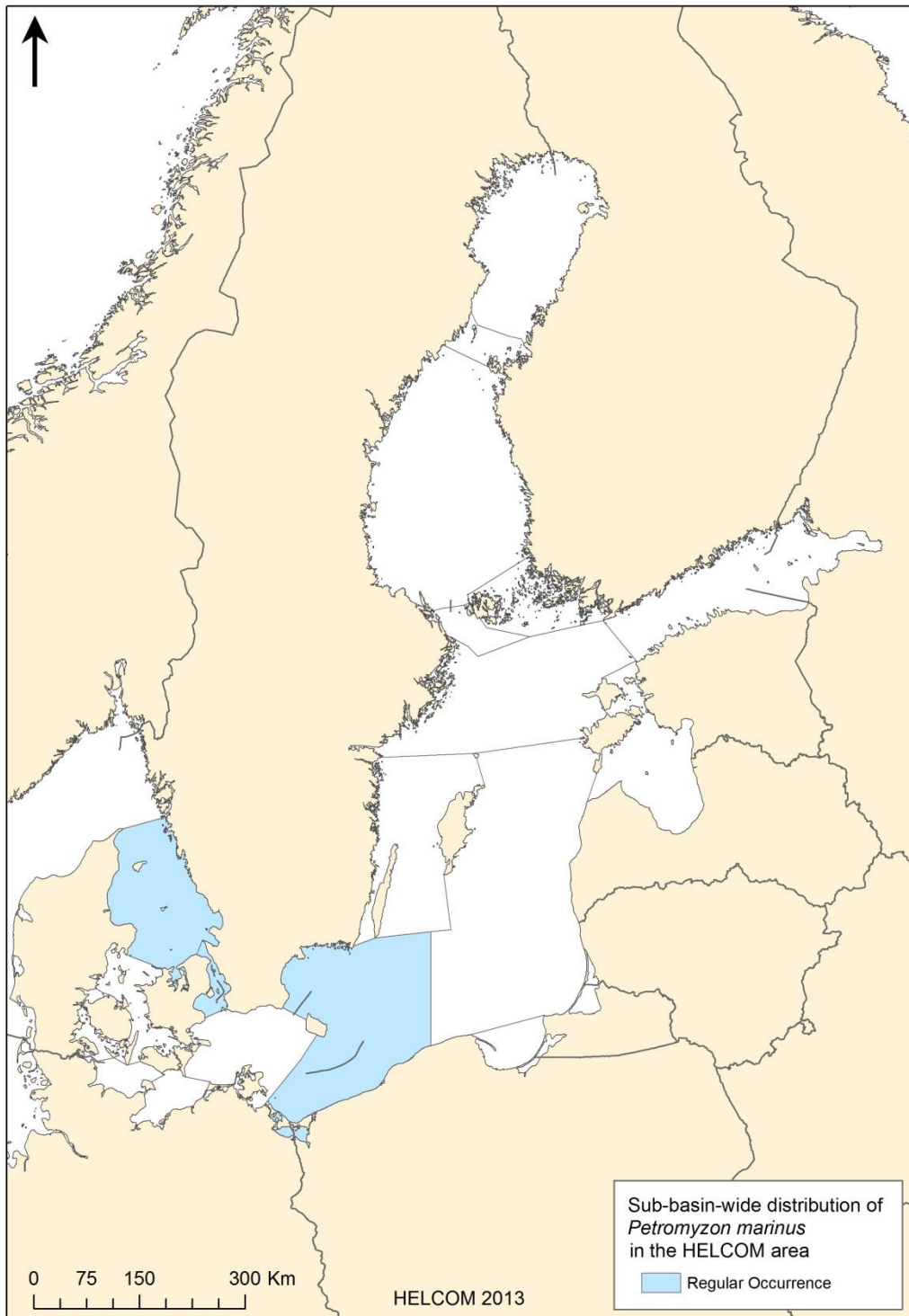
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eight Swedish and five Danish rivers in Kattegat and in one Swedish river in the Sound. There are indications of decline of sea lamprey in Kattegat.

### Distribution map

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



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### Habitat and ecology

The sea lamprey is an anadromous long distance migrating species. Adults enter freshwater habitats in late winter or spring and migrate upstream to their spawning sites. The spawning habitat consists of gravel bottoms with isolated larger pebbles or rocks and adjacent clean sandy areas, where sea lamprey spawns from June to July. After spawning, the adults normally die. The larvae stay near the spawning site for 2–5 years and bury in the sand, where they feed on micro-organisms and detritus. After metamorphosis, they migrate downstream to the sea, where they live parasitic on fish and mammal species, sucking blood and feeding on skin and musculature (Fricke 1987). An anticoagulant substance prevents the blood of the prey from clotting (Holcik 1986). In the ocean, sea lampreys are found from inshore to deep waters, either on rock bottom where they can attach with their sucking disk, or parasitic on their prey (Froese & Pauly 2012). The species occurs in the whole Baltic Sea catchment area, though it is very rare in the northern parts, and spawning has not yet been observed there. The species reaches a maximum total length of 120 cm, a maximum weight of 2.5 kg, and an individual age of up to 9 years.

### Description of major threats

There are several threat factors for the sea lamprey: construction of weirs and dams in river, eutrophication of the spawning habitats in rivers (since larvae survive only on well oxygenated sand bottoms), outside the HELCOM area also fisheries (sea lamprey as target species, e.g. in Portugal, France), and fisheries on sea lamprey's prey species (large fish). The species is considered as rare and highly sensitive to human activities.

### Assessment justification

Sea lamprey is a very rare species in the HELCOM area. In the northern Baltic Sea, it is caught irregularly but almost annually in Estonia but in Finland, Russia and Latvia the species is not an annual catch. For example, it has been reported only eight times since 1927 in the Russian part of Gulf of Finland. In Poland, there may be a spawning population in the Oder River but this has not been verified yet (Psuty *et al.* 2010). Sea lamprey is caught regularly in the Arkona Basin but there is no reproduction in German rivers and no trend in reporting frequency of the species in the southern Baltic Sea (Thiel *et al.* 2009).

In Denmark, the sea lamprey reproduces in five rivers in Helcom area and there are indications of decline since 1990 (Olesen *et al.* 2009). Swedish inventories in Kattegat also show reproduction in eight rivers and estimated a total of 800 reproducing individuals in 2008 (Söderman & Ljunggren 2009). In the Sound area, spawning has been documented in the River Råån, latest in 2003. Sparse monitoring data from cooling water intake in Ringhals (Kattegat) show strong decreasing trend.

A small population with a suspected continuing decline and less than 1000 individuals in the largest subpopulation results in VU status (C2a(i)). Immigration from outside the HELCOM area is unlikely to have any significant effect on the threat status since Sea lamprey is very rare also in the adjacent area.

### Recommendations for actions to conserve the species

Measures for protection of sea lamprey should mainly include the improvement of the situation along the migration routes, mainly in fresh water habitats and at the (potential) spawning sites. Eutrophication of potential spawning sites should be avoided. The spawning success has to be continuously surveyed. Reintroduction might be considered after restoration of migration routes and spawning habitats. Fisheries on sea lampreys should be forbidden. The records of this species should be

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collected in a shared database.

### Common names

DE: Meerneunauge; DK: Havlampret; ES: merisutt; FI: Merinahkiainen; GB: Sea lamprey ; LA: Jūras nēģis; LI: Jūrinē nēgē; PL: Minóg morski; RU: Morskaja minoga; SE: Havsnejonöga

### References

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