

## SPECIES INFORMATION SHEET

*Coregonus maraena*

English name: <b>Whitefish</b>	Scientific name: <i>Coregonus maraena</i>	
Taxonomical group: Class: Actinopterygii Order: Salmoniformes Family: Salmonidae	Species authority: Bloch, 1779	
Subspecies, Variations, Synonyms: <i>Coregonus lavaretus</i>	Generation length: 9 years	
Past and current threats (Habitats Directive article 17 codes): Migration barriers (J03.02.01), Fishing (both commercial and recreational) (F02), By-catch (F02)	Future threats (Habitats Directive article 17 codes): Migration barriers (J03.02.01), Fishing (both commercial and recreational) (F02), By-catch (F02)	
IUCN Criteria: <b>A2bd</b>	<b>HELCOM Red List Category:</b>	<b>EN Endangered</b>
Global / European IUCN Red List Category VU/VU	Habitats Directive: Annex V	
Previous HELCOM Red List Category (2007): VU		
Protection and Red List status in HELCOM countries: Denmark: –/LC Estonia: <i>fisheries regulations</i> / <b>DD</b> Finland: <i>stocking of specimens</i> / <b>EN</b> (River spawning) & <b>VU</b> (Sea spawning) Germany: <i>stocking of specimens</i> / * (Not threatened, Baltic Sea) Latvia: <i>special status by Council of Ministers regulations</i> / <b>VU</b> (River spawning) Lithuania: <i>minimum landing size (36 cm)</i> / ( <i>C. lavaretus holas</i> , 4 (I) Indeterminate) Poland: <i>stocking of specimens,, minimum landing size (40 cm), protection period (1X-31XII), mesh size restrictions</i> / <b>DD</b> Russia: –/ <b>EN</b> Sweden: <i>protected from fishing during spawning time 1XI- 15XII in the county of Gotland and 15X-30XI in the county of Gävleborg. A no-take area in the southern Bothnian Sea was implemented in 2011</i> / <b>LC</b>		

### Distribution and status in the Baltic Sea region

The whitefish is a group of populations, forms or species with unclear taxonomy, here defined as anadromously migrating whitefish stocks around the Baltic Sea and the sea-spawning ones, which are more local. This complex would include species and/or populations previously recorded under the names *Coregonus balticus*, *C. maraena*, *C. oxyrinchus* (Baltic stocks, if *C. oxyrinchus* was not restricted to River Rhine, as Freyhof & Schöter 2005 suggest), *C. lavaretus* and *C. pallasii*. The species and/or populations in this complex are distributed throughout coastal waters of the HELCOM area, and in adjacent rivers and streams.

Whitefish is an important fish for recreational as well as commercial fishery in the Baltic Sea.

Despite huge introductions the catch per unit effort of sea-spawning whitefish has decreased 43–65% in Finnish commercial fishery in the Gulf of Bothnia from 1980s to today. Swedish data from commercial fishery also show a decline over the last decade by 50% in the Bothnian Sea and 30% in the Bothnian Bay but no trend in the Baltic Proper (Fiskeriverket 2011, Florin 2011).

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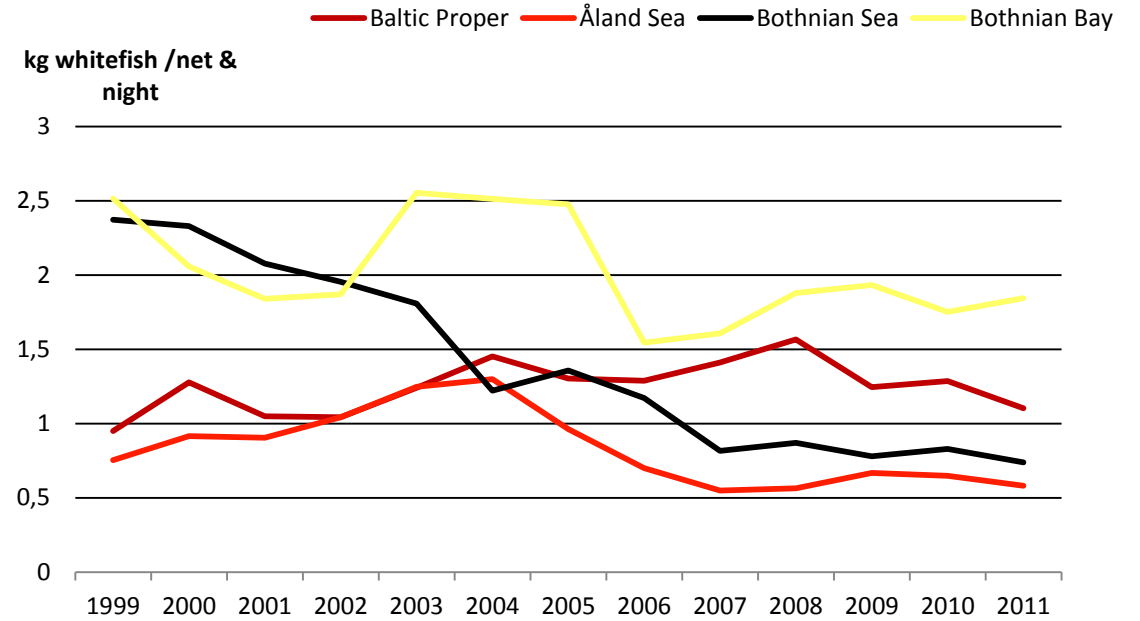
*Coregonus maraena*

Whitefish. Photo by Vivica von Vietinghoff, Deutsches Meeresmuseum.

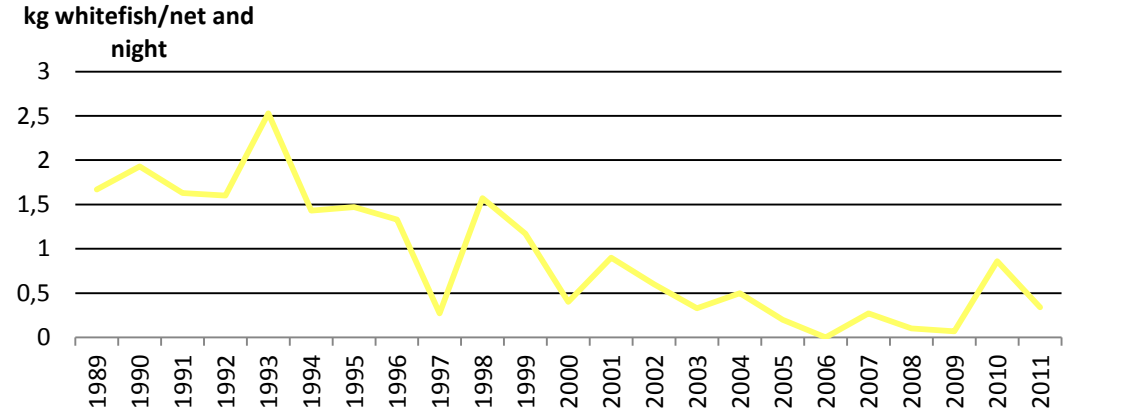
Monitory fishing from the Quark shows an 89% decrease between 1994 and 2009 while monitory fishing in the Stockholm area shows no decrease (Florin 2011). In the Curonian Lagoon landings have decreased with 99% in the last decade. In Estonia several sea-spawning populations are almost extinct although some have slightly recovered in recent years. Decreasing population of anadromous whitefish of the Neva River in Russia is included in the Red Book of Saint-Petersburg (under the name *Coregonus lavaretus*, “nevskiy sig”).

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Cpue of whitefish from Swedish commercial fishery data showing significant decrease in the Bothnian Sea and the Åland Sea but no significant trend in other areas.



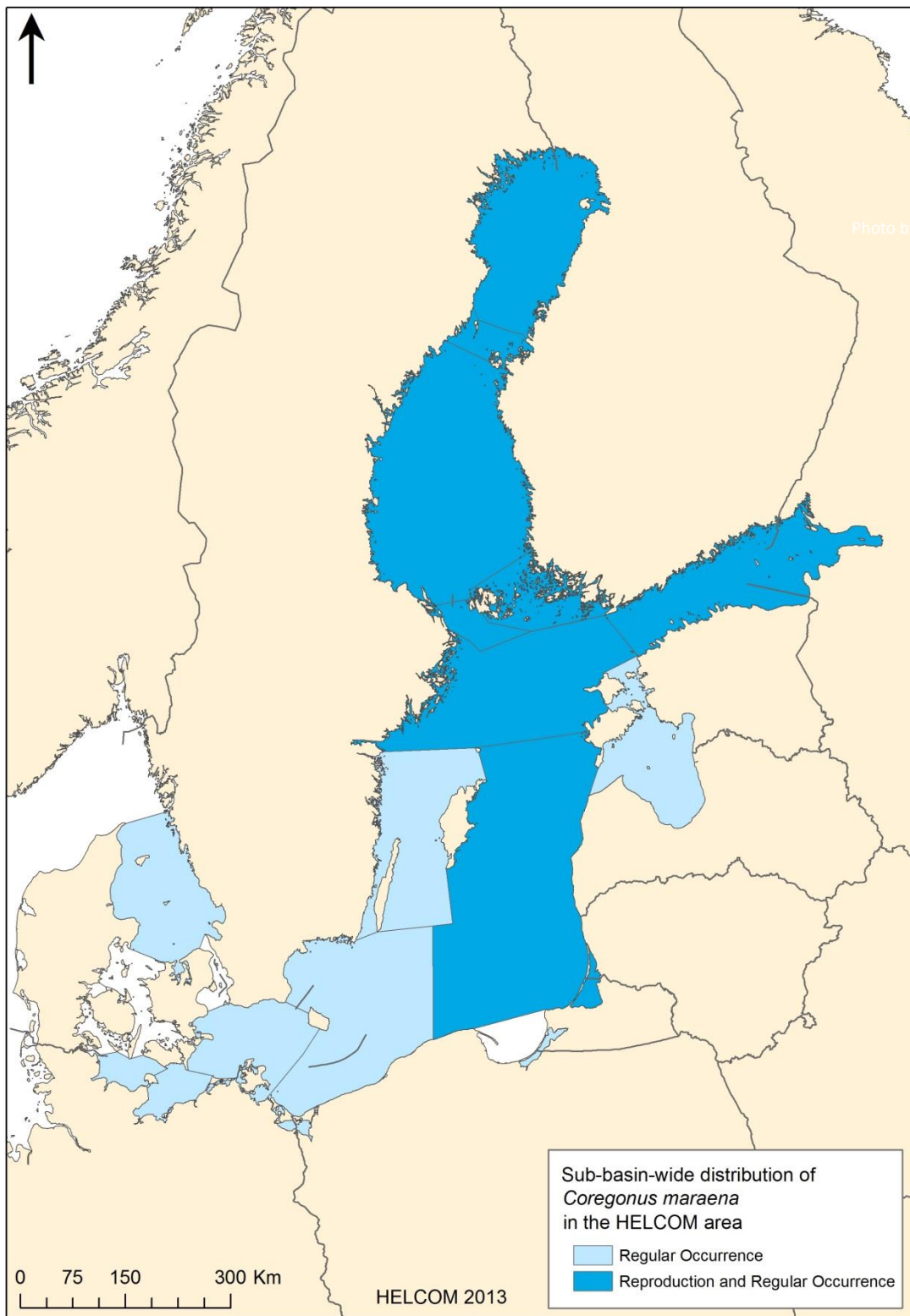
Cpue of whitefish in monitory fishing in Holmön in the northern Quark.



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*Coregonus maraena***Distribution map**

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



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### Habitat and ecology

This species prefers cool waters and lives mostly in coastal waters, some populations close to estuaries. In the northern Baltic Sea the river spawning whitefish carries out long migrations (several hundred km), and is not restricted to river mouths or coastal areas but crosses also the Gulf of Finland and the Gulf of Bothnia. It matures at an age of 2–4 years and migrates into freshwater for spawning, which happens in October–November for *C. maraena*. Coastal spawning (i.e. sea-spawners) also occurs in subpopulations, and these subpopulations do not tend to migrate into rivers.

### Description of major threats

The whitefish is threatened by a variety of factors, including construction of dams and weirs in rivers that hampers the spawning migration, eutrophication of the reproduction habitats, climate change, fisheries as a target species or as by-catch, and introduction of *Coregonus* species and populations from other areas as *Coregonus* specimens readily hybridize. Whitefish is globally listed as VU (A2cd) due to dam constructions over the last 15 years.

### Assessment justification

Despite huge introductions in Finnish waters (annually 40–90 million newly hatched and 4–8 million one-summer old) the catch per unit effort of sea-spawning whitefish has decreased 43–65% in Finnish commercial fishery in the Gulf of Bothnia in 1984–2010. Swedish data from commercial fishery also show a decline over the last decade by 50% in the Bothnian Sea and by 30% in the Bothnian Bay but no trend in the Baltic Proper.

Monitory fishing from the Quark show an 89% decrease between 1994 and 2009 while monitory fishing from two series in the Stockholm area shows no decrease. In the Curonian Lagoon commercial landings decreased from 3 tonnes in the early 2000 to only 30 kg in 2011. In Estonia several sea-spawning populations are almost extinct although some have slightly recovered in recent years.

The overall decrease of whitefish in the HELCOM area based on the data above is assumed to be between 40 to 80% over the last three generations warranting an EN category according to the A2b criteria. This is not downgraded by potential immigration from outside the HELCOM area since the species is considered globally threatened in addition to probable natal homing behaviour restricting migration.

### Recommendations for actions to conserve the species

Whitefish would benefit from a reduction of eutrophication in the spawning rivers and coastal habitats, from the construction of fish passes around barriers like weirs, and from sustainable fisheries management, controlling illegal fishery and considering the needs of both migratory and sea spawning *Coregonus*. Whitefish would probably benefit from reduction of fishery in some regions where the number of individuals is low. The possibility for restoration of reproduction areas should be examined and introductions may be used as a last resort to support the stock in some areas where natural reproduction is not possible anymore.

### Common names

D: Schnäpel; DK: Hetling; ES: Merisiig; FI: Siika; ; LA: Sīga; LI: Sykas; PL: Sieja; RU: Sig; SE: Sik

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