

## SPECIES INFORMATION SHEET

*Thymallus thymallus*

English name: <b>Grayling</b>	Scientific name: <b><i>Thymallus thymallus</i></b>	
Taxonomical group: Class: Actinopterygii Order: Salmoniformes Family: Salmonidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: 6.7 years	
Past and current threats (Habitats Directive article 17 codes): Climate change (M01.01, M01.04), Construction (D03.03, J02.02.01), Contaminant pollution (H01), Eutrophication (H01.05), Fishing (F02)	Future threats (Habitats Directive article 17 codes): Climate change (M01.01, M01.04), Construction (D03.03, J02.02.01), Contaminant pollution (H01), Eutrophication (H01.05), Fishing (F02)	
IUCN Criteria: <b>A2bcd</b>	<b>HELCOM Red List Category:</b>	<b>CR</b> <b>Critically Endangered</b>
Global / European IUCN Red List Category: LC/LC	Habitats Directive: Annex V	
Previous HELCOM Red List Category (2007): –		
Protection and Red List status in HELCOM countries: Denmark: <i>totally protected since 04.05.2001</i> / <b>VU</b> Estonia: <i>protected by the law (second category)</i> / <b>VU</b> Finland: <i>fishing is not allowed during 1.4.– 31.5., except with rod or lure. Size limit for all fishing is 30 cm, or locally even higher</i> / <b>CR</b> (Baltic Sea grayling) Germany: <i>–/2</i> (Endangered, freshwaters) Latvia: <i>commercial fishing and angling rules (closed season, minimal landing size), regulation nr. 45 and 396</i> / – Lithuania: <i>fishing is not allowed from 1 March till 15 May. Size limit for fishing is 29 cm total length</i> / – Poland: <i>–/DD</i> Russia: <i>fisheries regulations</i> / – Sweden: <i>minimum landing size 30 cm in Åland Sea</i> / <b>LC</b>		

**Distribution and status in the Baltic Sea region**

Grayling inhabits coastal areas sporadically only in the Gulf of Bothnia, both in Sweden and Finland. Baltic Sea populations are considered CR in Finland (Urho et al. 2010). Enquiries for coastal fishermen in Sweden (Jensen & Alanära 2006) and in Finland show that the abundance of grayling has decreased during the last twenty years in Sweden and even longer in Finland. The exact amount of decrease is difficult to estimate, due to the low number of individuals left; however, a range of 50 to 90 % decrease has been estimated. The situation for coastal spawning grayling is much worse than that of anadromous grayling. Sea-spawning grayling is rather unique in the world. Anadromous grayling probably still occurs in a couple of rivers in Finland and some more in Sweden, however, the occurrence of non-anadromous grayling in rivers complicates the abundance estimations. Anyway, grayling is declining in several Swedish rivers in the northern Bothnian Sea and Bothnian Bay (Nordwall & Carstein 2001, unpublished).



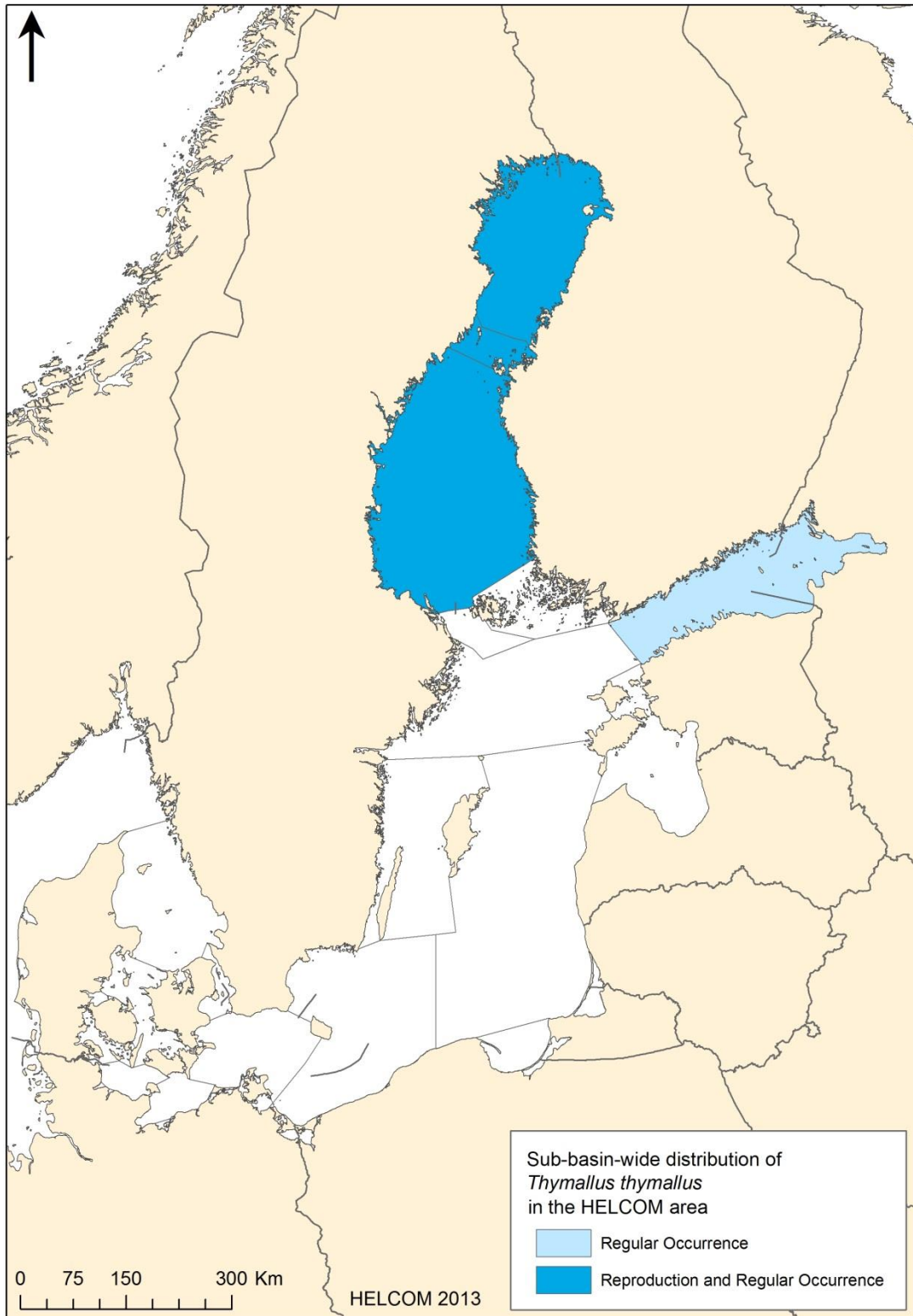
Grayling. Photo by Martin Karlsson, Swedish University of Agricultural sciences.

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## Distribution map

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



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### Habitat and ecology

Generally the grayling inhabits rivers with hard sand or stone bottom and well oxygenated, cold and fast-flowing water. However it also occurs in clear lakes and freshened part of the northern Baltic Sea. Usually it lives in hollows behind boulders and shaded water under overhanging vegetation in rivers. It is gregarious, forms schools and feeds mainly on insect nymphs, small worms and crustaceans. Grayling spawns in shallow stretches, usually 20–40 cm deep, or riffles, with moderate current of about 0.5 m/s and clean gravel bottom (Froese & Pauly 2012). In the sea, grayling reproduces in open, stony outer archipelago.

### Description of major threats

This species is threatened by climate change, especially increasing temperatures in its southern distribution area. Regionally the species suffers from dam constructions river regulation, pollution, and eutrophication.

### Assessment justification

The situation for coastal spawning grayling is much worse than for anadromous grayling. In an Interreg project (Alanära et al 2006) it was shown that sea-spawning grayling reproduces in two areas in Sweden and none in Finland. The extent of occurrence for grayling in the coastal areas in Finland has been reduced by 50 % since 1950s. Electrofishing in Swedish rivers shows no trend during the last 20 years (Degerman, Sers & Magnusson 2009), however electrofishing is not so good for catching this species. An unpublished report by Nordvall & Carstein 2001 states that there is a decline in several Swedish rivers in the northern Bothnian Sea and Bothnian Bay. A suspected decline of more than 80 % the last three generations leads to a status of CR in the HELCOM saline areas. Immigration from outside the HELCOM area is not considered significant for either the anadromous or sea-spawning type hence the threat category is not downgraded.

### Recommendations for actions to conserve the species

The reasons for the decrease are mostly unknown but due to low number of individuals, fishery is not recommended. Introductions and preservation of stock specific genes in cultivation should be considered before it is too late. Restoration of spawning habitats and improvement of water quality in spawning rivers is recommended. It is also necessary to increase knowledge on life-history and ecology to suggest meaningful action plans. Reduction of eutrophication in rivers and reduction of sediment load from rivers would probably benefit the species.

### Common names

D: Äsche; DK: Stalling; ES: Harjus; FI: Harjus; GB: Grayling; LA: Alata; LI: Kiršlys; PL: Lipień; RU: Европейский kharius; SE: Harr

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