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HELCOM Red List Species Information Sheets (SIS) Mammals

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2013 HELCOM Ministerial Meeting

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Baltic Marine Environment Protection Commission

SPECIES INFORMATION SHEET *Phocoena phocoena*

English name: **Harbour porpoise**	Scientific name: ***Phocoena phocoena***	
Taxonomical group: Class: Mammalia Order: Cetartiodactyla Family: Phocoenidae	Species authority: (Linnaeus, 1758)	
Subspecies, Variations, Synonyms: *Phocoena communis* Lesson 1827, *Phocoena vomerina* Gill 1865, *Phocoena relicta* Abel 1905.	Generation length: 6 years	
Past and current threats (Habitats Directive article 17 code): Bycatch (F03.02.05), Contaminant pollution (H03)	Future threats (Habitats Directive article 17 codes): Bycatch (F03.02.05), Contaminant pollution (H03)	
Baltic Sea subpopulation		
IUCN Criteria: **C1,2a(ii)**	**HELCOM Red List Category:**	**CR Critically endangered**
Western Baltic subpopulation		
IUCN Criteria: **A2a**	**HELCOM Red List Category:**	**VU Vulnerable**
Global / European IUCN Red List Category: LC / VU	Habitats Directive: Annex II, IV	
Protection and Red List status in HELCOM countries: Protected year-round in all HELCOM countries. Denmark: VU, Estonia: DD, Finland: RE, Germany: 2 (Endangered), Latvia: –, Lithuania: –, Poland: LC, Russia: 4 (Uncertain status), Sweden: VU		

Distribution and status in the Baltic Sea region

Different studies indicate that there are two populations of harbour porpoises in the Baltic Sea area, one in the western Baltic Sea encompassing the Kattegat, the Belt Sea, the Sound and the German Baltic and a second one in the proper Baltic Sea (Huggenberger et al. 2002, Wiemann et al. 2010, Galatius et al. 2012). In the 19th and early 20th centuries harbour porpoises were widespread throughout the entire

Harbour porpoise Photo:Wikimedia

Baltic, as far as the northeast part of the Gulf of Bothnia (Kemi) and the Gulf of Finland [1]. Today, harbour porpoise observations in the Baltic proper are very rare and it is estimated that the number of remaining individuals is at most few hundreds (Berggren et al. 2004). The two populations inhabiting the Baltic Sea differ significantly in genetic composition from that in the North Sea (Wiemann et al. 2010).

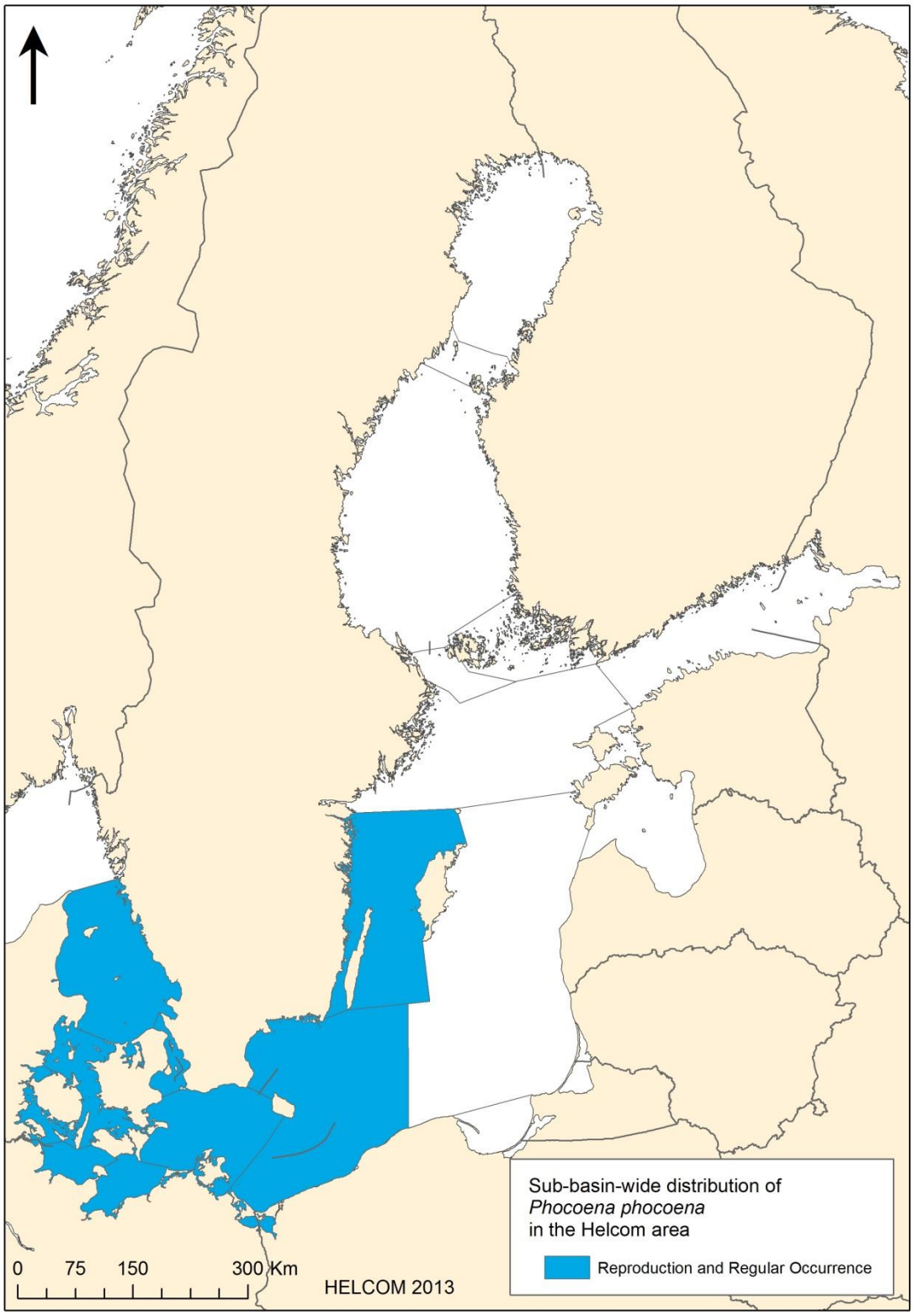
The harbour porpoise population in the Baltic proper has declined dramatically over the past 100 years and there are indications that this population is facing extinction (classified as Critically Endangered (CR C2a(ii)) under the IUCN Red List 2008). In the southern Baltic Proper, a mean abundance of 599 porpoise groups was estimated in June 1995 (Hiby & Lovell 1996, cited in Berggren et al. 2004). This survey was repeated in 2002 resulting in a mean estimate of 93 porpoise groups (Berggren et al. 2004). These survey results confirm the extremely low and probably decreasing population abundance in the Baltic Proper. Calculations based on a subset of the data from the SCANS surveys (SCANS II 2008) covering the distribution of the western Baltic population yield a drop in point estimates from 28 000 to 11 000 between 1994 and 2005 with 96% support for a decline in abundance from 1994 to 2005 (Teilmann et al. *in prep.*).

The Baltic Sea subpopulations of harbour porpoises are considered to be of Baltic-wide importance in the HELCOM area. In the EU marine area, harbour porpoises are under strict protection, because they are not only listed in Annex II, but also in Annex IV of the EU Habitats Directive. The species is also part of the "Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS)" under the Bonn Convention. ASCOBANS has specifically focused on the recovery of the proper Baltic Sea population with the enactment of the Jastarnia Plan (ASCOBANS 2009). The ASCOBANS conservation plan for the western Baltic Sea population has been developed and presented in 2012. Further, the Baltic Sea States have agreed in HELCOM Recommendation 17/2 to protect the harbour porpoise in the Baltic marine Area.

SPECIES INFORMATION SHEET

Phocoena phocoena

Distribution Map



SPECIES INFORMATION SHEET *Phocoena phocoena*

Habitat and Ecology

The harbour porpoise is one of the smallest cetacean species. It inhabits temperate and cold coastal and shelf waters throughout the northern hemisphere. In the Northeast Atlantic and Baltic Sea, adult males reach average lengths of 1.45 meters, while females average 1.60 meters. Age at sexual maturity is 3–4 years, after which females can potentially produce a calf each year (Lockyer 2003). Maximum recorded longevity is 24 years, but few porpoises live beyond 12 years (Lockyer 2003). Harbour porpoises primarily feed on fish, in the Baltic Sea mainly on cod, herring, sprat, gobies and eelpout (Aarefjord and Bjørge 1993, Santos and Pierce 2003, Malinga et al. 1996).

Description of major threats

Historically, there have been large catches of harbour porpoise in the Baltic region, with 2 000 individuals taken annually in Danish waters in the late 19th century and possibly larger catches in the Baltic proper (Kinze 1995). Porpoises are threatened by a variety of anthropogenic activities and impacts. Among these, bycatch in fisheries is of greatest concern (Berggren 1994, Vinther 1999, ASCOBANS 2000, Skóra & Kuklik 2003). Gillnets are thought to be responsible for most bycatches, but porpoises are also occasionally taken in trawls (Berggren 1994). The level of bycatch was estimated to be unsustainable in 2000 (ASCOBANS 2000). Pollution is of concern in the Baltic area, where reduced fertility of seals and population decline of seal species has been attributed to high levels of organochlorines such as DDT and PCBs (Helle et al. 1976, Bergmann 1999). Murphy et al. (2010) found indications for a link between higher organochlorine concentrations and lower pregnancy rates in harbour porpoises. Porpoises in the Baltic Sea have been reported to have up to 254% higher mean levels of PCBs than samples from Kattegat and Skagerrak (Berggren et al. 1999, Bruhn et al. 1999). In later years, levels of PCBs in Baltic biota have declined, so the negative impacts of pollution may be reduced in the future. Other threats in the Baltic Marine Area include acoustic disturbances, shipping and prey depletion due to over-fishing.

Assessment justification

Baltic Sea subpopulation. There is evidence that the harbour porpoises in the Baltic proper constitute a subpopulation (Huggenberger et al. 2002, Wiemann et al. 2010, Galatius et al. 2012), and for that reason they are assessed separately. The most recent information from 2002 on abundance of harbour porpoises indicated that there are only a few hundred porpoises left in the Baltic proper (Berggren et al. 2004). Furthermore, it is assumed, based on reported bycatches, that the number may have declined even further, and the population may be facing extinction. The number of mature individuals is estimated to be less than 250 and a continuing decline of at least 25% within one generation is assumed, which means that the population is categorized as Critically Endangered (CR) according to criterion C1. The same category is reached also according to C2a(ii), i.e. the small size of the population is combined with a continuing decline in numbers of mature individuals and at least 90% of mature individuals is in one subpopulation.

Western Baltic (Belt Sea) subpopulation. The harbour porpoises in the western Baltic (or Belt Sea) are also assumed to constitute a separate subpopulation (Wiemann et al. 2010, Galatius et al. 2012), and for this reason they are assessed separately. The most recent information on abundance of harbour porpoises in the western Baltic Sea showed a reduction of point estimates from 28 000 in 1994 to 11 000 in 2005 (calculations based on a subset of data from the SCANS surveys (SCANS II 2008)) (Teilmann et al. in prep). 95% confidence intervals from 1994 (11 946–64 549) and 2005 (5 840–20 214) overlap, but a Bayesian analysis of the data yielded 96% support for a decline. It is assumed that the population reduction has exceeded 30% over the last three generations, and the subpopulation is categorized as Vulnerable (VU) according to criterion A2a.

Recommendations for actions to conserve the species

National conservation and management plans should be developed in order to ensure conservation of the populations. These should include continuation of long-term monitoring and research programs, the restoration of suitable habitats where appropriate, as well as the establishment and proper management of marine protected areas. Further, the responsible national authorities should coordinate their conservation and monitoring strategies with neighbouring countries. Immediate action to reduce bycatches is needed.

Common names

Denmark: marsvin, Estonia: harilik pringel, Finland: pyöriäinen, Germany: Schweinswal, Kleintümmler, Latvia: cûkdelfîni (?), Lithuania: paprastoji jûrø kiaulë, Poland: morświn, Russia: морская свинья (Morskaja svin'ja), Sweden: (vanlig) tumlare.

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[1] http://www.ascobans.org/index0201.html

[2] EU:regulation 812/2004GRATIS 812/2004 states: "Member States shall design and implement monitoring schemes for incidental catches of cetaceans using observers on board the vessels flying their flag and with an overall length of 15 m or over, for the fisheries and under the conditions defined in Annex III."

SPECIES INFORMATION SHEET

Phoca hispida botnica

English name: **Baltic ringed seal**	Scientific name: ***Phoca hispida botnica***	
Taxonomical group: Class: Mammalia Order: Carnivora Family: Phocidae	Species authority: (Schreber, 1775)	
Subspecies,Variations,Synonyms: *Phoca hispida* (Schreber,1775) Subspecies *Pusa hispida hispida* Schreber, 1775 Subspecies *Pusa hispida lagodensis* Nordquist, 1899 Subspecies *Pusa hispida ochotensis* Pallas, 1811 Subspecies *Pusa hispida saimensis* Nordquist, 1899	Generation length: 15 years	
Past and current threats (Habitats Directive article 17 codes): Bycatch (F03.02.05) , Contaminant pollution (H03), Climate change (mild winters; M01)	Future threats (Habitats Directive article 17 codes): Climate change (reducing ice; M01), Bycatch (F03.02.05), Contaminant pollution (still affects reproduction; H03), Water traffic (D03)	
IUCN Criteria: **A3c**	**HELCOM Red List Category:**	**VU Vulnerable**
Global / European IUCN Red List Category LC / LC (species level)	Habitats Directive: Annex II	

Protection and Red List status in HELCOM countries:
In EU waters, this species is protected by the Habitats Directive and listed in its Annex V, subject of special conservation measures also in Russia (Red Data Book of the Russian Federation).

Protection in HELCOM countries:
Denmark: –
Estonia: The species is protected by Nature Conservation Act, all known important areas for the species are under national protection, hunting is not allowed.
Finland: The species is considered a game animal but hunting permits have not been granted since 1988. Killing seals to avoid damage (e.g. to fisheries), however, is possible. The maximum annual quota is 30 animals,but only a few animals have been killed yearly.
Germany: All hunting of seals is forbidden in Germany.
Latvia: –
Lithuania: –
Poland: The species is under strict protection in Poland. Disturbing, catching or killing are forbidden. Species is recognized as requiring active protection.
Russia: Since 1970s hunting on seals in the Russian part of the Baltic Sea is fully prohibited; Ringed seal is included into the Red Data Book of the Russian Federation.
Sweden: The species is protected under the Species Protection Act 4 §, paragraphs 2 and 4. This means that it is forbidden to disturb the species or disturb or damage its habitats. According to the Hunting Act 3§, it is forbidden to capture of kill the species unless it is allowed in other parts of the hunting legislation.

Red List status in HELCOM countries:
Denmark: –, Estonia: EN, Finland: NT, Germany: –, Latvia: –, Lithuania: –, Poland: –, Russia: 2 (declining population), Sweden: NT

SPECIES INFORMATION SHEET *Phoca hispida botnica*

Distribution and status in the Baltic Sea region

The estimated abundance of all Baltic ringed seals is roughly at the level of 10 000. The count results of 7000 during 2013 suggest that there are about 8 750–11 700 ringed seals in the Gulf of Bothnia (Härkönen personal communication), whereas estimated numbers from the number of counted individuals in the Gulf of Finland and the Gulf of Riga were 50–100 (Mikhail Verevkin, pers. comm.) and about 1 000 –1 500, respectively (Mart Jüssi, pers. comm.). Boat surveys in 2000's and aerial censuses in the Archipelago Sea after two good ice winters 2010 and 2011, lead to an estimate of 140–300 individuals in the area (Miettinen et al. 2005, Nordström et al. 2011). It has to be remembered, however, that the estimates are based on an estimated percentage of 60–80 % of individuals seen in the counted area.

Ringed seal. Photo by Lee Cooper.

Population models (based on bounty statistics from Finland and Sweden, and data from Estonia) suggest a population size of roughly 180 000–220 000 at the beginning of the century (Hårding & Härkönen 1999). However, it should be noted that bounty statistics may contain sources of error, decreasing reliability of the estimates. Furthermore, it is not known what the carrying capacity of the Baltic Sea is today.

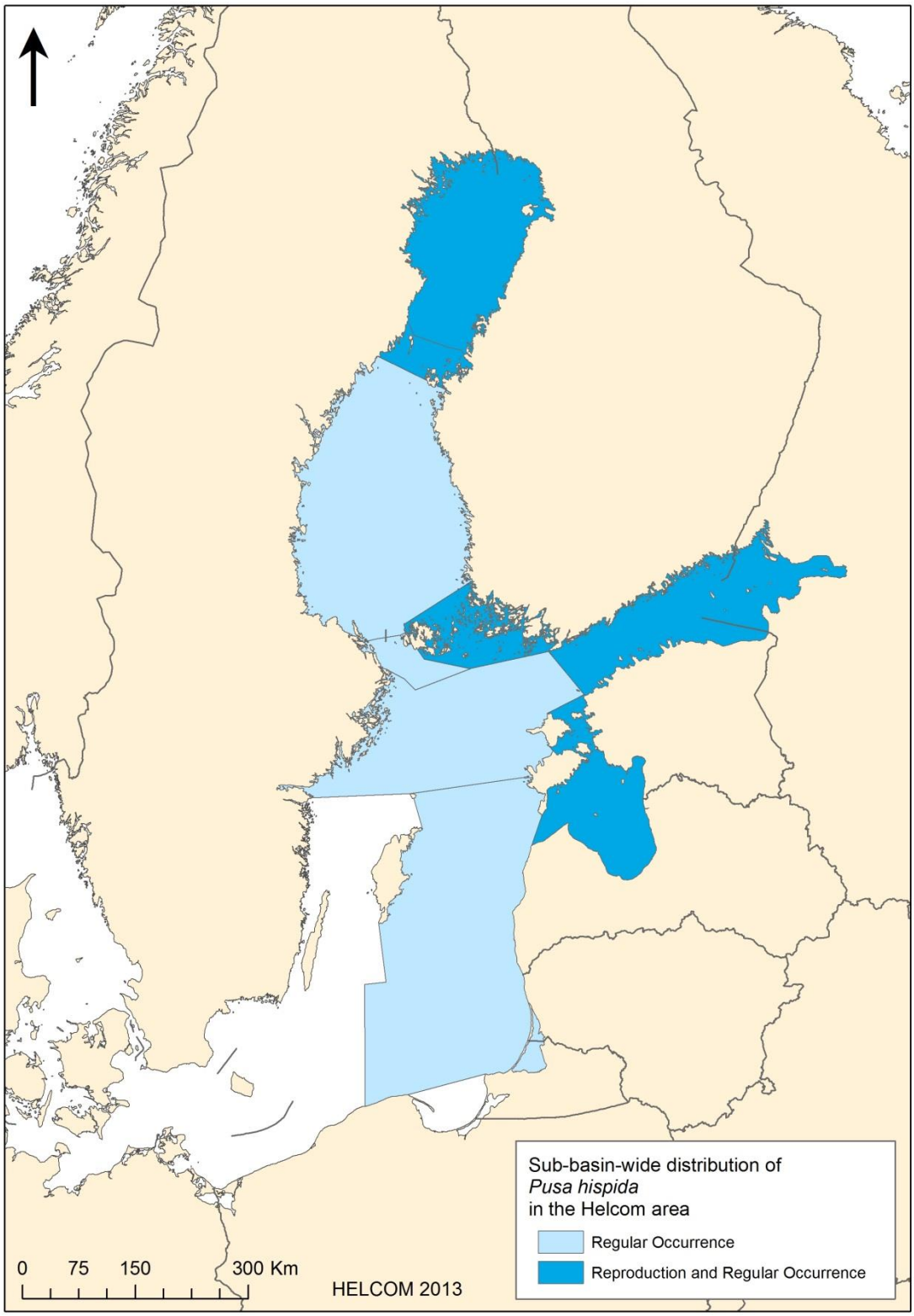
The Baltic Sea population is considered to be of sub-regional importance in the HELCOM area. In EU waters, this species is protected by the Habitats Directive and listed in its Annexes II and V.

The Baltic ringed seal sub-species has been classified as Vulnerable by the IUCN in 2009. While the HELCOM List of threatened and/or declining species uses HELCOM sub-regions, HELCOM Recommendation 27-28/2 identifies two management units for the Baltic ringed seals: Gulf of Bothnia on one hand and the Archipelago Sea, Gulf of Finland and Gulf of Riga ringed seals on the other hand. According to ICES WGMME Report (2005) the number of ringed seals in the Gulf of Bothnia, where the main part of the Baltic population occurs, is increasing steadily. The ringed seal population in the Bothnian Bay has been increasing at a rate of a 4.58 % per year since 1988 (Hårding & Härkönen 1999, Karlsson et al. 2009, Härkönen personal communication), which is less than half of the intrinsic capacity (10%, Karlsson et al. 2007). In Gulf of Riga and the Gulf of Finland there was no increase between 1996 and 2003 (Karlsson et al. 2007). More recently, the estimated numbers in the Gulf of Finland have decreased from 300 to less than 100 (Rustam Sagitov & Mikhail Verevkin, pers. comm.). According to the 2005 ICES report, the southern sub-population has a worse conservation status. There is no sign of recovery and there is indication of a recent decline. HELCOM *ad hoc* SEAL Expert Group has expressed its concern about the situation in the southern management unit. According to the EU's Habitats Directive Art. 17 reporting, the population and conservation status in the whole Baltic Sea is assessed as unfavourable.

SPECIES INFORMATION SHEET

Phoca hispida botnica

Distribution map



SPECIES INFORMATION SHEET ***Phoca hispida botnica***

Habitat and ecology

Ringed seals are mainly found in the Arctic. The Baltic sub-populations are "land-locked" and exist as geographically isolated postglacial relicts, not only in the Baltic Sea itself, but also in the lakes Ladoga (*P.h. ladogensis*) and Saimaa (*P.h. saimensis*). They grow to an average length of 1.5–1.75 meters and a mass of less than 120 kilograms, and can reach a maximum age of 48 years[1]. Females become sexually mature between 3 and 6 years after which they normally generate one pup every year. The moulting season is from mid-April to early May[2]. Ringed seals feed on a wide variety of small fish and invertebrates.

Description of major threats

The population was heavily exploited until the 1960s, after which the emerged organochlorine contamination began to cause reproductive failures. During 1970–80, the population was at its minimum: about 5000 individuals in the Baltic Sea (Hårding & Härkönen 1999).

Although ringed seal is still suggested to be affected by exposure to environmental toxins, the exposure level and the health status of the Baltic ringed seal has clearly improved during the last decades (Nyman et al. 2002, Routti 2009). The prevalence of uterine occlusions has decreased drastically, and the pregnancy rate has more than doubled since the 1980s. The last known case of uterine occlusion was a 17-year-old female in 2011. Altogether there have been five cases (= 9% of > 4-year old females) in 2000s in elderly females (15–26 years), which suggests that the occlusions are a reflection of a previous higher contaminant exposure in the older generation (in the 1990s occlusions occurred in 36% of adult females). Despite this improvement, however, it is plausible that the current pregnancy rate has not yet reached its pristine levels. It is not clear if the still lowered pregnancy rate is explained by environmental toxins. It has to be taken into consideration that the sample size is very small for calculating the pregnancy rates.

Climate change is a potential threat to the Baltic ringed seal, an arctic seal species adapted to breeding on ice. However, ringed seals have been observed to breed on islets and skerries in the Baltic Sea area in winters with poor ice. Nevertheless, pup mortality rate has been shown to be extremely high in ringed seal pups born without shelter from lairs (Lydersen & Kovacs 1998). Future scenarios of climate change will reduce the available breeding ice for Baltic ringed seals, and this feature alone will impose a severe limitation on ringed seal population growth rate (Sundqvist et al. 2012). Climate change is of particular concern for the southern distribution range (Gulf of Riga, Gulf of Finland and Archipelago Sea), where mild winters might have already significantly affected the reproductive success of these populations (ICES WGMME Report 2005, Sundqvist et al. 2012) which are adapted to ice breeding. Other threats include entanglement in fishing gear (by-catch), a wide range of disturbances and increasing shipping, such as ice breaking vessels destroying the pack ice habitat (Stenman et al. 2005).

Assessment justification

All Baltic seal populations have been recently (2010) evaluated by the International IUCN seal expert group (Kovacs et al. 2012). In the IUCN assessment, the Baltic ringed seal was classified VU on the basis of past population decline which has not ceased in parts of the area of occupancy, as well as the future loss of sea ice related to climate change. In the longer run, population size declines are unanimously expected relating to reduction of the sea ice. The majority of the Baltic ringed seals live in the Bothnian Bay where the sea ice will decline the slowest.

Even though the Baltic ringed seal would not meet a threatened category due to the actual overall population size development in the future, there is a common understanding that the decline in its

extent of occurrence may well exceed 30% over the next 45 years as the ringed seal will suffer more severely from effects of climate change in its southern distribution range. Therefore the Baltic ringed seal is categorized as VU, at least according to A3c.

Recommendations for actions to conserve the species

National seal conservation and management plans should be developed in order to ensure a proper conservation and management of all sub-populations during all life stages (ICES 2005). According to ICES WGMME Report (2005), it is important to address possible impacts on ringed seals when planning the use and exploitation of marine areas such as infrastructure development (e.g. shipping, oil transit, fixed links and wind parks). Regulations for shipping should in particular be implemented for ice breaking vessels during winter time. Further improvement of long-term monitoring and research programmes is needed. Ringed seals in the southern distribution range require more attention because current knowledge about vital population parameters is missing (ICES 2005). Further, the responsible national authorities should develop and coordinate their monitoring strategies regarding shared seal populations with neighbouring countries. HELCOM Recommendation 27-28/2 further recommends the Contracting Parties to collaborate within the HELCOM seal expert group to identify and establish a network of protected areas for important actual and potential seal habitats across the Baltic Sea area (re. the EU Habitat Directive, Annex II), and attempt to harmonise the regulations and monitoring of these conservation areas.

Common names

Denmark: ringsæl, Estonia: viiger, viigerhüljes, Finland: Itämeren norppa, Germany: Ringelrobbe, Latvia:–, Lithuania: žieduotasis ruonis, Poland: foka obrączkowana/nerpa obrączkowana, Russia: кольчатая нерпа/нерпа кольчатая, Sweden: vikare

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[1] http://marinebio.org/species.asp?id=185 and Härkönen, T (personal communication)

[2] http://marinebio.org/species.asp?id=185

SPECIES INFORMATION SHEET

Phoca vitulina vitulina

English name: **Harbour seal / Common seal**	Scientific name: ***Phoca vitulina vitulina***	
Taxonomical group: Class: Mammalia Order: Carnivora Family: Phocidae	Species authority: (Linnaeus, 1758)	
Subspecies, Variations, Synonyms: –	Generation length: 15	
Past and current threats (Habitats Directive article 17 codes): Hunting (F03.01), Bycatch (F03.02.05), Contaminant pollution (H03), Epidemics (K04.03), Other threat factors (loss of genetic diversity; –)	Future threats (Habitats Directive article 17 codes): Bycatch (F03.02.05), Contaminant pollution (H03), Other threat factors (loss of genetic diversity; –)	
Kalmarsund subpopulation		
IUCN Criteria: **D1**	**HELCOM Red List Category:**	**VU Vulnerable**
Southern Baltic subpopulation		
IUCN Criteria: –	**HELCOM Red List Category:**	**LC Least Concern**
Global / European IUCN Red List Category LC/LC (species level)	Habitats Directive: Annex II, V	

Protection and Red List status in HELCOM countries:
In EU waters, this species is protected by the Habitats Directive and listed in its Annexes II and V, subject of special conservation measures also in Russia (Red Data Book of the Russian Federation).

Protection in HELCOM countries:
Denmark: The species has been protected since 1977. However, licenses are given to shoot a limited number of individuals each year, when seals interfere with fishing gear. Regulation is not allowed between 1st June and 31st July, and never in seal reserves.
Estonia: –
Finland: –
Germany: All hunting of seals is forbidden in Germany.
Latvia: –
Lithuania: –
Poland: The species is under strictly protection in Poland. Disturbing, catching or killing are forbidden.
Russia: Since 1970s hunting on seals in the Russian part of the Baltic Sea is fully prohibited.
Sweden: According to the Hunting Act 3§, it is forbidden to capture of kill the species unless it is allowed in other parts of the hunting legislation.

Red List status (on species level) in HELCOM countries:
Denmark: LC, Estonia: –, Finland: –, Germany:* (Not threatened), Latvia: –, Lithuania: –, Poland: –, Russia: 1 (threatened by extinction), Sweden: VU

SPECIES INFORMATION SHEET *Phoca vitulina vitulina*

Distribution and status in the Baltic Sea region

With a population of about 15 000 in 2007 (Härkönen et al. 2008), common seals are very abundant in the Skagerrak, Kattegat and the Belt Sea area, whereas further east (east of 13° E) they are restricted to only three small breeding colonies with the Kalmarsund as their easternmost breeding area. According to Schwarz et al. (2003) and Harder (2011), historically, harbour seal breeding sites as well as haul-out sites could be found along the German coast, thus, we conclude that the harbour seal population size

Harbour Seal. Photo by ***Andreas Trepte***, www.photo-natur.de.

and structure within the southern Baltic Sea are still far away from historic abundance and distribution. In consequence, for the Baltic Sea, harbour seals are listed as Critically Endangered in the German red list (1996). The Kalmarsund population differs genetically from the current Skagerrak/Kattegat and Southwest Baltic common seal populations (Stanely et al. 1996) and is therefore assessed separately.

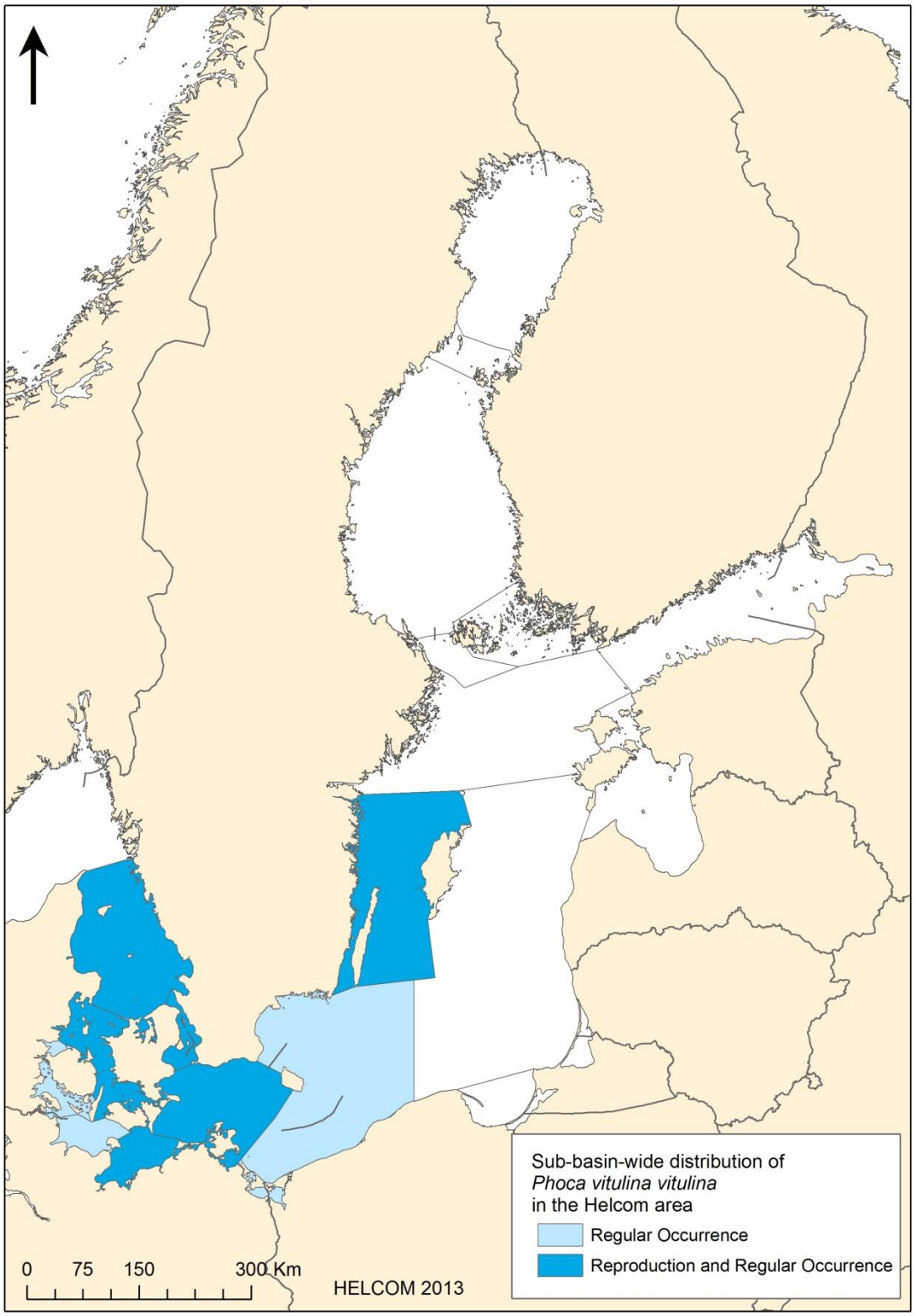
The Baltic Sea area populations of the common seal are considered to be of sub-regional importance in the HELCOM area. In EU waters, this species is protected by the Habitats Directive and listed in its Annexes II and V.

In the beginning of the 20th century, the population in the Skagerrak, Kattegat and the Danish Straits exceeded 17 000 but declined to some 2500 in the 1930s as a consequence of hunting (Heide-Jörgensen & Härkönen 1988). In times from the 19th to the 20th century the population in the western Baltic Proper was about 5000 compared to ca. 1000 in 2007 (Karlsson et al. 2008). The Skagerrak/Kattegat population has been hit by three mass mortalities. The two first, in 1988 and 2002 were caused by PDV virus and killed half the population on both occasions. The third epidemic in 2007 killed some 3000 seals and was caused by an unknown pathogen. The recovery rate in the Kattegat has been low ever since the 2002 epidemic[2].

SPECIES INFORMATION SHEET

Phoca vitulina vitulina

Distribution map



SPECIES INFORMATION SHEET *Phoca vitulina vitulina*

Habitat and ecology

Common seals occur in all moderately temperate seas of the northern hemisphere. They grow to an average length of 1.4–1.7 metres and a mass of up to 100 kilograms, and they can reach a maximum age of 36 years (Härkönen & Heide-Jörgensen 1990). Generally the species is gregarious, hauling out in small to large scattered groups to breed, moult and rest. Some colonies in protected bays and estuaries can number over 1 000 individuals [1]. Females become sexually mature between 3 and 6 years and they then normally generate one pup every year. The pups are usually born on sheltered beaches, rocks or littoral sandbanks, from where they can follow the mother into the water immediately after birth. Common seals feed on a great number of fish species (Härkönen 1987 a, b, 1988). They tend to stay within 25 km from shore but individuals are occasionally found 100 km or more offshore.

The long-term isolation of the Kalmarsund population has led to substantial loss of genetic diversity and in the occurrence of alleles only present in this population.

Description of major threats

The common seal populations were severely depleted by hunting, by-catch in fisheries, and later by diseases related to effects of pollution and the PDV virus. Other threats include habitat loss due to coastal development. A low rate of population increase in the Kattegat area, compared to the Skagerrak prior to the 2002 epizootic, may be an indication of reduced reproductive capacity (ICES 2005).

Assessment justification

Kalmarsund subpopulation. The Kalmarsund population of the harbour seal differs genetically from the current Skagerrak/Kattegat and Southwest Baltic common seal populations (Stanely et al. 1996) and is for that reason assessed separately. The population has suffered a dramatic decline in numbers to less than 200 seals in the 1970s but has been slowly increasing more recently. In the 2010 Swedish national assessment the number of mature individuals was estimated to 425. The area of occupancy is also very restricted, estimated to be less than 20 km^2 and the number of locations is low (less than 5). The species is categorized as Vulnerable (VU) according to criterion D1.

Southern Baltic subpopulation. In the beginning of the 20th century the population in the Skagerrak, Kattegat and the Danish Straits exceeded 17 000 but declined to some 2 500 in the 1930s as a consequence of hunting (Heide-Jörgensen & Härkönen 1988). In times from the 19th to the 20th century the population in the western Baltic Proper was about 5 000 compared to ca. 1 000 in 2007 (Karlsson et al. 2008). The Skagerrak/Kattegat population has been hit by three mass mortalities. The two first, in 1988 and 2002 were caused by PDV virus and killed half the population on both occasions. The third epidemic in 2007 killed some 3 000 seals was caused by an unknown pathogen. The recovery rate in the Kattegat is low ever since the 2002 epidemic. Despite the past declines and even recent mass mortalities the overall decline in three generations (c. 45 years) does not exceed the thresholds given in the A criterion, and the current population is so large that it does not meet any of the other criteria either. Consequently the population is categorized as Least Concern (LC).

Recommendations for actions to conserve the species

National seal conservation and management plans should be developed in order to ensure conservation of the populations. These should include continuation of long-term monitoring and research programs, the restoration of suitable habitats where appropriate, as well as the establishment and proper management of seal sanctuaries. Further, the responsible national authorities should coordinate their conservation and monitoring strategies regarding shared seal populations with neighbouring countries.

SPECIES INFORMATION SHEET *Phoca vitulina vitulina*

Common names

Denmark:-, Estonia:-, Finland: kirjohylje, Germany:-, Latvia:-, Lithuania:-, Poland:-, Russia:-, Sweden: knubbsäl

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[1] http://www.pinnipeds.org/species/harbour.htm

[2] Interestingly, the distinct Kalmarsund population was not affected by the PDV virus epidemics in 1988 and 2002.

SPECIES INFORMATION SHEET *Lutra lutra*

English name: **Eurasian otter (Common otter, European otter, European river otter, Old world otter)**	Scientific name: ***Lutra lutra***	
Taxonomical group: Class: Mammalia Order: Carnivora Family: Mustelidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: around 3 years	
Past and current threats (Habitats Directive article 17 codes): Contaminant pollution (H03), Construction (J02.02, E01, E02) , Hunting (incl. illegal; F03.01, F03.02.04), Eutrophication (H01.05), Bycatch (F03.02.05), Water traffic (D03, G01.01.01), Other threat factors (incl. road traffic, D01.02, G01.03, G01.03.02), Oil spills (H03.01)	Future threats (Habitats Directive article 17 codes): Contaminant pollution (H03), Construction (J02.02, E01, E02) , Eutrophication (H01.05), Bycatch (F03.02.05), Water traffic (D03, G01.01.01), Other threat factors (incl. road traffic, D01.02, G01.03, G01.03.02), Hunting (incl. illegal; F03.01, F03.02.04), Oil spills (H03.01)	
IUCN Criteria: **D1**	**HELCOM Red List Category:**	**NT Near Threatened**
Global / European IUCN Red List Category NT / NT	Habitats Directive: Annexes II and IV	

Protection and Red List status in HELCOM countries:
Protection in HELCOM countries:
The Eurasian otter is strictly protected under international legislation and conventions. It is listed in Appendix I of the CITES, Appendix II of the Bern Convention, Annexes II and IV of the EU Habitats and Species Directives and Appendix I of the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals (CMS)) which recommends the highest degree of protection.
Protected in all HELCOM countries (Russia?), but hunting permits exist. In Finland, the otter is protected under the Hunting Act 37§. Derogations from the protection can be issued in accordance with the Habitats Directive 16 § as to avoid damage to aquaculture, and in recent years (2008–2012), the number of killed otters has varied between 1 to 9 annually.
The international IUCN/SSC action plan and several local action plans exist for the species.
A European breeding program for self-sustaining captive populations was started in 1985, with some HELCOM countries participating.
In Sweden otters have been released during early 1990s to support the native population.
Monitoring programs have been established in all HELCOM countries, but the methods vary.
Red List status in HELCOM countries:
Denmark: VU, Estonia: LC, Finland: NT, Germany: 3 (Vulnerable), Latvia: –, Lithuania: 5 (Rs, Restored), Poland: –, Russia: –, Sweden: VU

Distribution and status in the Baltic Sea region

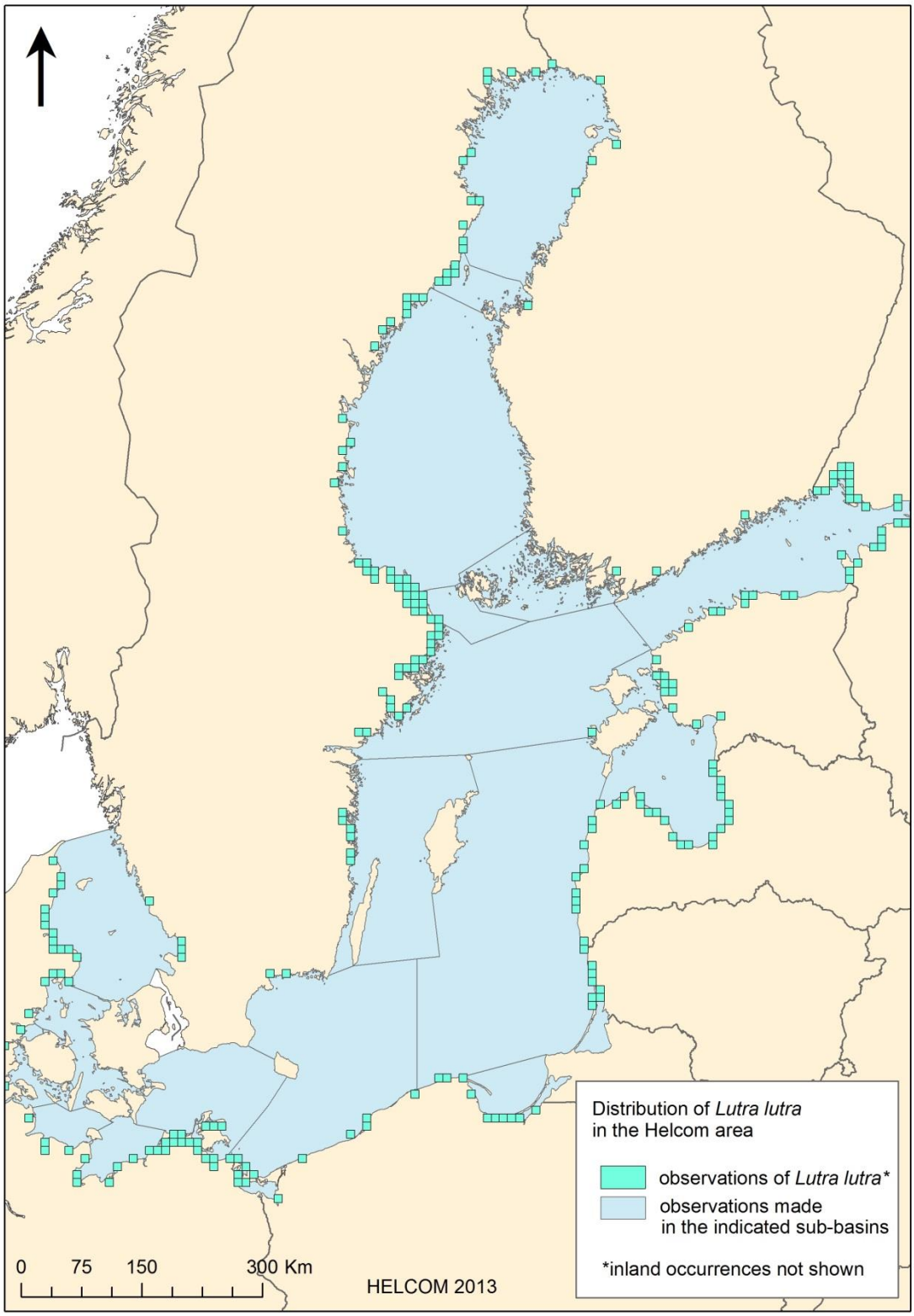
The otter has increased in the Baltic Sea area during the last c. 10–20 years (eg Tumanov 1990, Brezinski et al. 1996, Ozolins 1999, Elmeros et al. 2006, Meel 2008, Arrendal & Blomkvist 2009, Baltrunaite et al. 2009, Wikman 2010, Grunwald-Schwark 2011). When otter numbers were the lowest (1960s–90s) otters probably hardly existed along the coasts. The populations have expanded from freshwater habitats towards the coast and coastal populations may still be largely supported by freshwater populations. Few countries or parts of countries have surveyed otter distribution along the coast, still, from this summary of distribution data it is shown that otters are distributed sparsely along all coasts, often dependent on the distribution in the freshwater habitats on the mainland. Lack of otters is evident on the Danish islands, largely along the Swedish western and southern coasts. Even though observational data is missing from the current map, the Finnish otter population, which has doubled during the last 20 years

for the whole country, has increased clearly also in the coastal areas (pers. comm. Arto Pummila, Visa Eronen and Jukka Rintala). Today the population is estimated to roughly 2500 individuals, the main part of the population occurring in the fresh water areas (Maa- ja metsätalousministeriö 2012).

Eurasian otter. Photos by Johanna Arrendal/MyraNatur.

SPECIES INFORMATION SHEET *Lutra lutra*

Distribution map



Habitat and ecology

Otters live in all kinds of aquatic habitats, both freshwater (eg. lakes, rivers, streams, ponds, marshes, estuaries) and sea (coasts, archipelagos) in both natural and artificial habitats (Mason & Macdonald 1986). On the shore it needs holts or sheltered places above the ground to rest at, whereas foraging is mostly done in the water, often quite close to land as it dives in relatively shallow waters. In coastal areas the otter needs access to freshwater to wash the salt from its fur (Kruuk 1995). In winter the otter needs access to open water and hence is restricted by ice cover. However, the otter often can find its way down under the ice through cracks and open water.

The otter feeds mainly on fish, often exceeding 80% of the diet (Erlinge 1969, Webb 1975), and additionally feeds on crustaceans, amphibians, birds, small mammals and aquatic insects.

The otter is largely solitary and has a home-range which ideally contains everything that the individual needs (access to food, resting and breeding sites). The size of the home-range differs with type and productivity of the habitat, but typically a female home-range involves a few linear kilometers, whereas males often have at least twice as large area (Erlinge 1968, Green et al. 1984, Kruuk et al. 1989; Ruiz-Olmo et al. 2001). Otter home-ranges overlap, especially female and male ones (Erlinge 1968). Females with cubs tend not to overlap with other females, as the resources then are crucial to the survival of the cubs (Erlinge 1968).

Otters become sexually mature at the age of two (Kruuk 1995). The gestation period is around 63–65 days. The cubs can be born all-year-around, but when breeding seasons exist these tend to be correlated with food availability (Kruuk 1995). Many European studies show that the mean number of cubs are around 2.0, but varies between one and four (Erlinge 1967, Jenkins 1980, Mason & Macdonald 1986, Kruuk et al. 1991). The female rears the cubs alone in a holt (natural cavity, a den built by other species, or dug by the otter itself). The natal holt can be situated several hundred meters from the shore line (Kruuk 1995). The female does not have a litter every year and the cubs follow their mother for about a year, sometimes longer (Erlinge 1967, Kruuk 1995). In the wild otters do not become very old. A study from Shetland shows a mean of 3–4 years (Kruuk 1995) and in Sweden some otters can reach the age of at least six years in the wild, although many resident individuals disappeared much earlier than that (Arrendal 2007). Still, otters in captivity can reach the age of at least seventeen years (Acharjyo & Mishra 1983).

Description of major threats

This summary of threats leans on threats listed in the international IUCN red list for the species (Ruiz-Olmo et al. 2008), the international IUCN otter action plan (Foster-Turley et al. 1996), the assessment of the Swedish action plan (Arrendal 2010), and the Swedish red list facts (Olsson et al. 2011). The Eurasian otter has suffered from severe decline since the beginning of the 20th century. Different threats have been pointed out as the major threat in different parts of its distribution area, although habitat destruction seems to be a common threat in most areas. Many wetland habitats have been destroyed during the last century, resulting in a depletion of suitable habitats for otters. Poaching has been pointed out as a major factor in some areas. The otter has always been subjected to a certain hunting pressure as a fur animal and as a food concurrent, but locally there has been a heavy hunting pressure. Pollution has been pointed out as a major threat in Europe, with heavy contamination exposure through the food web. Being a top predator in the marine food web, the otter is susceptible to environmental contamination (especially organochlorines and mercury). As otters have large home ranges, they are also susceptible to landscape barriers, such as roads and railways, with mortality risk as a result where they need to cross the roads and railways.

For the Baltic Sea area, the threats of today consist of toxic compounds through pollution. Sources are both from land use (via rivers flowing into the Baltic Sea), air pollution, and direct wastes into the sea. Oil spills could eradicate otters locally or regionally. Canalization and removal of bottom sediments decreases the amount of food available and also limits the availability of holts and places to rest at. Roads and railroads built in coastal areas can cause road and railroad mortality. Use of fertilizers and contamination of water by sewage can cause eutrophication problems, which leads to lower amount of available food. Heavy boat and ferry traffic in marine environment can cause disturbance to otters, although more sudden disturbances might be of greater importance, such as motorized aqua sports and snow mobiles driven on the ice. Urbanization leads to less availability of holts and places to rest at. Human induced changes in hydraulic conditions changes the availability of food. Otters get caught in fishing gear which leads to drowning incidents. Some illegal hunting exists. Otters also get caught unintentional in traps set for e.g. mink and beaver. Otters sometimes cause a conflict with fish farming and other aquaculture as otters can cause severe damage to the farmers. In the HELCOM countries, hunting is not allowed, but derogation from its protection can be issued to fish farms or other forms of aquaculture. However, there are also other mitigation tools and measures to keep otters from the fish and crustacean farms.

Assessment justification

The 20th century's very dramatic population decline hit the otters in the Baltic Sea hard, with probably hardly any otters remaining in coastal areas. Otters have thus largely disappeared from coastal areas already a long time ago, and for this reason most countries do not survey coastal areas. Coastal otter surveys are also regarded more labour intensive, and consequently the data is very scarce. However, it appears that otters have been spreading back towards the coast and slowly reaching the coast and archipelagos during the last 20 years.

The number of mature individuals in coastal areas is still estimated to be low, less than 1000 but the estimate is very uncertain due to the lack of coastal monitoring. The coastal otter could be categorized as Vulnerable (VU) according to criterion D1 in the HELCOM area. However, as the otters in the coastal HELCOM area are not an isolated population but are tightly connected to freshwater populations, there is a rescue effect from freshwater habitats, which motivates downgrading of the Red List category to Near Threatened (NT).

Recommendations for actions to conserve the species

The recommendations for actions lean on actions listed in the international IUCN red list for the species (Ruiz-Olmo et al. 2008), the international IUCN otter action plan (Foster-Turley et al. 1996), the assessment of the Swedish action plan (Arrendal 2010), and the Swedish red list facts (Olsson et al. 2011). It is necessary to lower the emission and discharging of toxic compounds that have a presumed negative impact on otter populations (especially organochlorines and mercury). It is important to conserve and, where needed, also to restore shore lines and water communities that are potential otter habitat. Continued progress to reduce the eutrophication problem will favour the otter. Road and railroad mortality can be decreased by building fauna passages adapted to otters. Routines and pointed achievement in measures to keep otters from fish farms will decrease the conflict between otter and humans and will hopefully reduce illegal hunting and also lead to less hunting permits. Stop grids for fish traps already exist, but should be manufactured and put on the market so they can be easily accessed, even if the use in most countries will be optional. Entrance holes of both live traps and traps that kill instantly should have the same measures (7 cm) if to be used in places where otters could potentially get trapped. Traps for beaver placed under water should normally not be allowed where otters are distributed. The number of otters along the coasts is growing and, therefore, reintroduction or in other ways releases of otters is not needed, nor eligible, as they risk disrupting natural genetic variation that can be favourable to the population. It is necessary to keep legally protecting the species until its conservation status has reach beyond a favourable limit. To be able to follow the development of the

otter population in the HELCOM area, it is of great importance to keep monitoring programs running and survey all suitable otter habitat, not only parts, coastal habitat included.

Common names

Denmark: odder, Estonia: saarmas, Finland: saukko, Germany: Fischotter, Latvia: –, Lithuania: paprastoji ūdra, Poland: wydra europejska/wydra zwyczajna, Russia: обыкновенная/порешня/речная выдра, Sweden: utter

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SPECIES INFORMATION SHEET *Halichoerus grypus*

English name: **Grey seal / Gray seal**	Scientific name: ***Halichoerus grypus***	
Taxonomical group: Class: Mammalia Order: Carnivora Family: Phocidae	Species authority: (Fabricius, 1791)	
Subspecies, Variations, Synonyms: –	Generation length: 14	
Past and current threats (Habitats Directive article 17 codes): No major threats	Future threats (Habitats Directive article 17 codes): No major threats	
IUCN Criteria: –	**HELCOM Red List Category:**	**LC Least Concern**
Global / European IUCN Red List Category LC/LC	Habitats Directive: Annex II, V	

Protection and Red List status in HELCOM countries:
In EU waters, this species is protected by the Habitats Directive and listed in its Annexes II and V, subject of special conservation measures also in Russia (Red Data Book of the Russian Federation).

Denmark: The species has been protected since 1977, disturbances and hunting of the species is strictly prohibited.
Estonia: The species is protected by Nature Conservation Act, all main haul-out and breeding areas are under national protection. As of 1.6.2013 grey seal has been added to official game species list, but this does not give the right to hunt the species. If suitable hunting practices for seal hunting can be agreed upon and legalized and the seal population size allows, there might be some quotas set for grey seal hunting in upcoming years.
Finland: The grey seal is considered a game animal and its hunting is subject to licence. In 2007 there were 7 seal conservation areas in the Finnish Baltic, 19,000 hectares in total. In these areas hunting is prohibited and fishing is allowed only with methods that aren't harmful to the seals. Also there is one area in Åland.
Germany: All hunting of seals is forbidden in Germany.
Latvia: –
Lithuania: –
Poland: The species is under strict protection in Poland. Disturbing, catching or killing are forbidden. Species is recognized as requiring active protection.
Russia: Since 1970s hunting on seals in the Russian part of the Baltic Sea is fully prohibited;
The grey seal is included into the Red Data Book of the Russian Federation.
Sweden: Hunting is allowed but controlled through various regulations and restrictions.

Red List status in HELCOM countries:
Denmark: VU, Estonia: LC, Finland: LC, Germany: 2 (Endangered), Latvia: –, Lithuania: E (Endangered), Poland: EN, Russia: 1 (under threat of extinction), Sweden: LC

Distribution and status in the Baltic Sea region

Grey seals have been increasing in the Baltic since the mid-1980s. In 2012 approximately 28.000 grey seals were counted in the annual survey during moult [1]. However, since not all seals are hauled out at the same time, this represents a minimum size of the Baltic grey seal population. Most grey seals are found between the Northern Baltic proper and the southern Bothnian Sea. Trend data from the annual surveys in Sweden indicate that the population were increasing with around 7–8% a year during most of the 1990s and early 2000s. A model calculation has estimated that in the beginning of the 20th century,

the estimated population size was in the range of tens of thousands up to 100 000 (Kokko et al. 1999, Harding & Härkönen 1999), but only 2 000 in the late 1970s (Boedeker et al. 2002). However given the number of grey seals counted in the annual surveys in the 2000s, the minimum estimate of only 2000 is probably an effect of low survey effort in the 1970s, since the growth rate needed to reach the number of seals counted today is very high, and not realistic for a population that during the 1980s were effected by impaired reproductive capacity.

The Baltic Sea grey seals range widely and no distinct subpopulations occur, however a tendency to a genetic substructuring have been suggested by Graves et al (2007).

Grey Seal. Photo by Carlos Minguell/OCEANA.

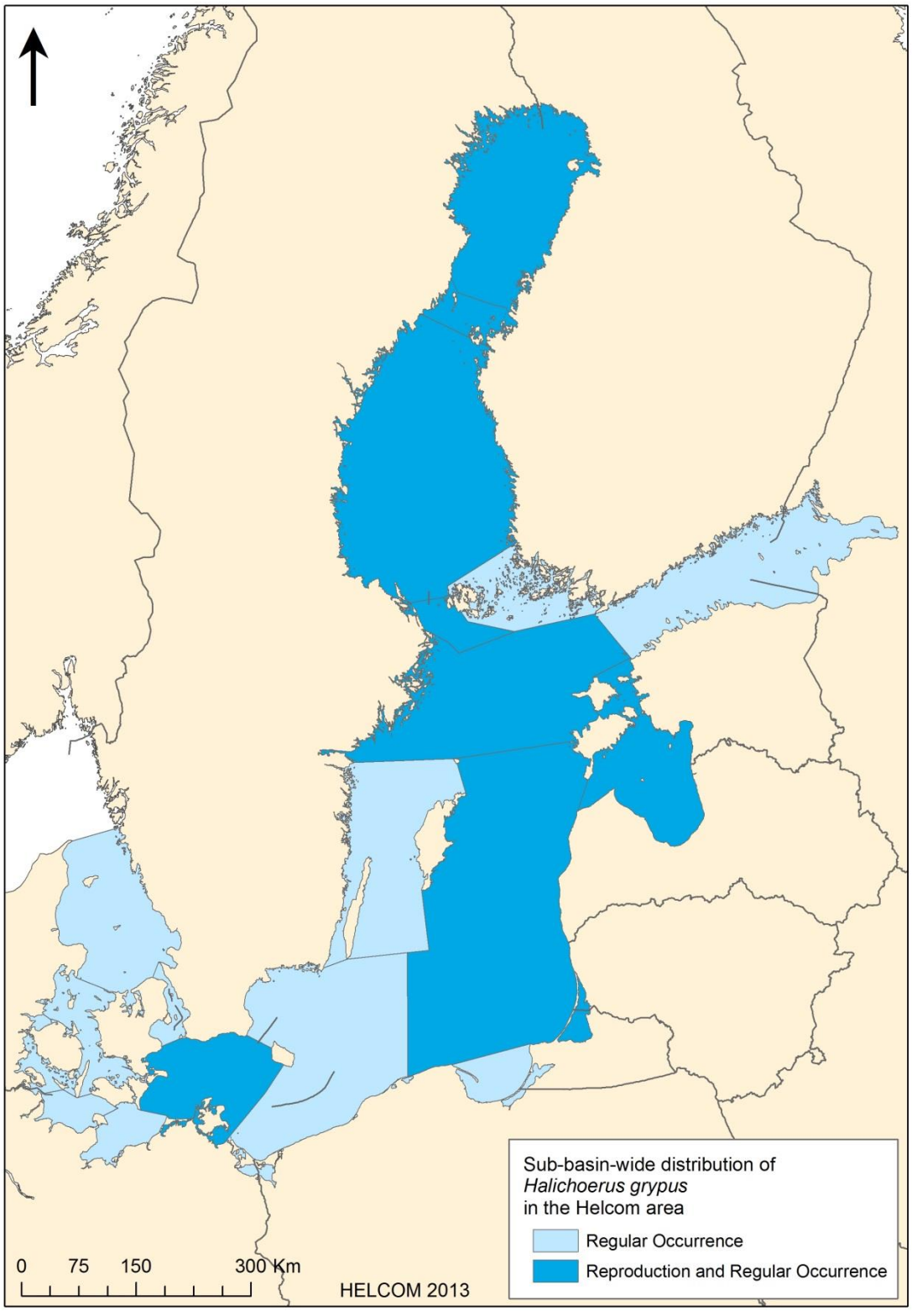
Although the population size is steadily increasing since the end of the 1970s, the former distribution area south of latitude 58° N is being recolonised only very slowly. In Germany and Poland that previously hosted breeding colonies for grey seal (Schwarz et al. 2003, von Nordheim 2011) grey seals still only appear as vagrants. Therefore grey seals in Germany are assessed as “endangered” for the Baltic Sea in the national Red List (Meinig et al. 2009).

SPECIES INFORMATION SHEET

Halichoerus grypus

Distribution map

Grey seals are found on both sides of the North-Atlantic in temperate and sub-Arctic waters. The actual Baltic Sea population is distinct from the eastern North-Atlantic population.



SPECIES INFORMATION SHEET *Halichoerus grypus*

Habitat and ecology

Grey seals are gregarious and gather together for breeding, moulting and hauling out at exposed areas. The main breeding season in the Baltic Sea is from February to March. Pupping in the Baltic Sea takes place mostly on drift ice although in some areas seals also give birth on land. The pup is nursed for about 15–18 days. Grey seals moult on ice and haul-out sites from April-June. In the Baltic, they grow to an average length of 1.65–2.1 meters and a mass of 100–180 kg for females and > 300 kg for males. They can reach an age of 25 (males) – 35 (females) years[2]. Females become sexually mature between 3 and 5 years. The pup is born with a creamy-white woolly lanugo coat, which it will moult after 2–4 weeks for a shorter adult-like coat[3]. Grey seals are sexually dimorphic, e.g. distinct larger sized males with a more convex muzzle, although grey seals in the Baltic do not exhibit the degree of sexual dimorphism generally ascribed to this species (Karlsson 2003). They feed on a wide variety of fish. The diet varies with location, season and prey availability (Stenman & Pöyhönen 2005, Lundström et al. 2007). Fasting occurs during the breeding and moulting seasons[4]. Juveniles in particular are known to travel over long distances (Sjöberg et al.).

Description of major threats

By the 1970s, hunting and pollution had reduced the total population drastically. Current threats include habitat loss due to coastal development, overfishing, environmental contaminants and entanglement of young seals in fishing gear.

Assessment justification

Age-structure data from grey seal populations in the late 1970s indicated a generation time of approximately 14 years. Abundance is well known and the Baltic population is monitored annually and has been increasing over the past 30 years. For now there is no reason to suspect a population decline in the future. However climate change might have an impact on pup survival and hence population growth rate, if a larger proportion of the grey seals need to change from ice breeding to land breeding, since pup survival is lower on land than on ice. The extent of occurrence and area of occupancy encompasses almost the entire Baltic. The population is not severely fragmented and the number of locations exceeds the thresholds given in the criteria. In the last 30 years the population has been expanding and no extreme fluctuations have occurred. Number of mature individuals exceeds 10 000. A long term increase in population size suggests a low risk of extinction within 3 generations. All this combined suggest that grey seals should be classified as Least Concern (LC).

Recommendations for actions to conserve the species

National seal conservation and management plans should be developed in order to ensure proper conservation and management of the populations. These should include continuation of long-term monitoring and research programmes, the restoration of suitable habitats where appropriate, as well as the establishment and proper management of seal sanctuaries. Further, the responsible national authorities should coordinate their management and monitoring strategies regarding shared seal populations with neighbouring countries

Common names

Denmark: gråsæl, Estonia: hallhüljes, Finland: harmaahylje, Germany: Kegelrobbe, Latvia: –, Lithuania: ilgasnukis ruonis, Poland: foka szara, Russia: длинномордый/ или серый тюлень, Sweden: gråsäl

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[3] http://www.pinnipeds.org/species/grey.htm

[4] http://www.pagophilus.org/grey.html

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