

# HELCOM redlist

Assessing threat status of the species  
& biotopes in the Baltic Sea



Swedish Species Information Centre

Mona Johansson

# HELCOM Red List Project 2009-2013

- The task is included in the BSAP
- Updating and completing the work started in BSEPs 75, 109 and 113
- Red Lists for biotopes & for five species groups:
  - Macrophytes
  - Benthic invertebrates
  - Water birds
  - Fish and lamprey species
  - Marine Mammals
- IUCN criteria & guidelines will be followed

# HELCOM Red List Project 2009-2013

## Steering group

monitors & steers the project. (1 meeting/year, participants of 1st meeting in Sweden May 2009 & chairs of expert teams). Next meeting June 2010.

## Expert groups

Six groups do the actual assessment

## HELCOM Secretariat

Project management (Ms Tytti Kontula) and coordination

## HELCOM HABITAT

supervises the project



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# Species assessment

## Kick-off workshop

in Bonn in October 2009

## Checklists for the Baltic Sea (incl. Kattegat)

June 2010. Published on the web.

## Distributional data >2000 species

## List of species to be assessed

exclusion of species that are Not Evaluated (NE) and for which the criteria are Not Applicable (NA)-clear cases to the category Least Concern (LC)

## Documentation according to IUCN standards



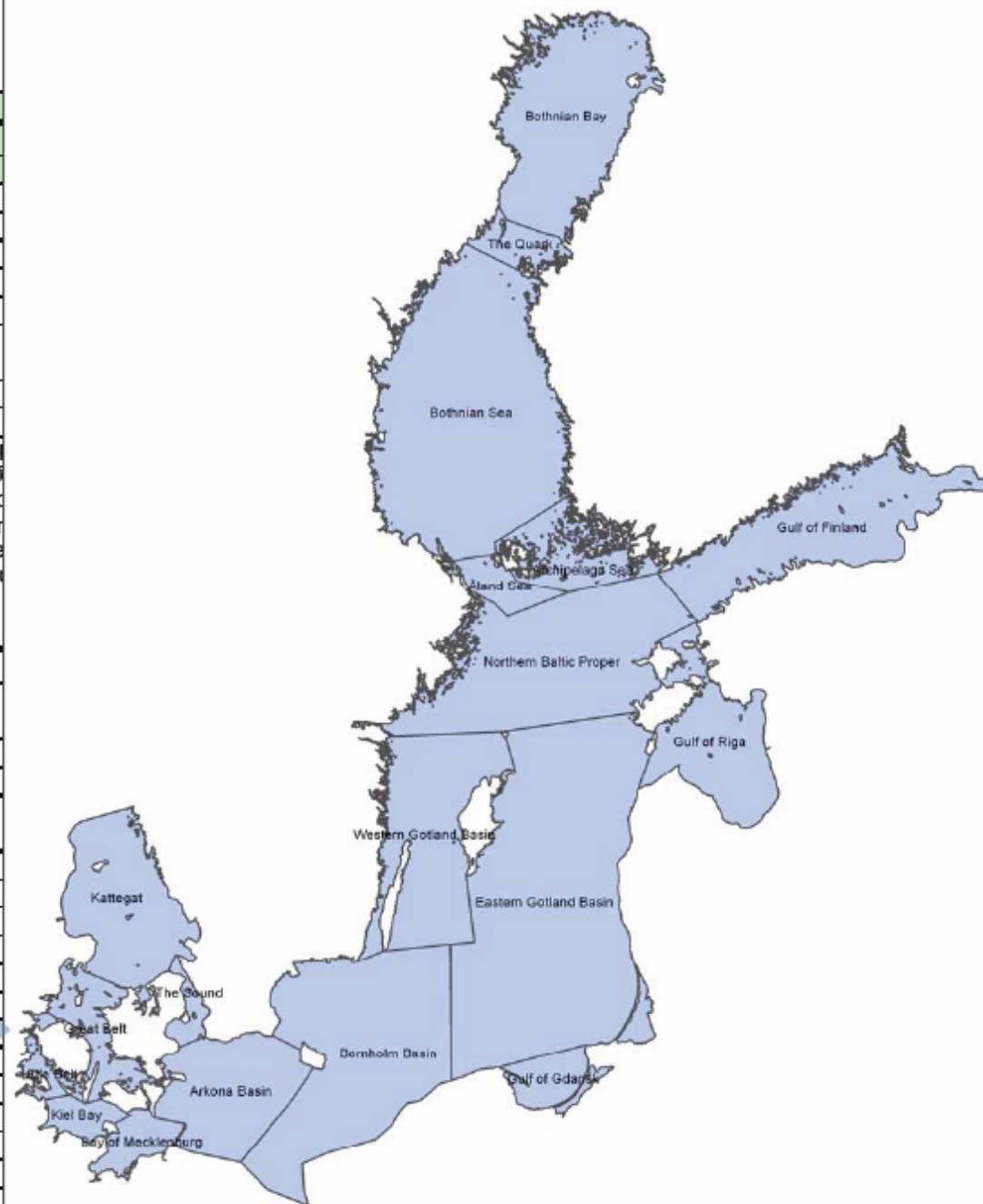
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# Documentation template

	Macrophyte example
<b>TAXONOMY</b>	
Scientific name	<i>Chara horrida</i>
Author	Wahst 1862
Family	Characeae
Order	Charales
Class	Charophyceae
Phylum	Charophyta
Other specification relevant for the taxon	
Taxonomical group in English	Charophytes
Species name in English	
Taxonomical notes	This taxon is considered as a variety of <i>C. hispida</i> growing in the sea by Braun (19xx). Here we follow Blümel (2003), who regards <i>C. horrida</i> as an own species, which differs from <i>C. hispida</i> by its green colour, tender short branchlets and rigid spine. While <i>C. hispida</i> occurs in freshwaters and grows in groups, <i>C. horrida</i> lives solitarily in the sea.

<b>OCCURRENCE</b>	
Regularity, mode or origin of occurrence	Native (resident)
Extent of occurrence (km <sup>2</sup> )	over 40 000
Area of occupancy (km <sup>2</sup> )	400-500
Distribution within HELCOM*	
Kattegat	-
The Sound	-
Great Belt	-
Little Belt	RE?
Kiel Bay	RE?
Bay of Mecklenburg	RE?
Arkona Basin	-
Bornholm Basin	X
Gulf of Gdansk	-
Western Gotland Basin	X
Eastern Gotland Basin	X
Northern Baltic Proper	X
Gulf of Riga	X
Aland Sea	X



# Documentation template

Scientific name	<i>Chara horrida</i>	<i>Lampetra fluviatilis</i>	<i>Calidris alpina schinzii</i>
Archipelago Sea	x / RE?	x	x
Gulf of Finland	x / RE?	x	-
Bothnian Sea	-	x	x
The Quark	-	x	?
Bothnian Bay	-	x	x
Description of distribution	The main distribution area of <i>C. horrida</i> is the middle and southern part of the Baltic Sea. Outposts can be found in the Netherlands, in northwestern France and at the south coast of Great Britain. In the Baltic Sea <i>C. horrida</i> occurs rather frequently along the east coast of south and middle Sweden, and only single records exist from other regions. The only recent findings outside Swedish waters come from West Estonian Archipelago area and the Åland archipelago (Blümel 2003).	The species is distributed throughout HELCOM area including adjacent rivers and streams and the greater lakes in Sweden and Finland. The stocks are strongest in the northern Baltic Sea.	In the Baltic Sea region the dunlin has been a common breeding bird in all Baltic states, but the population and the breeding sites have sharply declined during the past decades. Currently the population is strongest in Denmark and Estonia.
Habitats, free text	<i>Chara horrida</i> is mainly found from sheltered locations, in most cases on soft bottom, rarely on muddy or sandy substrates. Depth ranges reach from about 0.5 m down to about 3 m. The species is found from relatively narrow salinity range in the Baltic Sea: between 4.5 and 9 psu.	Adults live in coastal waters and estuaries and spawn in strong-current habitats of rivers and streams. Ammocoetes burrow in detritus-rich sands or clay sediments (Freyhof & Kottelat 2008).	Breeding habitat is coastal meadows and salt marshes; short-grassed meadows of the coastal hinterland and inland; alvars and peat bogs (Herrmann et al. 2009).

## JUSTIFICATION OF THE ASSESSMENT

Generation time (years)	c. 10 (5-33)	6-9	5 (estimated 7 in Sweden?)
Assessment period (years) for criterion A		c. 20	c. 15
Number of individuals	10 000-15 000		1400-1600
Population size reduction (observed, estimated, inferred or suspected)		less than 15%	70 %
Extreme fluctuations	No	No	No
Fragmentation	No?	No	No
Rescue effect	No	No	No?
Reasons for being threatened (codes)*	E, Co	(Co, CP, F?)	OGr, Di, others?
Threats in the future (codes)	E, Co	?	OGr, others?

# Documentation template

Scientific name	<i>Chara horrida</i>	<i>Lampetra fluviatilis</i>	<i>Calidris alpina schinzii</i>
<b>Free comment on threats</b>	Eutrophication and coastal engineering are regarded as the most important factors for the population decline (Blümel 2003). On the Finnish growing sites, eutrophication has favored colonization by red algae or macrophytes (?), as well as mass occurrences of filamentous algae. In Germany, the underlying causes of decline and disappearance relate to damming of shallow bays and increased turbidity in the charophyte habitats. In Sweden the population decline probably relates to dredging and other activities on charophyte habitats, as well as to the effects of eutrophication.	Spawning migrations prevented by construction of weirs in rivers, spawning habitats degraded also due to other changes, such as dredging of river channels or pollution. Any threats within the Baltic Sea?	The main breeding habitat of dunlin, i.e. low-growing coastal meadows, has declined dramatically during the last decades due to the cessation of grazing management and also ditching (drainage). Eutrophication of the Baltic Sea may also relate to the population decline by increasing the amount of decaying algae drifted ashore, which in turn accelerates overgrowth of meadows.
<b>Criteria A-E</b>			
<b>A</b>	Not applied, not enough data	Criteria not met	EN A2a
<b>B</b>	NT B2b(ii,iii,iv,v)	Criteria not met	Criteria not met
<b>C</b>	Criteria not met	Criteria not met	EN C1+2(i)
<b>D</b>	Criteria not met	Criteria not met	Criteria not met
<b>E</b>	Not applied	Not applied	Not applied
<b>Summary of the justification</b>	The geographic range of <i>C. horrida</i> is considered restricted and continuously declining, mainly due to eutrophication and coastal engineering (Blindow et al. 2003; Blümel 2003, Gärdenfors 2009). The occurrences are concentrated on the east coast of Sweden, where the number of individuals has been estimated 10 000 in 35 localities and the area of occupancy (AOO) c. 300 km <sup>2</sup> . For the whole Baltic Sea the corresponding figures are probably less than 15 000 individuals in less than 50 localities. The total estimate for AOO is c. 400-500 km <sup>2</sup> . Both in Denmark and Germany the species has totally disappeared from its former locations. Finnish occurrences? New locations have been found in Sweden, but this is due to extensive new inventories. The restricted geographic range together with continuing decline in AOO, habitat quality, number of locations and number of individuals qualifies for the category Near threatened (NT) according to B2b(ii,iii,iv,v).	River lamprey is a widely distributed species, which has currently rather stable population size, especially in the northern Baltic Sea, where the strongest stocks are. It declined drastically in the Baltic Sea region and also elsewhere in Europe mainly due to the construction of weirs in rivers during the last century (especially from 1950s to 1980s). However, after the 1980s the decline has slowed down, and within the assessment period (c. 20 years), no further population reduction has been observed in the north. In the southern Baltic Sea the stocks are still slightly declining, but the overall population decline within the HELCOM area does not exceed 15% within three generations.	The population size of dunlin is estimated 1400-1600 (700-800 breeding pairs) in the Baltic Sea region. The generation length of dunlin is 5 years, and the population reduction in three generations is estimated c. 70%, giving the category Endangered (EN) according to A2a. With current population size and continuously declining population the dunlin meets the criteria for EN also according to C1+2(i). In only about ten years (two generations) the Baltic Sea population has declined about 50%. Number of localities and estimate for area of occupancy?

# Documentation template

Scientific name	<i>Chara horrida</i>	<i>Lampetra fluviatilis</i>	<i>Calidris alpina schinzii</i>
<b>THREAT STATUS</b>			
<b>IUCN category</b>	NT	LC	EN
<b>Criteria</b>	B2b(ii,iii,iv,v)		A2a; C1+2(i)
<b>Range of plausible categories</b>	LC-VU		
<b>Degree of uncertainty</b>	The species is difficult to recognize, and it may have more localities within HELCOM area, but the declining trend is clear.	Reliable	Reliable
<b>Global IUCN category</b>	-	LC	-
<b>Responsible assessor(s), if not the whole group</b>	Expert 1 & Expert 2	Whole group	Expert 2
<b>Conservation in HELCOM countries</b>	No	?	?
<b>Recommendations for actions to conserve the species</b>	Combating local sources of nutrients causing eutrophication. Conservation measures, such as restrictions on coastal constructions and dredging, in shallow coastal lagoons and archipelago areas.		Management of the coastal meadows by grazing and/or mowing on the known breeding sites is absolutely necessary.
<b>Habitats / Birds Directive</b>	No	H II (except for the Finnish and Swedish populations), H V	B I
<b>Sources of information</b>	Blindow I., Garniel A., Munsterhjelm R. & Nielsen R. 2003. Conservation and threats. Proposal of a Red Data Book for charophytes in the Baltic Sea. In Schubert, H., Blindow, I. (eds.), Charophytes of the Baltic Sea, Koeltz Scientific, Koeninsein/Taunus. P. 251–260. Blümel C. 2003: Chara horrida. In Schubert, H., Blindow, I. (eds.), Charophytes of the Baltic Sea, Koeltz Scientific, Koeninsein/Taunus. P. 113–121. Gärdenfors U. 2009. Chara horrida. In: Swedish Species Information Centre 2009. Preliminär bedömning av rödlistan 2010. <a href="http://www.artdata.slu.se/rodlista/prel2010/">www.artdata.slu.se/rodlista/prel2010/</a> HELCOM. 2007. HELCOM lists of threatened and/or declining species and biotopes/habitats in the Baltic Sea area. Helsinki Commission. Baltic Sea Environment Proceedings 113. 17 p.	Freyhof, J. & Kottelat, M. 2008. Lampetra fluviatilis. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.1. <a href="http://www.iucnredlist.org">www.iucnredlist.org</a> Gärdenfors U. 2009. Lampetra fluviatilis. In: Swedish Species Information Centre 2009. Preliminär bedömning av rödlistan 2010. <a href="http://www.artdata.slu.se/rodlista/prel2010/">www.artdata.slu.se/rodlista/prel2010/</a> Sources concerning current situation in other countries...	To be listed



# Habitats assessment

- Improve current biotope classification.
  - BSAP agreed to update by 2011.
  - EU SeaMap project: develop EUNIS habitat classification system for the Baltic Sea
- Adopt harmonised and appropriate criteria for assessment
- Workshop in Stockholm 25-26 March 2010

# Timetable

2009

- preparatory work
- establishment of expert teams

2010

- establishment of expert teams
- Checklists of species + assessment starts
- Biotope classification + assessment method

2011

- Assessments of species continue
- Assessments of biotopes start

2012

- Finalizing assessments
- Documentation

2013

- Publishing
- **Ministerial Meeting in 2013**

# Thank you



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# Expert teams

**Macrophytes:** Karin Fürhaupter (Germany),  
Vladims Jermakovs (Latvia), Hans kautsky  
(Sweden) & Kirsi Kostamo (Finland)

+ Martynas Bučas (Lithuania)

+ Marcin Plinski, Adam Latala, Sabina Jodlowska,  
Wojciech Kowalski (Poland)

+ Ruth Nielsen, Karsten Dahl? (Denmark)

**Benthic invertebrates:** Anna Karlsson (Sweden),  
Piotr Gruska (Poland), Vadims Jermakovs  
(Latvia), Ari Laine (Finland) & Michael Zettler  
(germany)

# Expert teams

**Fishes:** Ann-Britt Florin (Sweden), Ronald Fricke (Germany), Janis Birzaks (Latvia) & Lauri Urho (Finland)

- + Mikael Svensson, Henrik Svedäng, Francesca Vitale (Sweden)
- + Krzysztof Skóra (Poland)
- + Atris Minde (Latvia)
- + Redik Eschbaum (Estonia)
- + Iwona Psuty (Poland)

# Expert teams

## **Water birds:** Christof Herrmann

(Germany), Leif Nilsson (Sweden), Petri Nummi (Finland), Martti Hario (Finland), Markuu Mikkola-Roos (Finland), Antra Stipniece (Latvia) & Ib Krag Petersen (Denmark)

## **Marine mammals:** HELCOM SEAL (chaired by Arne Björge Norway)



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# Expert teams

**Biotopes:** Michael Haldin (Finland), Dieter Boedeker (Germany), Anda Ikauniece (Latvia) & Cecilia Lindblad (Sweden)  
+ Jan arzocha (Poland)

Preliminary timetable for the HELCOM Red List project with the most important project milestones

