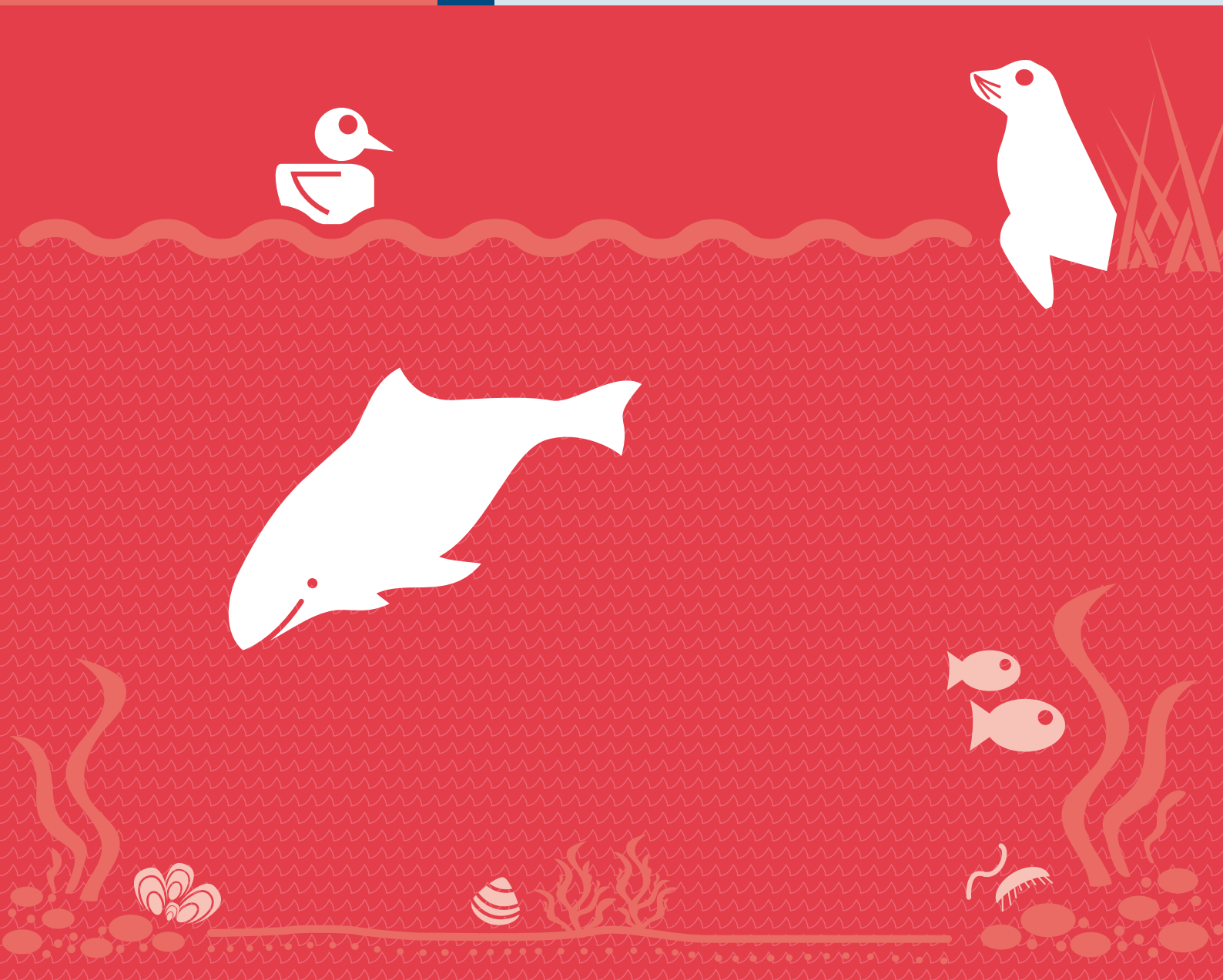
HELCOM Red List II of the Baltic Sea

species in danger of becoming extinct

Baltic Marine Environment Protection Commission

Biodiversity

Baltic Sea Environment Proceedings No.205



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Introduction

The Baltic Sea and its biodiversity

The Baltic Sea is one of the largest brackish water bodies in the world, covering an area of 420 000 square kilometers. Over a third of the Baltic Sea is shallower than 30 meters, resulting in a relatively small total water volume compared to its surface area. Additionally, the Baltic Sea lacks tides and is somewhat isolated from other seas, creating a unique environment that shapes the region's distinct biodiversity patterns.

Water exchange in the Baltic Sea is slow, with it taking about thirty years for the entire water body to be replaced (Stigebrandt 2001). Freshwater flows into the sea from various rivers, contributing to the brackish water gradient. Salinity gradually decreases from 15–18 psu at the surface near the Sound to 7–8 psu in the Baltic Proper and 0–2 psu in the northern and eastern parts. Salinity also varies with depth, as denser, higher salinity water sinks below the less salty water. Many sub-basins of the Baltic Sea are stratified, with higher salinity at greater depths and lower salinity near the surface (Meier et al. 2023).

Other unique features of the Baltic Sea include its regular winter ice cover, and the fact that despite its shallow depth, the bottom water remains cold throughout the summer. The water is generally more turbid than ocean water, and the photic zone, where photosynthesis occurs, is narrower compared to oceans.

The Baltic Sea ecosystem is home to both marine and freshwater species that are capable of surviving in brackish conditions. In certain coastal regions, marine and freshwater species coexist and interact within the same food web. However, the brackish nature of the water limits the distribution of many aquatic species. The low salinity restricts the range of many marine species from entering the Baltic Sea, while freshwater species are unable to thrive in waters with higher salinity. This results in a biodiversity gradient driven by salinity (Figure 1). The total number of species decreases from south to north. The Baltic Sea is known to harbour around 5 000 species (HELCOM 2017), of which over 3 000 are macro-species (species visible to the naked eye; HELCOM 2020a). These species form various populations and subpopulations that interact to create the distinct ecosystem of the Baltic Sea. While these numbers might seem substantial, they are relatively low compared to most other seas. Since many species in the Baltic Sea live at the limits of their salinity tolerance, even small changes in their environment can drastically affect their abundance or growth. As a result, the structure of these communities could undergo significant changes in response to minor environmental shifts

The diverse geomorphology of the Baltic Sea further enhances the creation of a mosaic of unique habitats and biodiversity across the region. The southern coasts are typically sandy, while the northern shores are often rocky or formed by moraine. These varied conditions contribute to the Baltic Sea's exceptional biodiversity. There is no other sea quite like it in the world. The ecosystems of the Baltic Sea are both uniquely rich and highly vulnerable.

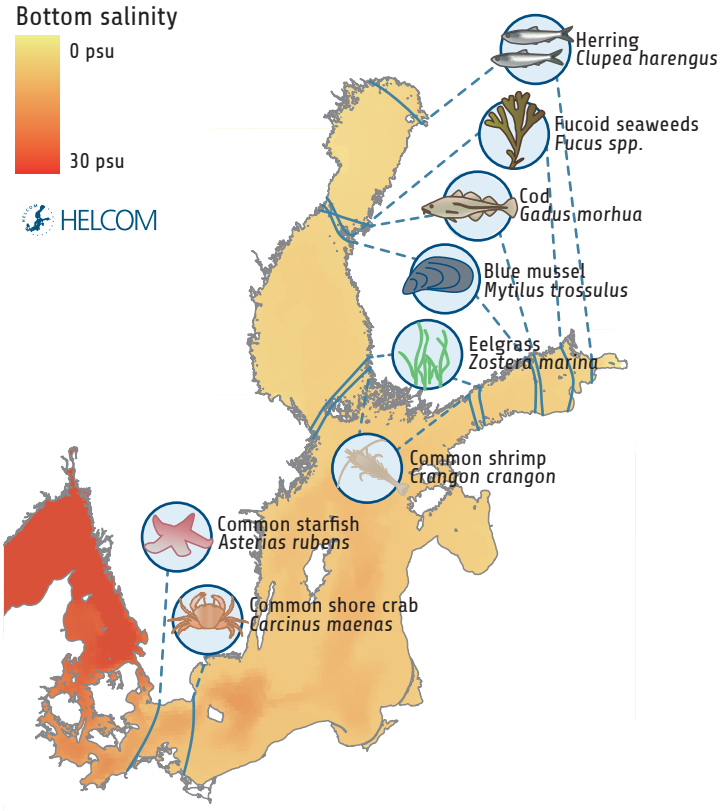

Figure 1. The clear majority of the macrospecies in the Baltic Sea are benthic invertebrates. The other main species groups are macrophytes (including algae, vascular plants and bryophytes), followed by fish. Phytoplankton diversity includes the currently known planktonic microalgae and cyanobacteria.

Status of the Baltic Sea ecosystem

The Third HELCOM holistic assessment (2016-2021) indicates that there has been little to no improvement in the environmental condition of the Baltic Sea (Figure 2). Indicator-based evaluations reveal widespread poor status across various environmental pressures throughout the entire region. In terms of pelagic habitats, benthic habitats, fish, waterbirds, and marine mammals, only a few indicators reached their threshold values in certain areas of the Baltic Sea, and none met the criteria across all assessed regions. For some species groups, such as marine mammals and fish, the overall status has deteriorated compared to the previous assessment. Many commercial fish stocks in the Baltic Sea are in particularly poor condition.

The poor condition of many species and habitats reflects their response to multiple, simultaneous pressures rather than individual factors. For instance, mobile species such as fish, waterbirds, and marine mammals are impacted by pressures across their entire distribution range. Achieving several environmental objectives for the Baltic Sea will likely require a combination of measures that address various pressures and the effects of climate change. Transformative changes across all socioeconomic sectors interacting with or impacting the Baltic Sea environment are essential to protect and restore ecosystems and halt current negative trends. Preserving the natural structure and function of food webs is expected to enhance the ecosystem's resilience against multiple human pressures. While food webs cannot be directly managed, their structure and function can be improved through effective management of human activities and pressures that impact the species within them. As all parts of the ecosystem are interconnected, changes in the status of one species in the food web will influence others. Incorporating food web knowledge into the design and implementation of management measures (such as identifying and coordinating actions that support key species) is expected to increase the effectiveness of efforts to strengthen species, habitats, and food webs in the Baltic Sea.

Biodiversity challenges

Environmental problems in the Baltic Sea are strongly characterized by transboundary issues. Major pressures on the Baltic Sea ecosystem include eutrophication, pollution from hazardous substances, land use changes, and overfishing, though several other factors also contribute to the overall impact. The Baltic Sea is increasingly affected by climate change and biodiversity loss, which are being exacerbated by eutrophication, pollution, land use practices, and resource extraction. Habitat loss, fragmentation, and degradation have been recognized as the most direct threats to biodiversity worldwide. In the Baltic Sea, negative changes in ecosystem components and habitats are often the result of multiple activities and stressors that act both individually and cumulatively, such as nutrient/pollutant inputs, coastal construction and recreational activities, fishing, the introduction of non-native species, and climate change. The typical impacts on ecosystem components include disturbance, fragmentation, and the loss of habitat-forming species, as well as declines in the abundance and size of top predators, the homogenization of biological communities, and the disruption of connectivity and ecological processes within and between natural communities. The effects of climate change are expected to intensify in the future, underscoring the need for measures to boost ecosystem resilience and mitigate negative impacts.

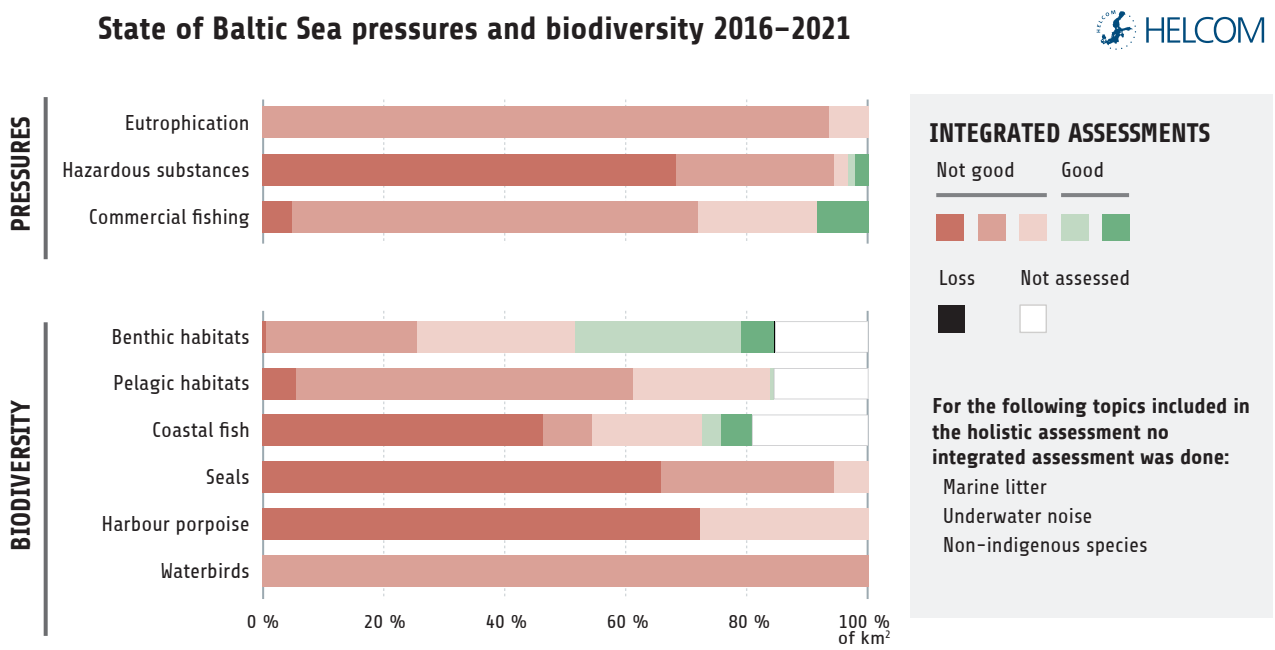

Figure 2. Summary of the integrated assessment results of pressures and status for the Baltic Sea showing the proportion of the Baltic Sea in the different assessment status categories (based on square kilometres). Integrated assessment results are shown in five categories with three representing degrees of poor status and two representing degrees of good status.

The HELCOM Red List II project

Regularly evaluating the status of species and habitats/biotopes in the Baltic Sea allows for tracking long-term trends in biodiversity and identifying changes in the condition of species and habitats. This process helps assess whether efforts to prevent biodiversity loss have been effective. The goal of the HELCOM Red List II project was to assess the status of red-listed species in the Baltic Sea, building on the results and insights from the previous HELCOM Red List project completed in 2013, and using the updated HELCOM Checklist of Baltic Sea macro species 2.0.

This HELCOM Red List II of Baltic Sea species in danger of becoming extinct; and the HELCOM Red List II of Baltic Sea underwater biotopes, habitats and biotope complexes complement and support each other and ought to be simultaneously considered by managers and policymakers. These updated assessment of the HELCOM Red List II for species and habitats/biotopes serves as a foundation for future regional work in HELCOM focused on biodiversity protection. It also provides a reference for Contracting Parties not currently conducting Red List assessments, as it illustrates the trends of the assessed species and habitats/biotopes across their distribution in the Baltic Sea. The Red List II assessment includes new data from areas where fresh information has been gathered and reflects a deeper understanding of the assessment process and related parameters.

The Red List II assessment plays a crucial role in monitoring the progress and effectiveness of HELCOM commitments, and it helps enhance the effectiveness and efficiency of measures by focusing on priority areas or species. The Red List II is closely connected to a wide range of commitments, both within HELCOM and externally, providing valuable information for evaluating the implementation of the HELCOM Baltic Sea Action Plan (see Table 1 below), as well as HELCOM Recommendations 37-2 and 40-1, along with several other Recommendations and Action Plans aimed at species of direct relevance:

- Recommendation 17/2 Protection of Harbour Porpoise in the Baltic Sea Area
- Recommendation 27-28/2 Conservation of seals in the Baltic Sea Area
- Recommendation 19/2 Protection and Improvement of the Wild Salmon (*Salmo salar L.*) populations in the Baltic Sea Area
- Recommendation 32-33/1 Conservation of Baltic Salmon (*Salmo salar*) and Sea Trout (*Salmo trutta*) populations by the restoration of their river habitats and management of river fisheries
- Recommendation 34E-1 Safeguarding important bird habitats and migration routes in the Baltic Sea from negative effects of wind and wave energy production at sea
- HELCOM Action Plan for the Protection and Recovery of the Baltic Sturgeon (*Acipenser oxyrinchus*) for the period of 2019-2029

The Red List II assessment contributes to commitments under the Convention on Biological Diversity (CBD), the EU Biodiversity Strategy, the UN Sustainable Development Goals, the EU Marine Strategy Framework Directive (MSFD), the EU Habitat Directive (HD), and the EU Nature Restoration Regulation (NRR).

The findings from the updated Red List II assessment are also essential for tackling related issues, such as assessing Marine Protected Areas (MPAs), evaluating and mitigating the effects of climate change, and accounting for ecosystem services in the ecosystem-based management of human activities.

Table 1. Red List II contribution to BSAP actions.

	BSAP Action	Red List II contribution
B7	Ensure that by 2030 the HELCOM marine protected area (MPA) network amongst other things provides specific protection to species and biotopes listed as regionally threatened or near threatened in the HELCOM Red Lists.	List of regionally threatened species available by species groups in the Annexes 1-5 of this Report. List of regionally threatened habitats is available in the Red List II habitats Report.
B9	By 2024 assess the status of the *Haploops* species and the biotopes, as well as key threats and, if relevant based on the assessment, by 2026 develop a joint conservation plan for *Haploops* species including jointly agreed measures to improve the status of the species and biotopes, to be implemented by 2028.	— *Haploops tenuis* and *Haploops tubicola* species status is available in the Annex 3 of this Report. — Contracting Parties conservation measures are listed in Table 38 of this Report. — AB.H1I2 Baltic aphotic muddy sediment dominated by Haploops spp. habitat status is available in the Red List II habitat report.
B10	Include information on functional and life history traits for the species in the HELCOM Biodiversity Database, by 2024.	Species parameter information excel has been compiled based on Contracting Parties national red lists input and is available as a working document in Secretariat. Noting that the information varies greatly among species.
B22	Update the HELCOM Red List Assessments by 2024, including identifying the main individual and cumulative pressures and underlying human activities affecting the red-listed species.	— *Red List assessment updated by this Report.* — *Overall pressures and human activities listed in Table 33* — *Table 35 and on Figure 35 of this Report.*
B23	By 2025 develop, and by 2027 implement, and enforce compliance with ecologically relevant conservation plans or other relevant programmes or measures, limiting direct and indirect pressures stemming from human activities for threatened and declining species. These will include joint or regionally agreed conservation measures for migrating species.	— *Contracting Parties national actions on threatened species have been compiled (Table 37 - Table 42 of this Report).* — *Recommendations based on the implementation overview listed in Table 46 of this Report.* — *Contracting Parties national actions on threatened habitats have been compiled in the Red List II habitat Report and recommendations based on the implementation overview listed in the that report.*
B24	Develop tools for and regularly assess the effectiveness of other conservation measures for species besides marine protected areas (MPAs), with the first assessment to be done by 2025, as well as assess the effect on species through risk and status assessments by 2029.	Contracting Parties national actions concerning threatened species have been compiled (Table 37 - Table 42 of this Report).
S40	Identify by 2024 fish species for which there is a need for better data for identified purposes, such as setting threshold levels. Utilise dedicate programmes and projects to facilitate recording and reporting of data for these species by 2025 to support the identification and implementation of measures to achieve good environmental status.	— *Fish data collected via Red List II project has been published in HELCOM BioBase.* — *Data Deficient and Not Evaluated categories have been assigned to fish species which are in need for better data in the near future, available in the Annex 2 of this Report.*

1. Species assessment

1.1. HELCOM Guidelines for Red List assessment and use of Categories and Criteria for Species

The HELCOM Red List II work is based on the IUCN Red List Criteria and aims to align the regional assessment with IUCN guidance whenever possible. All rules and definitions outlined in the IUCN Red List Guidelines (IUCN, 2012) apply at the regional level, unless otherwise stated, and the IUCN documents and guidelines should be consistently referenced. However, due to the diverse range of circumstances encountered when assessing different taxonomic groups in various regions, it is not always possible to strictly adhere to every aspect of the IUCN Guidelines. Some level of interpretation is inevitable, and these decisions are left to the discretion of the regional Red List compilers.

During the Red List II project, the HELCOM Guidelines for Red List assessment and the use of Categories and Criteria for Species were developed based on the IUCN Guidelines for applying Red List Criteria at regional and national levels (2012, Version 4.0), with adjustments for the specificities of the Baltic Sea region. These guidelines provide instructions for all parties involved in updating the regional Red List assessment, ensuring consistency across assessments and topics, and enabling assessors to draw from the relevant experiences and discussions of other assessment topics. The HELCOM Guideline was used as a living document and was updated during the project as necessary (version 10.10.2022, available from the Secretariat).

1.2. Regional concept

The term "regional" here refers to any sub-global, geographically defined area, such as a continent, country, state, or province. In the context of the HELCOM Red List, the defined area specifically corresponds to the Baltic Sea as outlined by HELCOM (Figure 3).

In any region, there will be taxa with varying distribution histories, ranging from those that are indigenous (native to the area) and have been present since before human settlement, to those that were introduced more recently. There may also be breeding and non-breeding taxa. The latter refers to species that do not reproduce in the region but still rely on its resources for survival. Additionally, there may be taxa that were once native to the region but are now extinct there, though they still exist elsewhere in the world.

The goal is not to assess all species that have ever existed in the Baltic Sea area, but to focus on those that currently inhabit the region, or those that have lived there within the timeframe specified by the assessment guidelines, or that are strongly dependent on the Baltic Sea's marine or coastal environment.

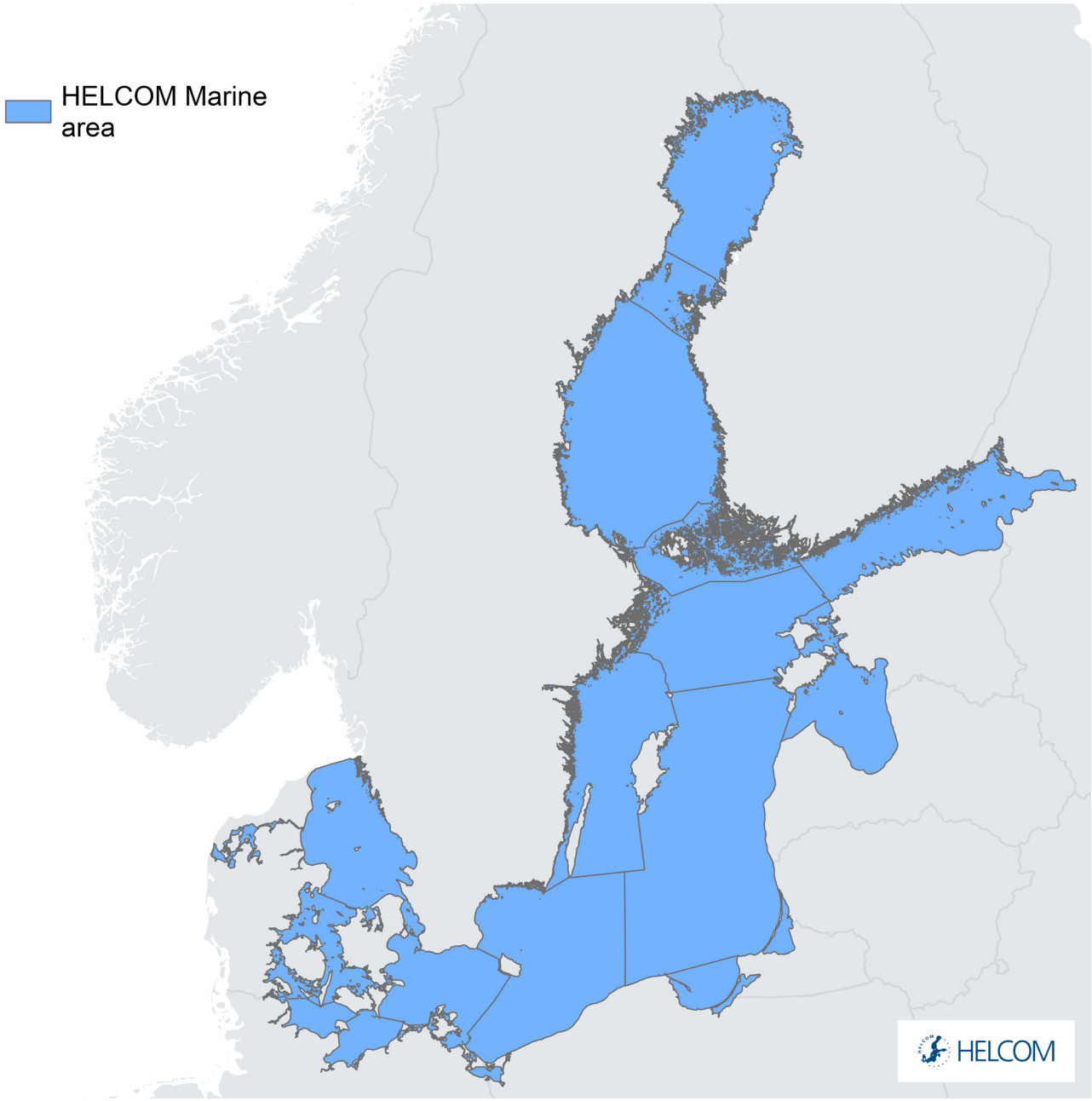

Figure 3. The entire HELCOM marine area is considered in the Red List assessment.

1.3. Threat categories

The HELCOM Red List regional assessment uses nine categories: Regionally Extinct (RE), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Applicable (NA) and Not Evaluated (NE) (Figure 4).

All non-native species that have been intentionally or unintentionally introduced after 1800 are assigned to the category Not Applicable (NA).

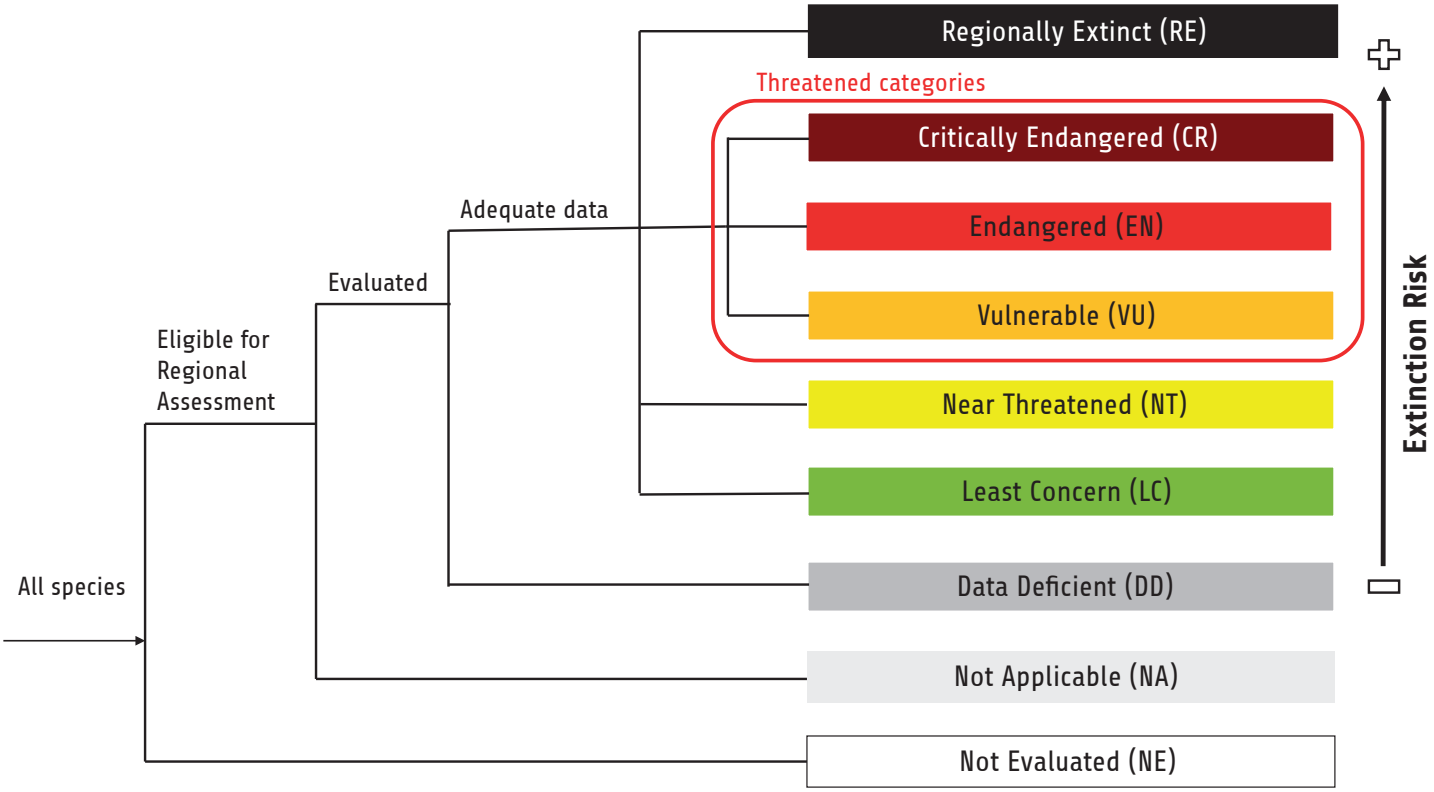

Figure 4. Structure of the categories used in the HELCOM Red List regional assessment.

The categories can be defined as follows:

RE REGIONALLY EXTINCT

A taxon is RE when there is no reasonable doubt that the last individual potentially capable of reproduction within the region has died or disappeared from the region or, in the case of a former visiting taxon, individuals no longer visit the region. It is not possible to set any general rules for a time period since the last observation before species are classified as RE. This will depend on how much effort has been devoted to searching for the taxon, which in turn will vary, both with organism and region. If the regional authority decides to adopt any time frames for RE assessments, these should be clearly specified.

Populations of long-lived individuals that have ceased to reproduce within the region (for example, as a result of a deteriorating environment) should be regarded as potentially capable of reproduction and consequently should not be classified as RE. On the other hand, vagrant individuals of a formerly regionally breeding taxon that reach the region should not be regarded as potentially capable of reproduction.

CR CRITICALLY ENDANGERED

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.

EN ENDANGERED

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.

VU VULNERABLE

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild.

NT NEAR THREATENED

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

LC LEAST CONCERN

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are often included in this category.

DD DATA DEFICIENT

The category Data Deficient is chosen only when uncertainty about correct status is so great that it includes also the possibility of the taxon belonging to the category Least Concern. This means that taxa for which the plausible categories vary from NT to CR, but do not include LC, should normally be assigned to the most likely category, not to DD.

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data is available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, or a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

NA NOT APPLICABLE

All species that have been intentionally or unintentionally introduced after 1800 are assigned NA. Species that are in the process of extending their distribution will be assigned to this category until they are established in the area. A general rule for a newly arrived, but established species could be the survival of a reproducing population for ten years.

Among animal species category NA is applied for example to Branta canadensis and Coregonus peled. Irregularly visiting species also belong to the category NA. However, regular visitors may be included in the assessment with certain preconditions. The category NA is applied also to species of which there are so few observations that it is impossible to say whether the species occurs regularly or not. Difficult borderline cases between NA and DD categories may exist.

Taxa not eligible for assessment at the regional level (mainly introduced taxa and vagrants) should be assigned the category Not Applicable (NA). A taxon may be NA because it is not a wild population or not within its natural range in the region, or because it is a vagrant to the region. It may also be NA because it occurs at very low numbers in the region (i.e., when the regional Red List authority has decided to use a "filter" to exclude taxa before the assessment procedure) or the taxon may be classified at a lower taxonomic level (e.g., below the level of species or subspecies) than considered eligible by the regional Red List authority. In contrast to other Red List categories, it is not mandatory to use NA for all taxa to which it applies; but it is recommended for taxa where its use is informative.

NE NOT EVALUATED

The category NE is for whole taxonomical groups for which threat assessment is impossible due to the complete lack of experts or data. Also, among better-known taxonomical groups some taxa may be assigned to NE, if they occur regularly in the area, but there are e.g. taxonomical problems related to them.

A taxon is Not Evaluated when it is has not yet been evaluated against the criteria.

1.4. Criteria

There are five quantitative criteria which are used to determine whether a taxon is threatened or not, and if threatened, which category of threat it belongs in (Critically Endangered, Endangered or Vulnerable). These criteria are based around the biological indicators of populations that are threatened with extinction, such as rapid population decline or very small population size. Most of the criteria also include subcriteria that must be used to justify more specifically the listing of a taxon under a particular category.

The five criteria are:

A. Declining population (past, present and/or projected)
B. Geographic range size, and fragmentation, decline or fluctuations
C. Small population size and fragmentation, decline, or fluctuations
D. Very small population or very restricted distribution
E. Quantitative analysis of extinction risk (e.g., Population Viability Analysis)

To list a particular taxon in any of the categories of threat, only one of the criteria, A, B, C, D, or E, needs to be met (Table 2). However, taxon should be assessed against as many criteria as available data permit, and the listing should be annotated by as many criteria as are applicable for a specific category of threat. For example, Critically Endangered: A2cd; B1+2de; C2a(i). Only the criteria for the highest category of threat that the taxon qualifies for should be listed.

Table 2. Summary of the five criteria (A–E) used to evaluate if a taxon belongs in a threatened category (Critically Endangered, Endangered or Vulnerable).

A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	Critically Endangered	**Endangered**	**Vulnerable**
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3 & A4	≥ 80%	≥ 50%	≥ 30%

A1 Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased.

A2 Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

A3 Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years) *[(a) cannot be used for A3].*

A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible

based on anyof the following:

(a) direct observation *[except A3]*

(b) an index of abundance appropriate to the taxon

(c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality

(d) actual or potential levels of exploitation

(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)			
	Critically Endangered	**Endangered**	**Vulnerable**
B1. Extent of occurrence (EOO)	< 100 km²	< 5 000 km²	< 20 000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2 000 km²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented **OR** Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: **(i)** extent of occurrence; **(ii)** area of occupancy; **(iii)** area, extent and/or quality of habitat; **(iv)** number of locations or subpopulations; **(v)** number of mature individuals			
(c) Extreme fluctuations in any of: **(i)** extent of occurrence; **(ii)** area of occupancy; **(iii)** number of locations or subpopulations; **(iv)** number of mature individuals			

C. Small population size and decline			
	Critically Endangered	**Endangered**	**Vulnerable**
Number of mature individuals	< 250	< 2 500	< 10 000
AND at least one of C1 or C2			
C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2. An observed, estimated, projected or inferred continuing decline AND at least 1 of the following 3 conditions:			
(a) **(i)** Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
(a) **(ii)** % of mature individuals in one subpopulation =	90–100%	95–100%	100%
(b) Extreme fluctuations in the number of mature individuals			

D. Very small or restricted population				
		Critically Endangered	**Endangered**	**Vulnerable**
D.	Number of mature individuals	< 50	< 250	**D1.** < 1 000
D2.	*Only applies to the VU category* Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.	-	-	**D2.** typically: AOO < 20 km² or number of locations ≤ 5

E. Quantitative Analysis			
	Critically Endangered	**Endangered**	**Vulnerable**
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

1.5. Available data for the Red List II project

Species data was gathered via HELCOM Red List II project's species data call (form 30.11.2022-2.5.2023) from seven Contracting Parties – Denmark, Estonia, Finland, Germany, Latvia, Poland and Sweden. The project harvested all additional available data also from the ICES database, the HELCOM HOLAS 3 process and the Swedish data from the SLU Swedish Species Information Center.

All the data was then cleaned, taxonomical differences in naming fixed and unified nomenclature used. Data was separated into a public and private database based on instruction from the Contracting Parties regarding whether the data could be shared publicly or used privately for the assessment process only.

The Red List II data call collected all available historic data starting from 1750.

The HELCOM Biodiversity Database (HELCOM BioBase) entries almost quadrupled during the Red List II project. Species data collected via the project have been published in HELCOM BioBase, adding about 6-million-point observations into the public side of the HELCOM BioBase.

1.6. EDIT tool for species threat categorization

The Swedish Red List assessment tool EDIT, that follows the IUCN guidance, was used for the HELCOM Red List II species threat categorization. The current tool EDIT is similar to the one used to assess some species groups within the previous HELCOM Red List assessment (AVA tool), allowing for a consistent comparison of 2013 and 2024 red-listing results. EDIT tool automates many segments of the red listing process, and provides assessment based on inputs, accounting, theoretically for all possible categories and criteria.

The Swedish assessment tool EDIT needs many different parameter info (e.g. generation length, size of decline, reproductive individuals etc.) fed into it to be able to determine the species threat categories according to the IUCN Guidelines. Since these specific values for species in a Baltic Sea context were not available, information was extracted from available national red lists collected from the Contracting Parties (from Denmark, Estonia, Finland, Germany, Latvia and Sweden). Received parameter info, together with the parameter info from previous Red List and Baltic Sea related IUCN red lists, were compiled with the help of a script into one comprehensive parameter excel (stored at the Secretariat). Available species parameter information was first translated into English, then into Swedish language and exported into the EDIT tool, that then based on the data fed into it automatically calculated the threat categories for each of the species and translated into English again for the assessment process.

The Baltic Sea scale of assessment may result in a different threat category than a national red list assessment. For instance, species classified as Least Concern regionally might be considered Critically Endangered nationally where their numbers are very low or declining. On the other hand, species that are regionally classified as Vulnerable due to declines in numbers or range may not meet the criteria for Vulnerable nationally where their populations are stable and may instead be classified as Least Concern. While this may seem counterintuitive, it reflects the structure of the criteria. In such cases, it is crucial to carefully consider the interactions between subunits when planning conservation efforts.

1.7. HELCOM EOO and AOO tool

To optimize the use of the EDIT assessment tool, estimates for Area of Occupancy (AOO) and Extent of Occurrence (EOO) are needed for each species. For this purpose, HELCOM Red List II project developed a regional tool which produces calculations, as well as the underlying maps. The HELCOM EOO and AOO tool is based on the technical infrastructure developed for the HELCOM Biodiversity Database, using also its information from the public and private Red List II databases for calculating the EOO and AOO values and producing related maps.

1.8. Assessment results review and validation process

Red List II species assessment results (threat categories for Red List II with their background information and maps) were shared with nationally nominated experts by species groups via Red List II task teams (TT for macrophytes, TT for benthic invertebrates, TT for fish, TT for birds and TT for mammals). All Red List II species final technical outputs were reviewed and validated by the experts via dedicated workshops during September-December 2024.

2. Red List II assessment results

2.1. Scope of the assessment and the number of red-listed species

The assessment for Red Listed species follows the Red List criteria of the International Union for Conservation of Nature (IUCN).

The HELCOM Checklist of Baltic Sea Species 2.0 (HELCOM 2020) was used as the basis for identifying the taxon's to be considered for the Red List II assessment. Checklists are comprehensive lists covering all species of a certain species group known to occur in the Baltic Sea providing an overall view of an area's diversity, its species composition and its biological history. That a species is included on the HELCOM checklist does not automatically mean it was present in the Baltic Sea at the time the checklist was published. Some observations are historical and the only way to confirm the presence of a species is to undertake new inventories in the area of its previous occurrence.

HELCOM Red List II assessment focuses on five species groups: macrophytes, benthic invertebrates, fish and lamprey species, waterbirds and marine mammals. All species listed were expected to form stable populations in brackish waters with a minimum salinity of at least 0.5psu, that is all naturally occurring marine species currently present in the Baltic Sea. Also, records for all listed species were to be geographically located within the Baltic Sea excluding the invasive species.

The HELCOM Checklist 2.0 contains a total of 3 005 species. Based on available data a selection of 2023 species or other assessment units were made and included in the assessment process (Figure 5). In regard to dividing species into assessment units below the species level (i.e. subspecies or distinguishable populations), the approach has varied between species groups in a few cases, and consequently the total number of considered assessment units can be counted in different ways. 1 445 species or other assessment units (71.4%) were assigned to a red-listing category according to the IUCN Guidelines, 95 of them (4.7%) were categorized as threatened (either CR, EN or VU) and 578 species or other assessment units (28.6%) were left unassessed (either as Not Evaluated or Not Applicable). 2013 Red List used the HELCOM first checklist (HELCOM 2012) with 2 730 species and the assessment project used altogether 2 791 listed species or other assessment units for the assessment process, out of which 1 753 were evaluated, 69 of them (3.9%) were categorized as threatened and 1 038 of them were left unassessed (either as Not Evaluated or Not Applicable).

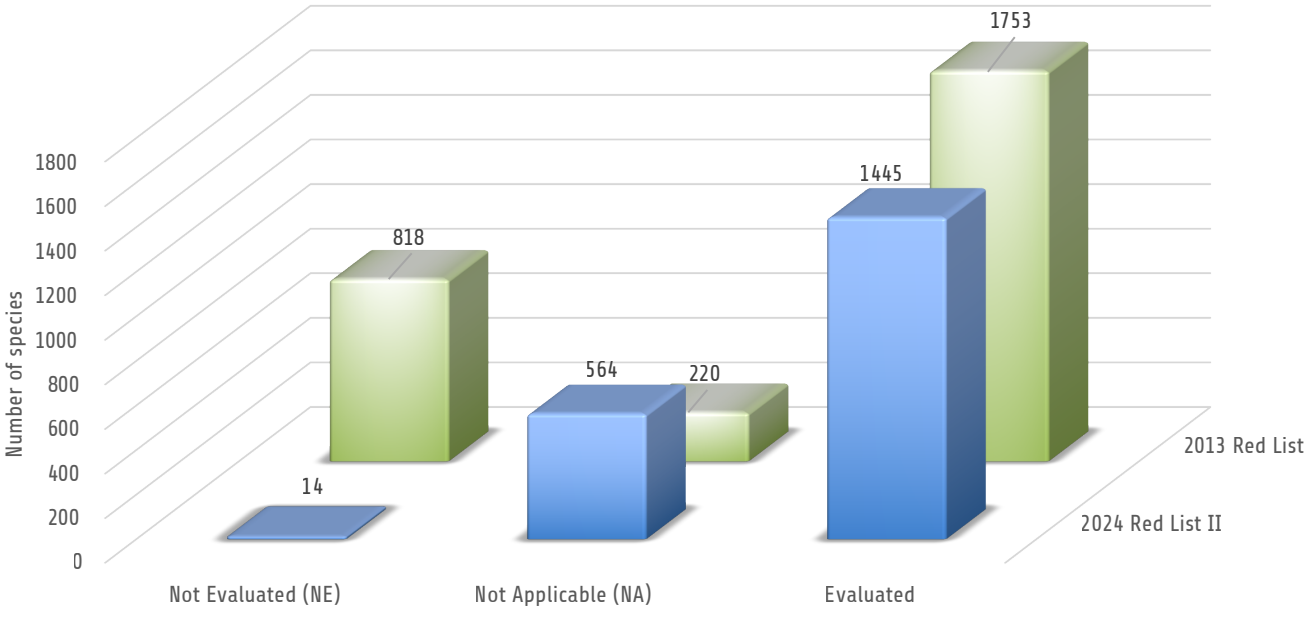

Figure 5. Proportion of species evaluated, Not Evaluated (NE) and Not Applicable (NA) for 2013 Red List compared to 2024 Red List II.

Compared to 2013 Red List more species were categorized as threatened in 2024 Red List II (Figure 6):

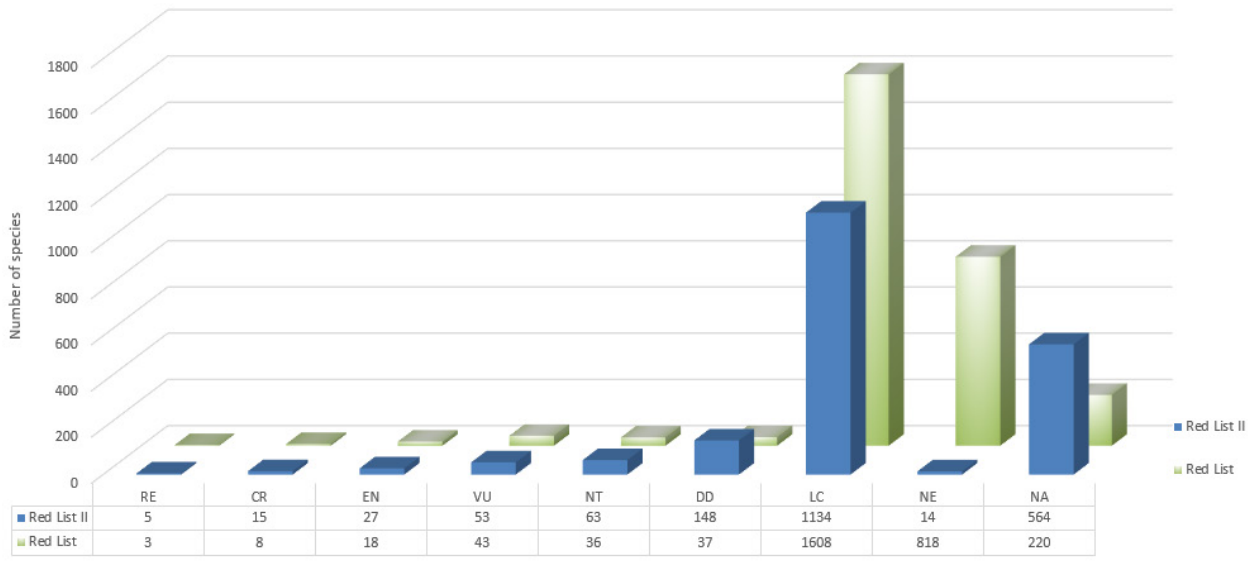

Figure 6. Proportions of Red List categories within the group of assessed species for 2013 Red List compared to 2024 Red List II.

The 2013 Red List assessment was done in a combination of data-driven assessment process and some expert opinion-based assessment. The 2024 Red List II assessment was done as a data driven exercise only with a lot more data available for the assessment process than in 2013. Thus, some of the results in this report show significant differences when comparing the 2013 and 2024 assessment results and trends in results and may be due to broader data availability than necessarily a change in status. In the 2013 Red List assessment process it was acknowledged the difficulty to make the division between Not Evaluated (NE) and Data Deficient (DD) and even Least Concern (LC) in many cases.

When comparing red list assessment results across different evaluations, it is important to consider the factors driving changes in assessment categories. These changes can stem from actions taken to improve a species' status or from increased pressures, but they may also result from better knowledge or data availability. Consequently, as the number of evaluated species increases with the growing availability of data, it is possible that the proportion of threatened species may also rise in future HELCOM assessments. (HELCOM, 2023).

In 2024 the category Not Applicable (NA) was assigned to those species that are freshwater species (not being a marine species) and to alien species.

2.2. Macrophyte assessment

2.2.1 Introduction to macrophytes

The Baltic Sea hosts a distinctive and diverse community of macrophytes that are essential to maintaining the regions ecological balance. These plants provide critical ecosystem services, including habitat for a wide range of aquatic organisms, nutrient cycling, and water quality regulation. The macrophytes of the Baltic Sea are characterized by a unique blend of marine and freshwater species, each species adapted to the brackish water and fluctuating environmental conditions.

Macrophytes in the Baltic Sea include both submerged and emergent species, such as seagrasses, macroalgae, and freshwater plants, all of which have adapted to the sea's variable salinity. These plants are vital components of the food web, supporting numerous invertebrates, fish, and waterfowl. They also play a key role in coastal protection by stabilizing sediments and reducing erosion. However, macrophyte communities are highly sensitive to environmental stressors such as nutrient pollution, climate change, and invasive species, which can impact their distribution and abundance. Understanding the dynamics of these plant communities is crucial for effective management and conservation of the Baltic Sea ecosystem.

On the Figure 7, the HELCOM BaltiCheck 2.0 smaller scale map, in the left side showcases the number of macrophyte species in each of the HELCOM sub-basins in comparison to the larger, Red List II map, which shows the number of macrophyte species that have been assigned the IUCN category (from Critical (CR) to Least Concern (LC)) per sub-basin.

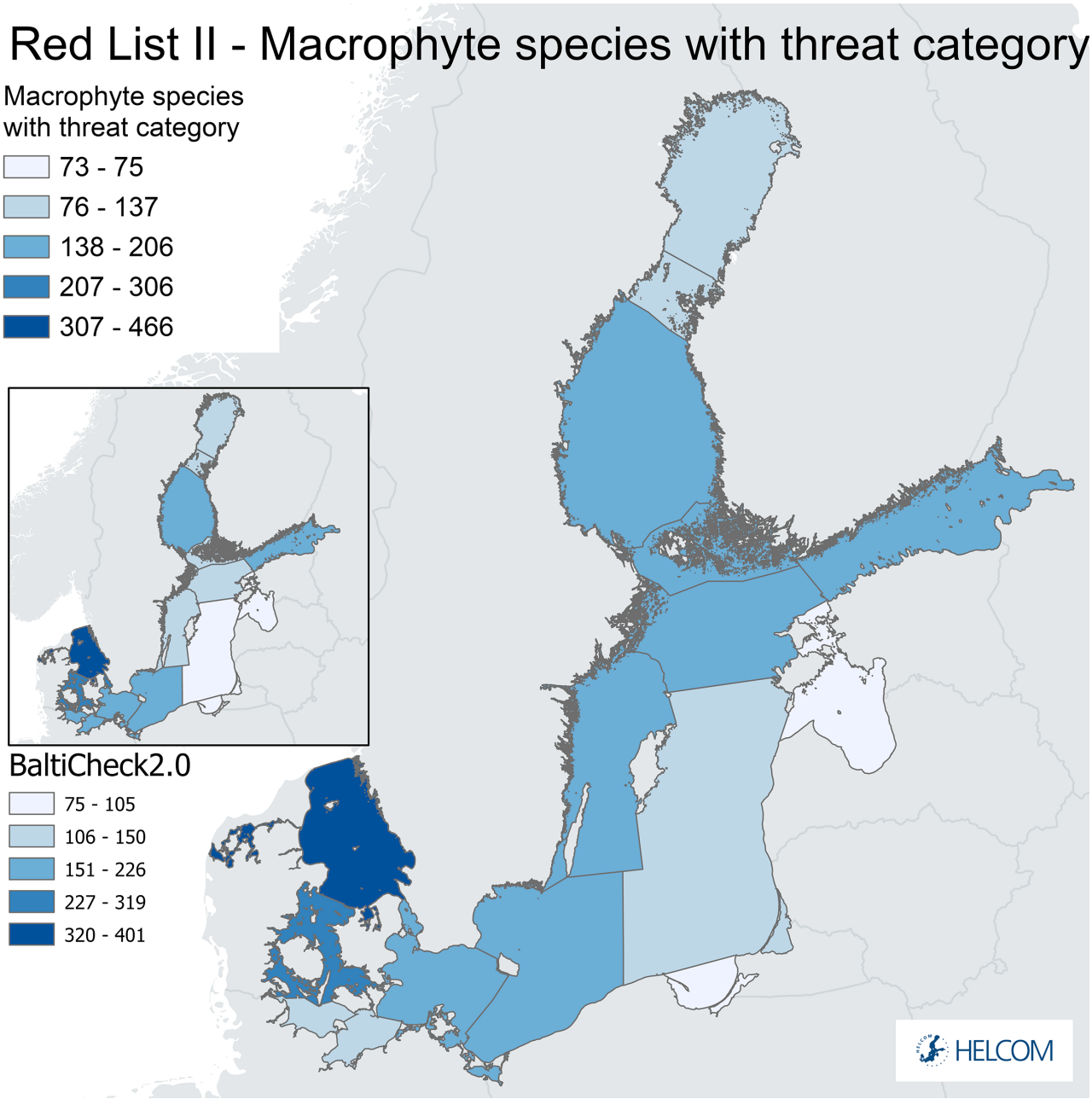

Figure 7. Number of HELCOM BaltiCheck 2.0 listed macrophyte species (map on the left) compared to the Red List II IUCN categorized (from CR-LC) macrophyte species per Baltic Sea sub-basins.

2.2.2 Overview of the assessment results for macrophytes

There were 3 macrophyte species assessed as threatened (CR, EN, VU) of the total 350 species that were evaluated in the HELCOM Red List II assessment (Table 3). One species, *Lamprothamnium papulosum*, remained Endangered (EN) as in 2013 and two species, *Hippuris tetraphylla and Zostera* (*Zosterella*) *noltei,* were categorized as Vulnerable (VU). The total list of the assessed macrophyte species and the categories assigned to them are available in Annex 1 of this report.

Table 3. List of macrophyte species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
EN	B2b(i,ii,iii,iv,v)c(iv)	*Lamprothamnium papulosum*		EN	B2ab(ii,iii,iv,v)
VU	B2ab(ii,iii,v); D2	*Hippuris tetraphylla*	Fourleaf mare's tail	EN	B2ab(i,ii,iii,iv,v)
VU	A2b; B2ab(ii,iii,v)	*Zostera (Zosterella) noltei*	Dwarf eelgrass	VU	B2ab (iii, iv)

Out of the total list of 558 macrophyte species of the HELCOM Checklist 2.0 (HELCOM 2020), a total of 352 species entered the Red List II assessment process (Figure 8), out of which 350 species were evaluated, one species (0.3%) was left unevaluated (Not Evaluated) and the category Not Applicable (NA) was given only to one species. In 2013 Red List 526 macrophyte species entered the assessment process, out of which 317 of them were evaluated. A total of 187 species were categorized as Not Evaluated (NE) and 22 species were categorized as Not Applicable (NA).

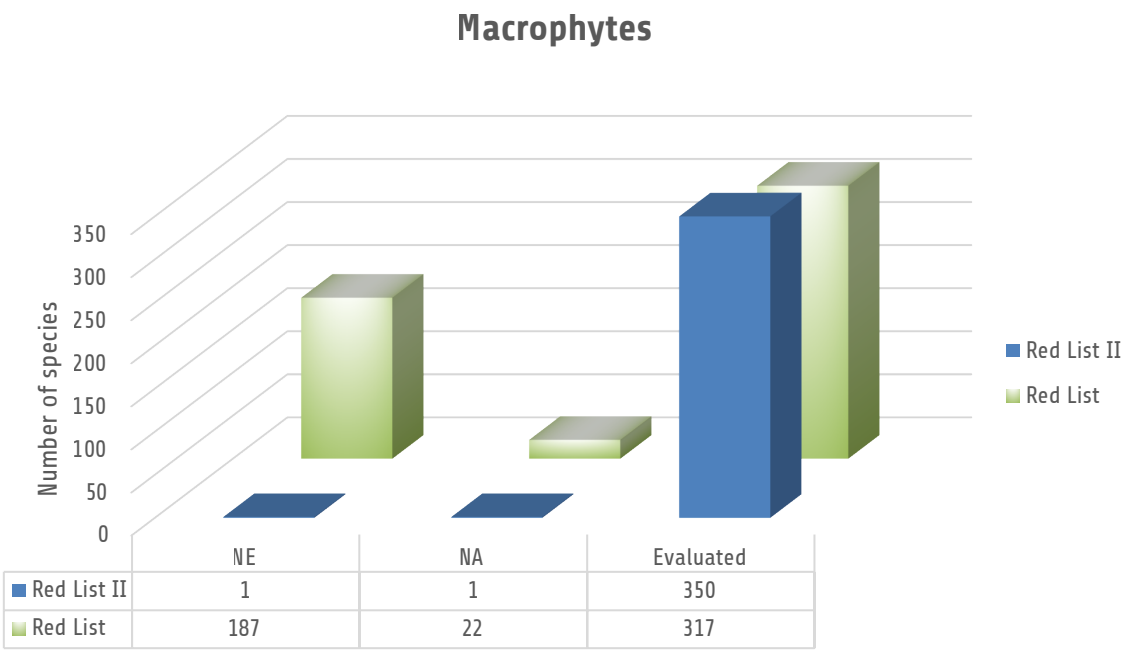

Figure 8. Proportions of species that were assessed, not assessed (Not Evaluated (NE) or Not Applicable (NA)) according to the IUCN criteria in 2013 and 2024 Red Lists.

The proportion of the category Least Concern (LC) was very high: 331 species (94%) in 2024 and high also in 2013, being 300 species (57%) (Figure 9). The proportion of the assignment of the Not Evaluated (NE) category (187 species, 35.6%) was high in 2013 compared to one Not Evaluated species (*Alisma gramineum*) in 2024. The Not Evaluated category was chosen in 2013 when there were identification difficulties or taxonomical uncertainties, or the species was very poorly known. One species (*Chara connivens*) was categorized as Not Applicable (NA) in 2024 as the species is listed on the non-indigenous species (NIS) lists of the Baltic Sea (e.g. AquaNIS), in 2013 22 species were categorized as NA (4.2%) since introduced after 1800 and regarded as neophytes.

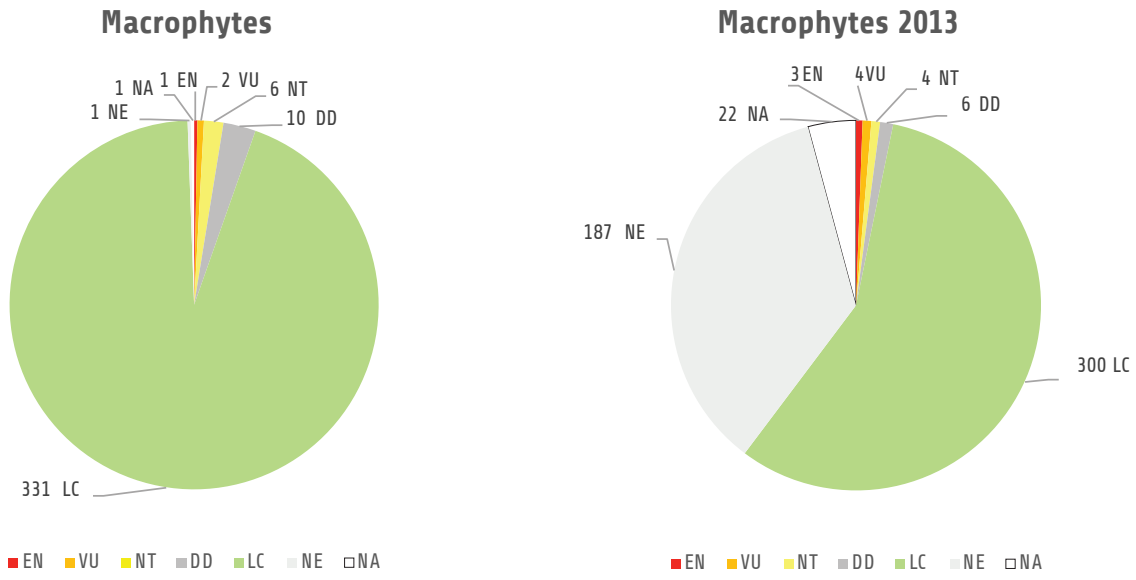

Figure 9. Proportions of Red List categories within the assessed macrophyte species in 2013 and 2014 Red Lists.

Altogether, 19 species were red-listed (RE-DD) in 2024, compared to 14 species in 2013 (Table 4).

Table 4. Distribution of the different IUCN Red List classifications in the current and previous Red List assessments.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	317	0	0	3	4	4	6	300
2024 Red List II	350	0	0	1	2	6	10	331

2.2.3 Assessment process

Species selection

A checklist of macrophytes with a total of 558 species was used as a basis to collect all available data from the Contracting Parties (Figure 10).

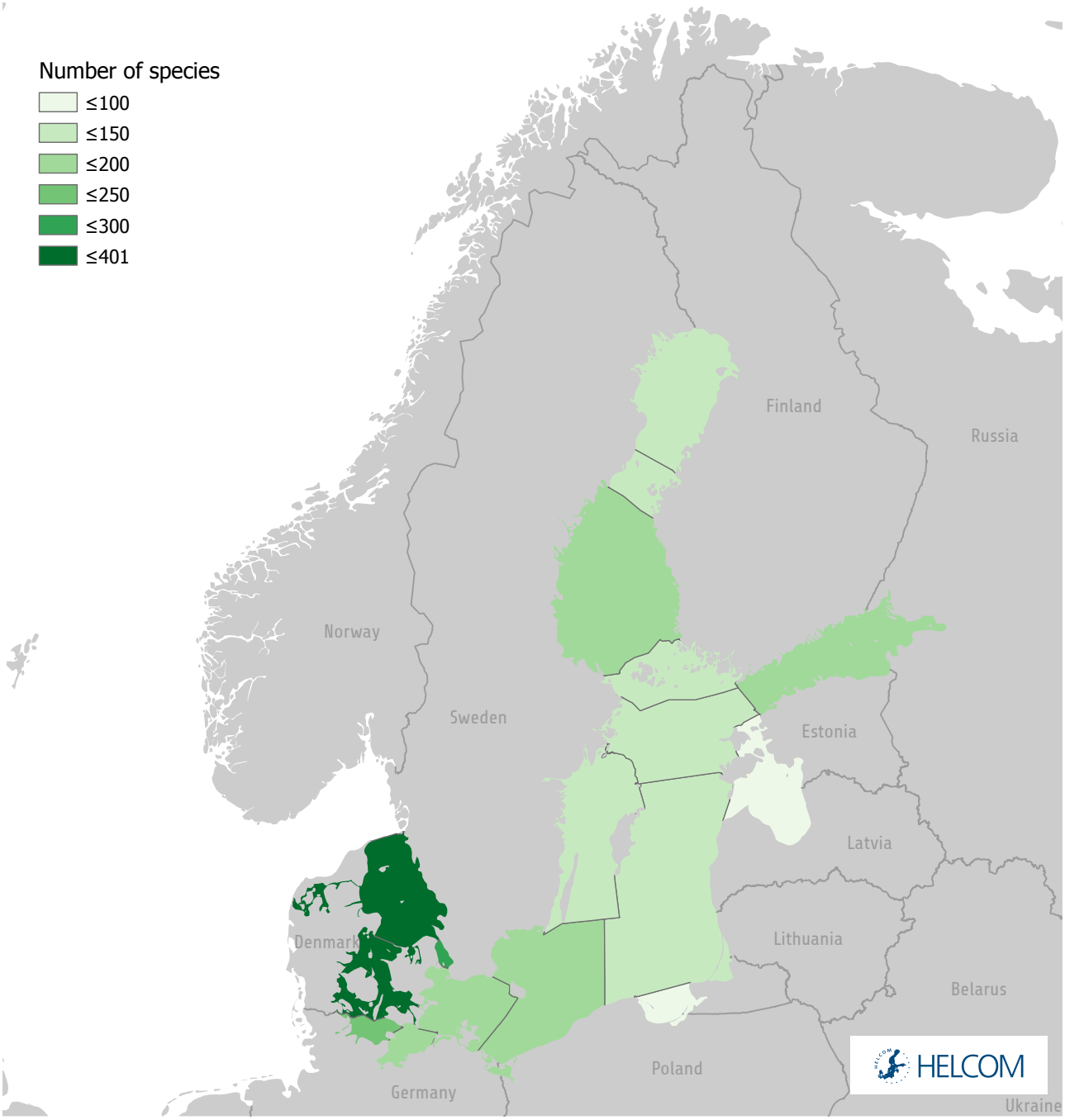

Figure 10. Number of macrophyte species per Baltic Sea sub-basin.

Data collection and assessment

Data was sent by Denmark, Estonia, Finland, Germany and Latvia via the HECOM data call, Sweden indicated macrophyte data to be extracted via publicly available Swedish data portal, Poland indicated to use the HOLAS 3 data sent to HELCOM and no reply from Lithuania concerning data availability. In addition, for composing the parameter excel, national red lists were collected from, Denmark, Estonia, Finland, Germany, Latvia and Sweden.

The data and information provided by said Contracting Parties were combined to create a Baltic Sea wide dataset and the data was run through EDIT.

Those macrophyte species that are so called borderline species both on the marine side and also on the freshwater side were assigned to Least Concern category.

The macrophyte assessment process uses mainly the criteria B as there is more data available for that.

Noting that some macrophyte species distribution is only on a narrow stretch along the coastline (a linear habitat) due to the reason that charophytes simply do not grow in the water depth more than 1 meter, making it difficult to make correct AOO values and maps.

Species specific results

As a result of the Red List II assessment process seven species from 2013 Red List were transferred to the appropriate category (either Data Deficient (DD) or Not Applicable (NA)) (Table 5), 287 species kept their 2013 IUCN category (Table 6) and 58 species were moved to a category of lower threat (Table 7).

Chara horrida (in 2013 categorized as Near Threatened (NT) and three Least Concern (LC) species (*Tilopteris mertensii, Acrothrix gracilis and Tsengia bairdii*) were categorized as Data Deficient (DD) during Red List II assessment process and need additional data collection during monitoring programmes for the next red listing process.

Halopteris scoparia and *Stuckenia vaginata* were included in the assessment process also as Data Deficient (DD) although they were categorized as Not Applicable (NA) in 2013, needing both additional data for backing up next round red listing categorization.

Chara connivens was previously assessed as Least Concern (LC) but was categorized as Not Applicable (NA) during 2024 red listing, being typical solid ballast species thus a non-indigenous species.

Table 5. Changes in species categorization from 2013 to 2024.

2013	1 NT	2 NA	3 LC	1 LC
Changes :	↑	↑	↑	↑
2024	DD	DD	DD	NA

Two species (Figure 11) had the same threat category as in 2013: *Lamprothamnium papulosum* as Endangered (EN) and *Zostera* (*Zosterella) noltei* as Vulnerable (VU).

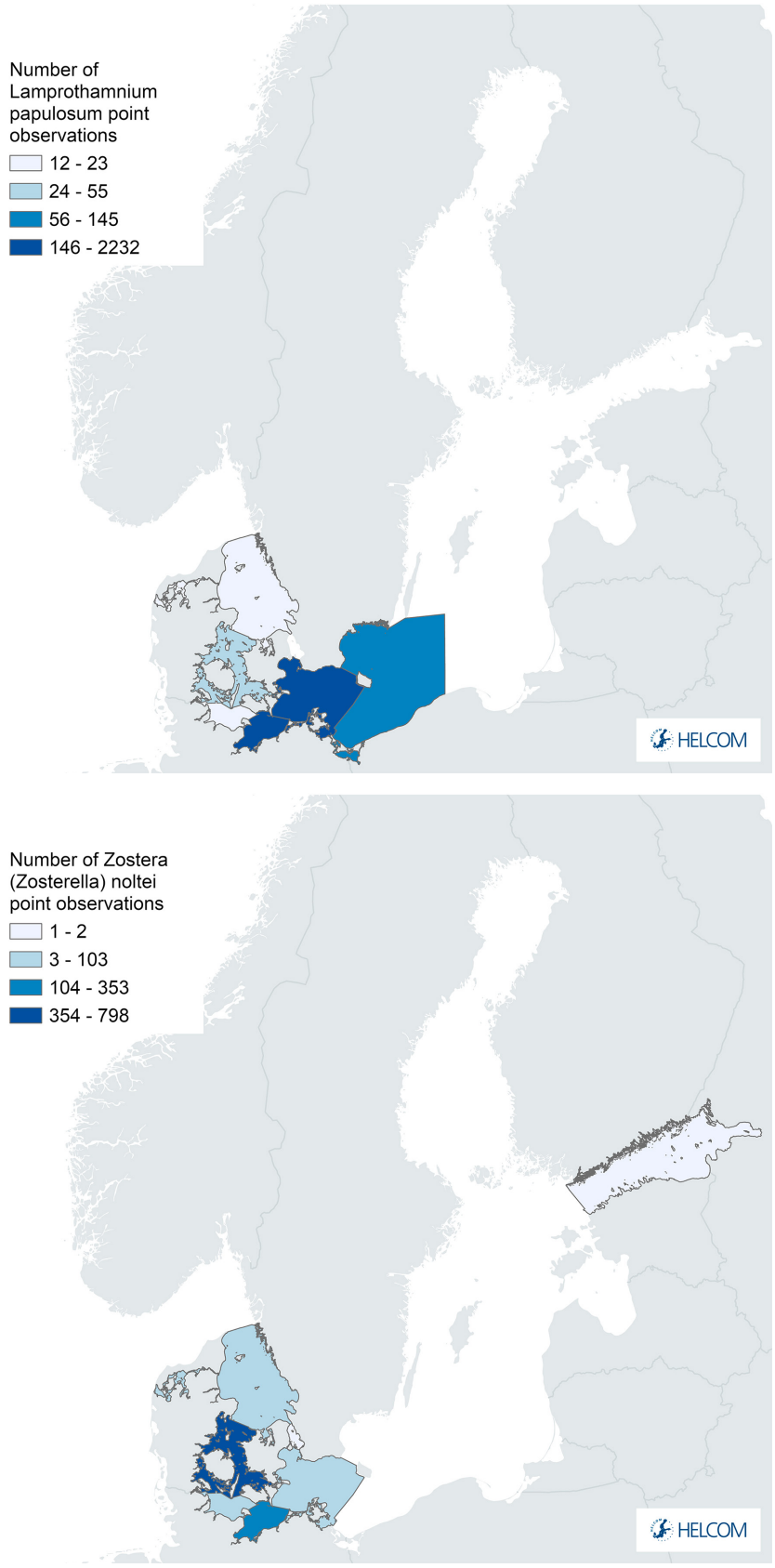

Figure 11. HELCOM area maps of occurrence of Lamprothamnium papulosum and Zostera (Zosterella) noltei.

278 species remained in their Least Concern (LC) category also according to the 2024 red listing (Table 6).

Four species were categorized as Data Deficient (DD) both in 2013 and in 2024, needing additional background data to be able to categorize the species during next red listing:

— *Botrytella reinboldii*
— *Myriocladia loveniid*
— *Helminthora divaricate*
— *Delamarea attenuata*

Alisma gramineum stayed also in the same category as in 2013, Not Evaluated (NE), needing also additional background data to further categorize it under IUCN categories.

Table 6. No changes from 2013 to 2024.

2013	1 EN	1 VU	2 NT	4 DD	278 LC	1 NE
No Change:	=	=	=	=	=	=
2024	EN	VU	NT	DD	LC	NE

There are altogether five macrophyte species that moved to a category of lower threat, compared to 2013 assessment results (Table 7):

— *Hippuris tetraphylla* from Endangered into Vulnerable
— *Persicaria foliosa* from Endangered into Near Threatened
— *Alisma wahlenbergii*, *Chara braunii* and *Nitella hyalina* from Vulnerable into Near Threatened
— *Crassula aquatica* from Near Threatened into Least Concern.

Ten species categorized as Not Evaluated in 2013 were categorized as Least Concern, as were the 42 species previously as Not Applicable.

Table 7. Moving species to lower threat category changes from 2013 to 2024.

2013	1 EN	1 EN	3 VU	1 NT	10 NE	42 NA
Changes:	↓	↓	↓	↓	↓	↓
2024	VU	NT	NT	LC	LC	LC

2.3. Fish and lamprey assessment

2.3.1 Introduction to fish

Fish are present in all Baltic Sea habitat types. Around 230 fish species occur in the Baltic Sea (HELCOM 2012), including species of both marine and freshwater origin. Different types of assemblages characterize coastal and open sea areas, and many fish have different key habitats in different seasons. For example, they may migrate between coastal and offshore areas for spawning or feeding. Some populations even move between the Baltic Sea and the North Sea. Coastal areas and freshwater tributaries are key habitats for freshwater species.

On the Figure 12, the HELCOM BaltiCheck 2.0 smaller scale map, in the left side showcases the number of fish species in each of the HELCOM sub-basins in comparison to the larger, Red List II map, which shows the number of fish species that have been assigned the IUCN category (from Critical (CR) to Least Concern (LC)) per sub-basin.

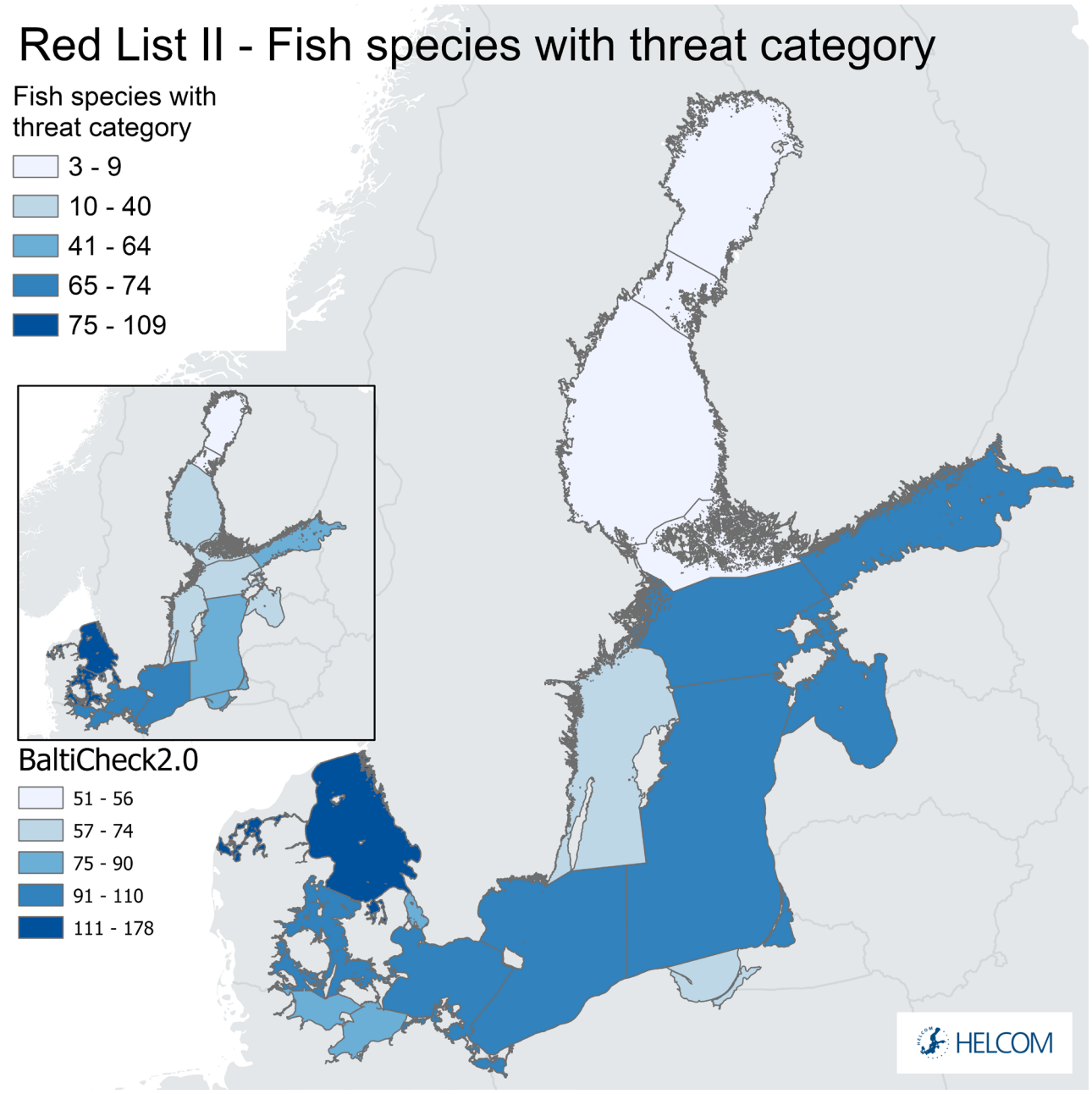

Figure 12. Number of HELCOM BaltiCheck 2.0 listed fish species (map on the left) compared to the Red List II IUCN categorized (from CR-LC) fish species per Baltic Sea sub-basins.

2.3.2 Overview of the assessment results for fish and lamprey

There were 21 fish species assessed as threatened (CR-VU) of the total 116 species that were evaluated in the HELCOM Red List II assessment (Table 8). Two species, *Acipenser oxyrinchus* and *Dipturus batis* remain Regionally Extinct (RE) and two more species (*Pomatoschistus norvegicus* and *Pomatoschistus pictus*) that were previously categorized as Data Deficient (DD) are now also in the Regionally Extinct (RE) category. Four species remained as Critically Endangered (CR), seven species as Endangered (EN) and ten as Vulnerable (VU). The total list of the assessed fish species and the categories assigned to them are available in Annex 2 of this report.

Table 8. List of fish species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
RE		*Acipenser oxyrinchus*	American atlantic sturgeon	RE	
RE		*Dipturus batis*	Skate	RE	
RE		*Pomatoschistus norvegicus*	Norway goby	DD	
RE		*Pomatoschistus pictus*	Painted goby	DD	
CR	A1cd+2bcde+3cd+4cd	*Anguilla anguilla*	Eel	CR	A3bde+4bde
CR	A1d+2d+3d+4d; D	*Lamna nasus*	Porbeagle	CR	A2bd
CR	A1bd+2bd+3bd+4bd	*Squalus acanthias*	Spurdog	CR	A2bd
CR	A2bd+3bd+4bd	*Thymallus thymallus*	Grayling	CR	A2bcd
EN	A1cd+2bcde+3cd+4cd	*Anarhichas lupus*	Wolf-fish	EN	A2d
EN	A2d+3d+4d	*Coregonus maraena*	Whitefish	EN	A2bd
EN	A2d+3d+4d	*Molva molva*	Ling	EN	A2d
EN	B1ab(v)	*Salmo salar*	Salmon	VU	A2cd+3d+4d
EN	A2abcde+3bcd+4bcd	*Gadus morhua*	Cod	VU	A2b,c+A4b,c
EN	A2d	*Glyptocephalus cynoglossus*	Witch	LC	
EN	A2b	*Liparis liparis*	Sea-snail	LC	
VU	A2abd+3bd+4bd	*Merlangius merlangus*	Whiting	VU	A2bd
VU	A3bd+4bd	*Raja clavata*	Thornback ray	VU	A2bd
VU	A2ac; C2a(i)	*Petromyzon marinus*	Sea lamprey	VU	C2a(i)
VU	A3d	*Salmo trutta*	Trout	VU	A3d
VU	A2bd	*Cyclopterus lumpus*	Lumpsucker	NT	A2b
VU	A2bd	*Enchelyopus cimbrius*	Four-bearded rockling	NT	A2b
VU	A2bd+3bd+4bd	*Zoarces viviparus*	Eelpout	NT	A2b
VU	B2ab(iii,v)	*Leuciscus aspius*	Asp	NT	A3d
VU	A2bd	*Amblyrayes radiata*	Starry ray /Thorny skate	LC	
VU	A2bcd	*Myoxocephalus scorpius*	Bull-rout	LC	

Out of the total list of 242 fish and lamprey species of the HELCOM Checklist 2.0 (HELCOM 2020), a total of 123 species entered the Red List II assessment process (Figure 13), out of which 116 species were evaluated, four (3.4%) were left unevaluated (Not Evaluated) and the category Not Applicable (NA) was given to three species. In 2013 Red List 239 species entered the assessment process, out of which 113 species were evaluated and 126 species were categorized as NA.

The proportion of the category Least Concern (LC) was high: 75 (61.0%) in 2024 and even higher in 2013, being 80 (33.5%) species (Figure 14). The proportion of the assignment of the category Not Applicable (NA) (126 species, 52.7%) was high in 2013 (excluding those species that do not naturally occur within the HELCOM area with a salinity of 0.5 psu), but lessened in 2024 to three species. Two species (*Platichthys solemdali* and *Chelon ramada*) categorized as Not Applicable (NA) in 2013 are categorized as Data Deficient (DD) in 2024 and four species (*Myoxocephalus quadricornis, Alosa fallax, Auxis rochei* and *Scomberesox saurus*) as Least Concern (LC).

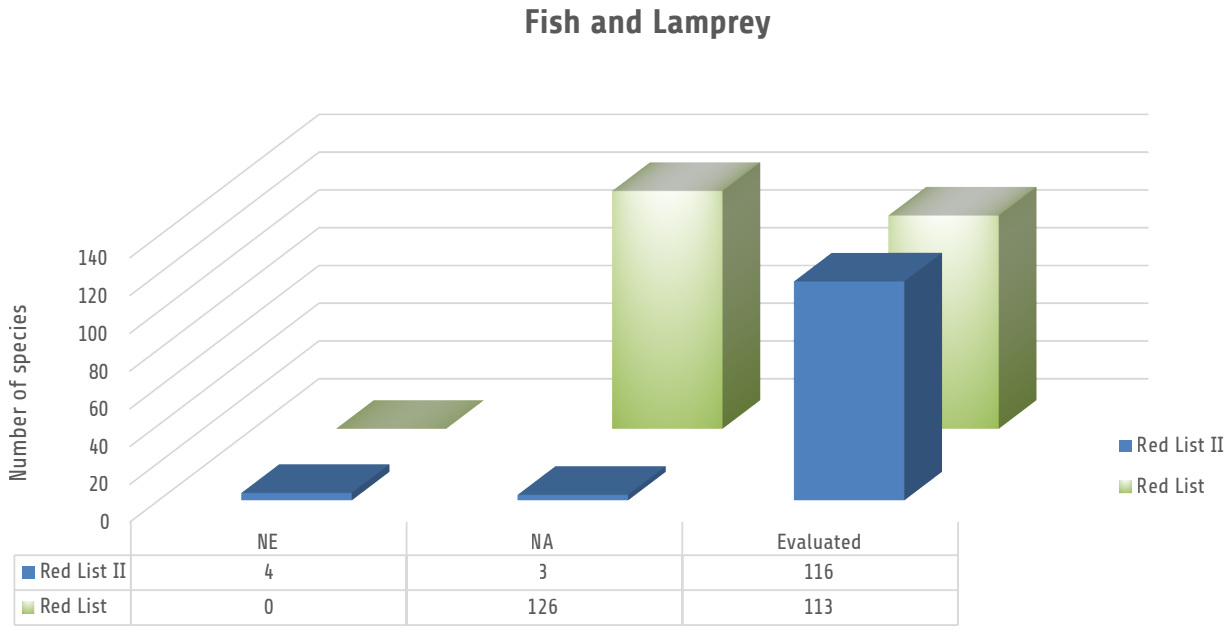

Figure 13. Proportions of species that were assessed, not assessed (Not Evaluated) or Not Applicable (NA) according to the IUCN criteria in 2013 and 2024 Red Lists.

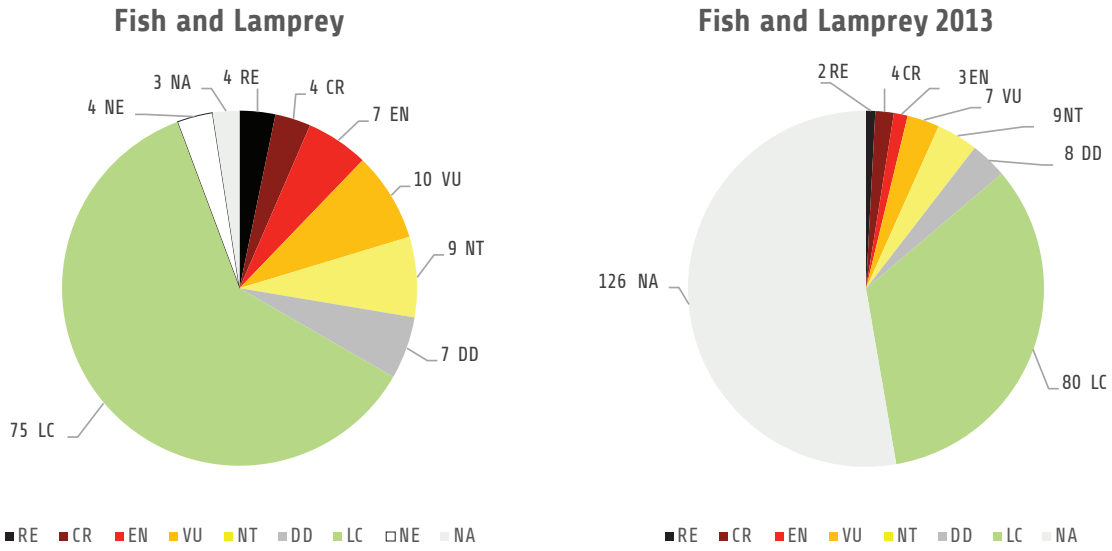

Figure 14. Proportions of Red List categories within the assessed fish species in 2013 and 2014 Red Lists.

Altogether, 41 species were red-listed (RE-DD) in 2024, compared to the 33 species in 2013 (Table 9).

Table 9. Distribution of the different IUCN Red List classifications in the current and previous Red List assessments.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	113	2	4	3	7	9	8	80
2024 Red List II	123	4	4	7	10	9	7	75

2.3.3 Assessment process

Species selection

A checklist of fish and lamprey species with a total of 242 species was used as a basis to collect all available data from the Contracting Parties (Figure 15).

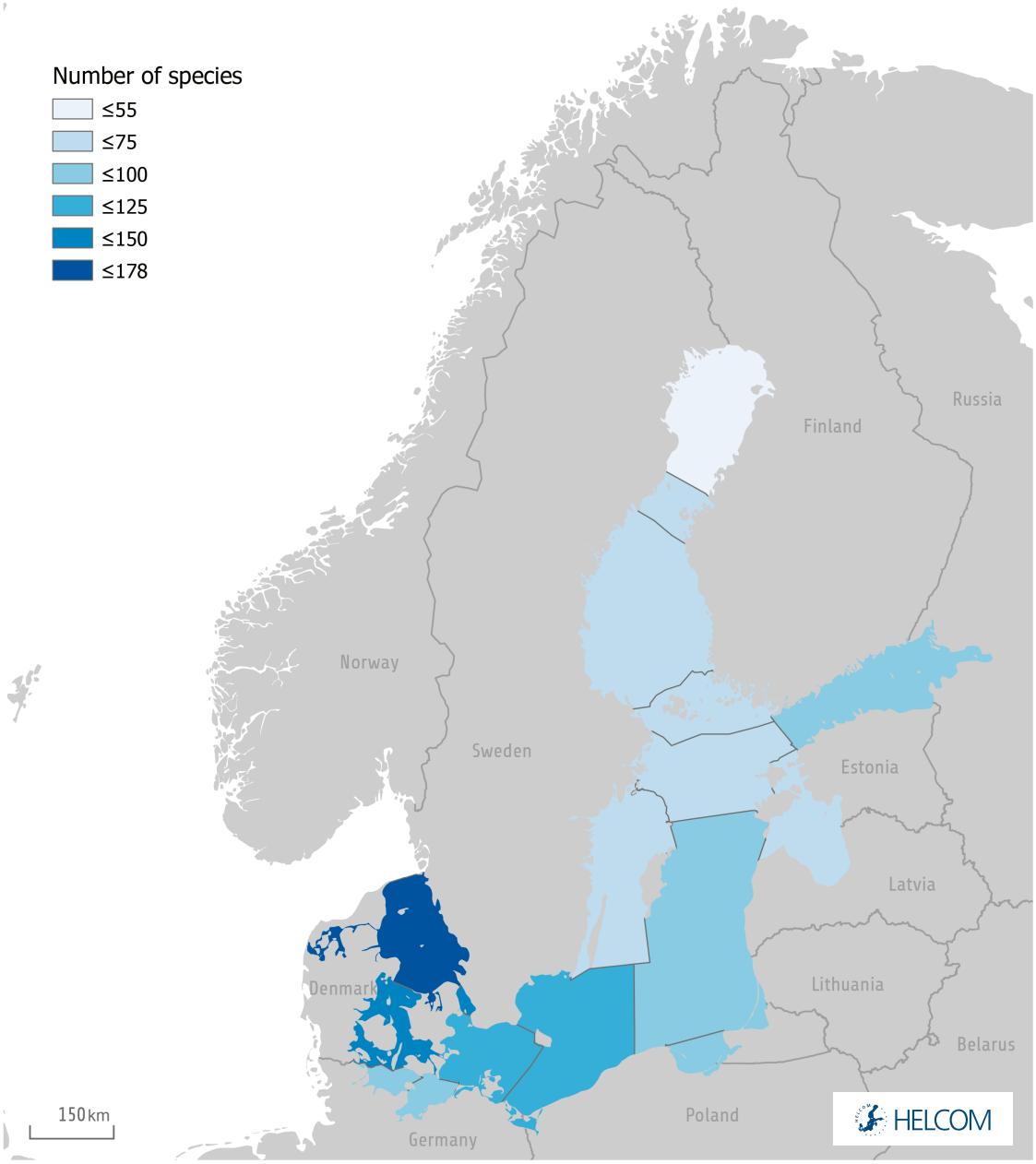

Figure 15. Number of fish and lamprey species per Baltic Sea sub-basin.

Data collection and assessment

Fish data was sent by Estonia via the HELCOM data call. Denmark and Germany indicated to use the HOLAS 3 data sent to HELCOM, Sweden indicated fish data to be extracted via publicly available Swedish data portal. Finland and Poland indicated to use the ICES data to be collected and used, all relevant fish data from ICES was also collected for other Contracting Parties. No reply from Latvia and Lithuania concerning data availability. In addition, for composing the parameter excel, national red lists were collected from, Denmark, Estonia, Finland, Germany, Latvia and Sweden.

The data and information provided by said Contracting Parties were combined to create a Baltic Sea wide dataset and the data was run through EDIT.

For the next HELCOM Baltic Sea Red List assessment, it is proposed that *Coregnous maraena* be assessed as two separate species, *Coregnous maraena* and *Coregonus widegreni*.

Species specific results

As a result of the Red List II assessment process 24 species were moved to a category of higher threat (Table 10), 91 species kept their 2013 IUCN category (Table 11) and eight species were moved to a category of lower threat (Table 12).

Two species categorized as Least Concern (LC) in 2013 were moved to a category of higher threat to Endangered (EN) (*Glyptocephalus cynoglossus* and *Liparis liparis*) and two to Vulnerable (VU) (*Amblyrayes radiata* and *Myoxocephalus scorpius*). Six Least Concern (LC) species are now Near Threatened (NT) (*Abramis brama*, *Blicca bjoerkna, Carassius Carassius, Ciliata Mustela, Cottus gobio* and *Thorogobius ephippiatus*). Four Near Threatened (NT) species (*Cyclopterus lumpus, Enchelyopus cimbrius, Zoarces viviparus* and *Leuciscus aspius*) were moved to Vulnerable (VU).

Two species categorized as Not Applicable (*Platichthys solemdali and Chelon ramada*) in 2013 were transferred to the appropriate category and classified as Data Deficient (DD) in 2024 assessment process. Also four other Not Applicable (NA) species (*Auxis rochei, Myoxocephalus quadricornis*, *Alosa fallax* and *Scomberesox saurus*) were classified as Not Evaluated in 2024.

Table 10. Moving species to higher threat category from 2013 to 2024.

2013	2DD	2 VU	2 LC	4 NT	2 LC	6 LC	2 NA	4 NA
Changes :	↑	↑	↑	↑	↑	↑	↑	↑
2024	2 RE	EN	EN	VU	VU	NT	DD	NE

For 68 species the Least Concern (LC) category has remained the same in 2013 and 2024 red listings (Table 11).

Five Data Deficient (DD) fish species in 2013 are still considered as DD also in 2024 and thus it is recommended to collect more data on these species via monitoring programs, to be able to categorize these species more accurately under the IUCN categories during next red listing:

— *Lebetus guilleti*
— *Lebetus scorpioides*
— *Lycodes gracilis*
— *Phrynorhombus norvegicus*
— *Zeugopterus punctatus*

Two fish species have kept their categorization as Regionally Extinct (*Acipenser oxyrinchus* and *Dipturus batis*). *Anguilla anguilla, Lamna nasus, Squalus acanthias, and Thymallus thymallus* remain at Critically Endangered. However, expert input has indicated that Squalus acanthias on a Northeastern Atlantic scale is doing better than a species than what the HELCOM regional assessment indicates since the species is restricted in the Baltic Sea to the Kattegat region however the species distribution continues into the wider Atlantic.

For the next HELCOM Baltic Sea Red List assessment, it is proposed that two fish species, *Perccottus glenii* and *Acipenser baerii*, are proposed not to be included as they were categorized as Not Applicable (NA) both in 2013 and 2024.

Table 11. No changes from 2013 to 2024.

2013	2 RE	4 CR	3 EN	4 VU	3 NT	5 DD	68 LC	2 NA
No Change:	=	=	=	=	=	=	=	=
2024	RE	CR	EN	VU	NT	DD	LC	NA

Melanogrammus aeglefinus and Merluccius merluccius were moved to a category of lower threat from Near Threatened (NT) in 2013 into Least Concern (LC) in 2024 (Table 12).

Galeorhinus galeus, which was classified as Vulnerable (VU) in 2013, has been excluded from the 2024 assessment upon expert input as not being a Baltic Sea species, and thus categorized as Not Applicable (NA).

Table 12. Moving species to lower threat category changes from 2013 to 2024.

2013	2 NT	1 DD	4 NA	1 VU
Changes:	↓	↓	↓	↓
2024	LC	LC	LC	NA

2.4. Benthic invertebrate assessment

2.4.1 Introduction to benthic invertebrates

Benthic invertebrates are small aquatic animals that live on or in the bottom substrate of water bodies, including rivers, lakes, and oceans. They include various animals such as clams, worms, crustaceans, and mollusks, and play a crucial role in aquatic ecosystems by contributing to sediment turnover and nutrient recycling. These organisms serve as an important food source for many fish and other aquatic animals.

In the Baltic Sea, benthic invertebrates of both marine and freshwater origin co-occur, creating a unique ecosystem. The number of species from marine and freshwater origins changes along with the salinity gradient of the Baltic Sea.

On Figure 16, the HELCOM BaltiCheck 2.0 smaller scale map, in the left side showcases the number of benthic invertebrate species in each of the HELCOM sub-basins in comparison to the larger, Red List II map, which shows the number of benthic invertebrate species that have been assigned the IUCN category (from Critical (CR) to Least Concern (LC)) per sub-basin.

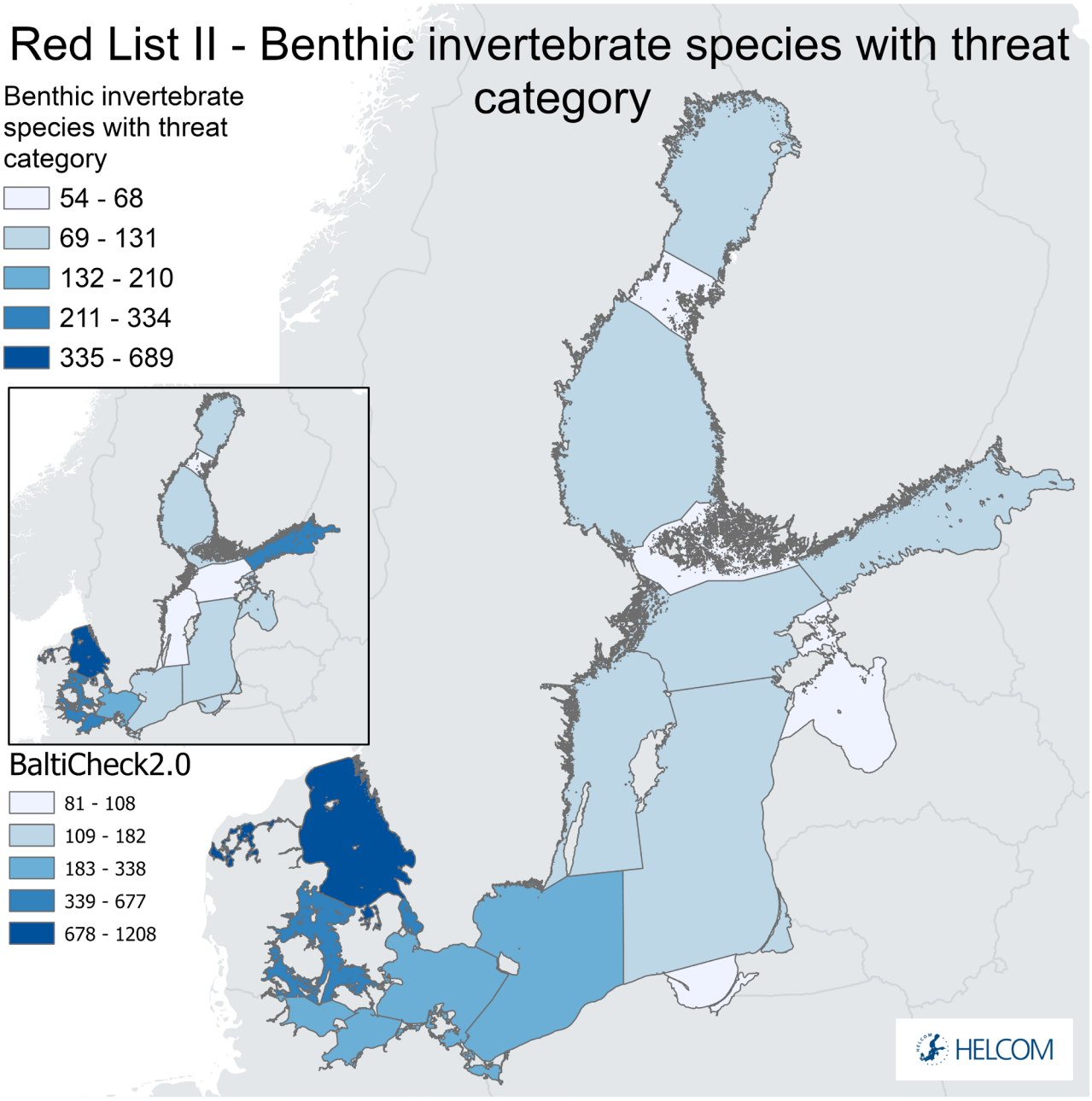

Figure 16. Number of BaltiCheck 2.0 listed benthic invertebrate species (map on the left) compared to the Red List II IUCN categorized (from CR–LC) benthic invertebrate species per Baltic Sea sub-basins.

2.4.2 Overview of the assessment results for benthic invertebrates

There were 42 benthic invertebrate species assessed as threatened (CR-VU) of the total 871 species that were evaluated in the HELCOM Red List II assessment (Table 13). Two species, *Haploops tenuis* and *Haploops tubicola,* were categorised as Critically Endangered (CR), nine species as Endangered (EN) and 31 as Vulnerable (VU). The total list of the assessed benthic invertebrate species and the categories assigned to them are available in Annex 3 of this report.

231 species are restricted to the Kattegat region of the Baltic Sea, giving them a very limited habitable area (species marked with an asterisk in Annex 3 of this report).

Table 13. List of species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

Species that are restricted to the Kattegat region are marked with a *.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	A2b	*Haploops tenuis*		EN	B1ab(i,iii)+2ab(ii,iii)
CR	A2b	*Haploops tubicola*		VU	B1ab(i,iii)+2ab(ii,iii)
EN	B2ab(iii,v)	*Stomphia coccinea**	Spotted sea anemone; spotted swimming anemone; swimming anemone	VU	B1ab(iii)
EN	B2ab(v)	*Hippasteria phrygiana**		VU	B1ab(iii)
EN	B1ab(v)+2ab(v)	*Cliona celata**	Boring sponge; red boring sponge; sulfur sponge; yellow boring horny sponge; yellow boring sponge	VU	D2
EN	B2ab(v)	*Corophium multisetosum*		NT	B2b
EN	B2ab(i,ii,iii)	*Boreotrophon truncatus*		NT	B2ab(ii,iii)
EN	B2ab(i,ii,iii,v)	*Epitonium turtonis*	Finely ribbed wentletrap; Turton's wentletrap	DD	
EN	B2ab(v)	*Upogebia stellata*		DD	
EN	B2ab	*Talitrus saltator*	Sand hopper	DD	
EN	B1ab(iii)+2ab(iii)	*Hanleya hanleyi*	Eastern hanleya; Hanley's chiton	LC	
VU	A2c	*Modiolus modiolus*	Horse mussel; horse-mussel; northern horsemussel	VU	A2c
VU	D2	*Pelonaia corrugata**		VU	D2
VU	B1ab(iii,v)+2ab(iii,v)	*Clelandella miliaris**		VU	B1ab(i,iii)
VU	B1ab(iii,v)+2ab(iii,v)	*Hippolyte varians*	Chamaeleon prawn; chameleon prawn	VU	B1ab(iii)
VU	D2	*Parvicardium hauniense*	Copenhagen cockle	VU	B2ab(ii,iii)
VU	D2	*Atelecyclus rotundatus**	Circular crab; old man's face crab; old-man's face crab	VU	D2
VU	B1ab(iii,v)+2ab(iii,v)	*Euspira pallida**	Pale moonsnail	VU	B1ab(iii)
VU	B2	*Deshayesorchestia deshayesii*		VU	B2ab(iii)
VU	A2	*Macoma calcarea*	Chalky macoma	VU	A2c

Table 13. (Continued) List of species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

Species that are restricted to the Kattegat region are marked with a *.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
VU	A2	*Nucula nucleus*	Common nut clam; nuclear nut clam	VU	A2c
VU	A2	*Scrobicularia plana*	Peppery furrow clam; peppery furrow shell	VU	A2c
VU	B1	*Solaster endeca*	Purple sun star	VU	B1ab(iii)
VU	A2ac	*Mya truncata*	Blunt gaper; blunt gaper clam; clam; truncate softshell; truncate softshell clam	NT	A2c
VU	B2ab(iii)	*Amauropsis islandica*	Iceland moonsnail	NT	B2ab(ii,iii,iv)
VU	B1ab(v)+2ab(v)	*Corystes cassivelaunus**	Helmet crab; masked crab	NT	D2
VU	B1ab(v)+2ab(v)	*Amphipholis squamata**	Brooding snake star; dwarf brittle star	DD	
VU	B1ab(iii,v)+2ab(iii,v)	*Roxania utriculus**		DD	
VU	B1ab(iii)+2ab(iii)	*Leptochiton alveolus**		LC	
VU	A2b	*Nuculana pernula*	Müller's nut clam; Müller's nutclam; northern nut clam; northern nutclam	LC	
VU	D2	*Crenella decussata*	Cross-sculpture crenella; decussate crenella	LC	
VU	B1ab(i,iii)	*Alvania testae**		LC	
VU	A2ac	*Calocaris macandreae**		LC	
VU	B1ab(iii)+2ab(iii)	*Eurynome aspera**	Strawberry crab	LC	
VU	B1ab(ii,iii)+2ab(ii,iii)	*Campylaspis costata*		LC	
VU	D2	*Diastylis cornuta**		LC	
VU	D2	*Eurynome spinosa**		LC	
VU	B2ab(ii,iii)	*Ophiura robusta*		LC	
VU	B1ab(i,ii,iii)+2ab(i,ii,iii)	*Eupolymnia nesidensis**		LC	
VU	B1ab(i)+2ab(i)	*Palliolum incomparabile**		LC	
VU	A1	*Musculus niger*	Black musculus; black mussel; little black mussel	LC	
VU	A2c	*Pinnotheres pisum**		LC	

Out of the total list of 2 043 benthic invertebrate species of the HELCOM Checklist 2.0 (HELCOM 2020), a total of 1 401 species entered the Red List II assessment process (Figure 17), out of which 871 species were evaluated, eight (0.9%) were left unevaluated (Not Evaluated) and the category Not Applicable (NA) was given to 522 species. In 2013 Red List 1211 species were evaluated, 627 (33.1%) were left unevaluated (NE) and 60 species were categorized as NA.

The proportion of the category Least Concern was by far the highest among the assessed species: 673 (48%) in 2024 and even higher in 2013, being 1 160 (61.3%) species (Figure 18). The proportion of the assignment of the category Not Applicable (522 species, 37.3%) and Data Deficient (124 species, 8.9%) were also the highest among the benthic invertebrate species group in the Red List II assessment. In 2013 the NA category was assigned only to 60 species (those considered vagrants and introduced in the HELCOM area after 1800) and only 23 species were considered as DD. In 2024, 522 species were categorized as NA due to being a freshwater species or considered not to be a Baltic Sea species. In 2013 627 species were categorized as Not Evaluated (NE) due to being very poorly known or where taxonomic difficulties existed, compared to 8 NE species in 2024.

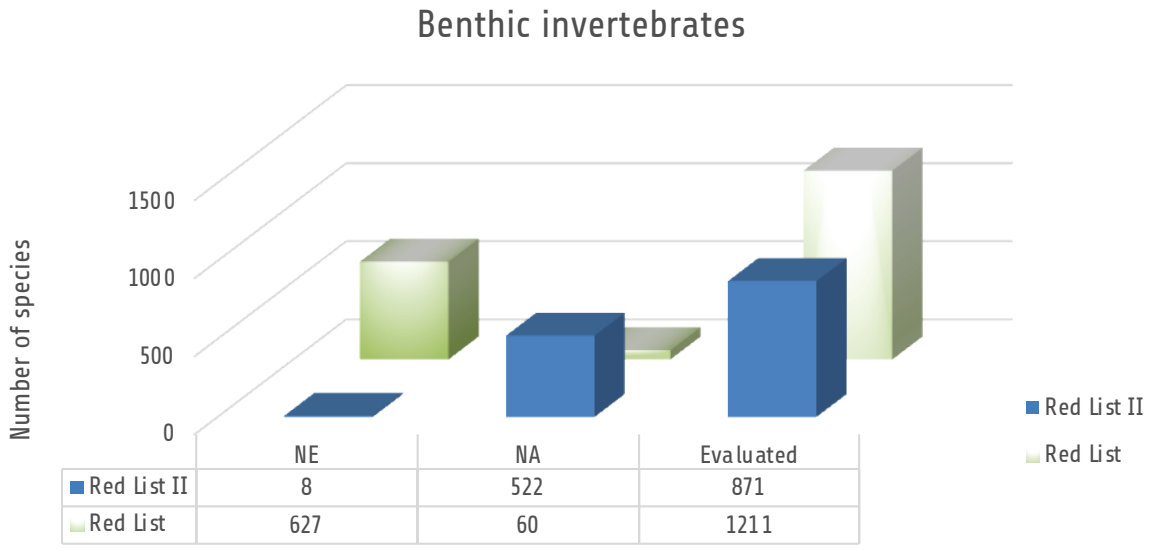

Figure 17. Proportions of species that were assessed, not assessed (Not Evaluated) or Not Applicable (NA) according to the IUCN criteria in 2013 and 2024 Red Lists.

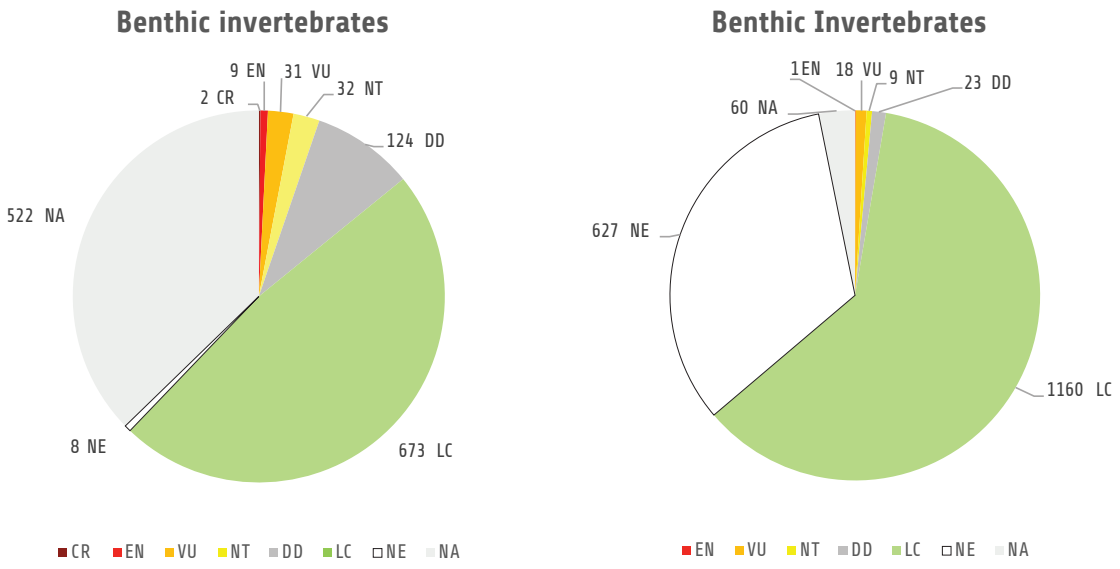

Figure 18. Proportions of Red List categories within the assessed benthic invertebrate species in 2013 and 2014 Red Lists.

Altogether, 198 species were red-listed (RE-DD) in 2024, compared to the 51 species in 2013 (Table 14).

Table 14. Distribution of the categorization of benthic invertebrate species in the current Red List II assessment and the 2013 Red List assessment.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	1211	0	0	1	18	9	23	1160
2024 Red List II	1401	0	2	9	31	32	124	673

2.4.3 Assessment process

Species selection

A checklist of benthic invertebrate species with a total of 2 043 species was used as a basis to collect all available data from the Contracting Parties (Figure 19).

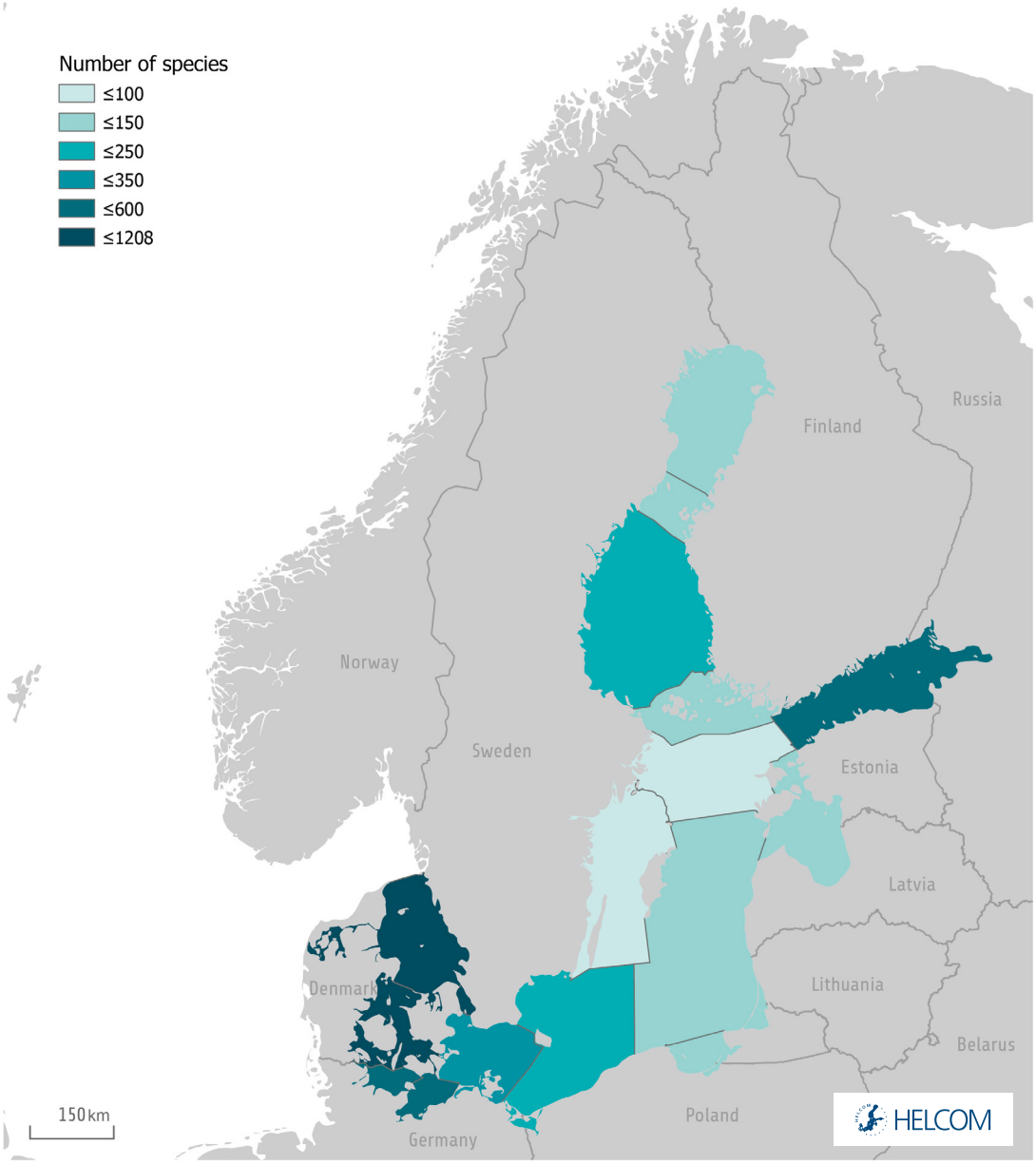

Figure 19. Number of benthic invertebrate species per Baltic Sea sub-basin.

Data collection and assessment

Benthic invertebrate data was sent by Denmark, Estonia, Finland and Germany via the HELCOM data call. Latvia, Poland and Germany indicated to use the HOLAS 3 data sent to HELCOM, Sweden indicated benthic invertebrate data to be extracted via publicly available Swedish data portal. No reply was received from Lithuania concerning data availability. In addition, for composing the parameter excel, national red lists were collected from, Denmark, Estonia, Finland, Germany, Latvia and Sweden.

The data and information provided by said Contracting Parties were combined to create a Baltic Sea wide dataset and the data was run through EDIT.

For the next HELCOM Baltic Sea Red List assessment it is proposed that *Coregnous maraena* be assessed as two separate species, *C. maraena* and *Coregonus widegreni*.

Freshwater species and marginal species that are mainly occurring in the North Sea and only as guests in the Baltic Sea were excluded from the assessment process and given a category of Not Applicable (NA). Also, pelagic species like *Acartia* and meiobenthic species were removed from the list as Not Applicable.

Species restricted to the Kattegat area (231 species) are not within their optimum living conditions in the Baltic Sea, thus are not comparable to the rest of the Baltic Sea area due to salinity differences. These species are still kept in the assessment process to ensure the assessment is comprehensive and have been marked with an Asterix in the assessment results list (Annex 3).

Species specific results

As a result of the Red List II assessment process 591 species were moved to a category of higher threat (Table 15), 742 species kept their 2013 IUCN category (Table 16) and 68 species were moved to a category of a lower threat (Table 17).

High volume of benthic invertebrate species (42.2%) was moved to a higher threat category in 2024 red listing from their 2013 category. E.g. *Haploops tenuis* (previously Endangered (EN)) and *Haploops tubicola* (previously Vulnerable (VU)) are now in Critically Endangered (CR) category (Figure 20).

Haploops tenuis and *Haploops tubicola* have been classified as Critically endangered (CR), going up from Endangered (EN) and Vulnerable (VU) respectively. The *Haploops* communities are very important for many other species and the community forms an important feeding ground for fish like the halibut (*Pleuronectes platessa*, *Reinharditus hippoglossiodes*). The reason for the observed decline of *Haploops* is not known. Bottom trawling may play a negative role, as this fishing method changes the structure of the sea floor. However, it is difficult to assign the decline in the Sound specifically to bottom trawling as this has been forbidden in the area of known *Haploops* sp. occurrences for a long time. Eutrophication and/or climate change may also be key pressures behind the species decline.

Figure 20. Observations of Haploops tenuis and Haploops tubicola in the HELCOM area.

Out of the species previously assessed as Least Concern, the current assessment placed 81 benthic invertebrates in the category Data Deficient. The 2013 red list categorized nine species as Not Evaluated and 25 species as Not Applicable, that are in the current assessment categorized Data Deficient. Some 386 species previously assessed as Least Concern were excluded from the current assessment process by the experts as Not Applicable due to not being a marine species but rather a freshwater species, as were the 26 previously Not Assessed species and the one previously assessed Data Deficient species (*Viviparus viviparus*).

Table 15. Moving species to higher threat category from 2013 to 2024.

2013	1 EN	1 VU	3 VU	2 NT	3 DD	1 LC	3 NT	2 DD	14 LC	6 DD	19 LC	1 NE	2 NA	81 LC	9 NE	25 NA	2 LC	3 NA	386 LC	1 DD	26 NE
Changes:	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
2024	CR	CR	EN	EN	EN	EN	VU	VU	VU	NT	NT	NT	NT	DD	DD	DD	NE	NE	NA	NA	NA

607 Least Concern species kept their categorization from 2013 also in 2024, and so did the 12 Vulnerable and 2 Near Threatened species (Table 16).

For the next HELCOM Baltic Sea Red List assessment, it is proposed that those 109 species that were Not Applicable also in 2024 are safe to state as being not included in the next red list assessment. Nine Data Deficient and three Not Evaluated (*Pyrgiscus crenatus, Pyrgiscus rufescens*, Stauridiosarsia spongicola*) species are in need of more background data for the next red listing:

- *Ekmania barthii*
- *Lekanesphaera rugicauda*
- *Limnoria lignorum*
- *Myosotella myosotis*
- *Orchestia gammarellus*
- *Thia scutellata*
- *Eurydice pulchra*
- *Cryptonatica affinis**
- *Epitonium clathratulum**

Abra prismatica and *Epitonium clathrus* were moved to a lower threat category from Vulnerable in 2013 into Near Threatened in 2024 (Table 17). *Inachus dorsettensis* was categorized as Least Concern in 2024 (Near Threatened in 2013).

The 2013 Red List assessed three Data Deficient species (*Gammarus inaequicauda*, *Macroplea pubipennis* and *Pleurogonium rubicundum*), 29 Not Evaluated species and 33 Not Applicable species were all categorized as Least Concern in 2024 red listing process.

Table 16. No changes from 2013 to 2024.

2013	12 VU	2 NT	9 DD	607 LC	3 NE	109 NA
No Change:	=	=	=	=	=	=
2024	VU	NT	DD	LC	NE	NA

Table 17. Moving species to lower threat category changes from 2013 to 2024.

2013	2 VU	1 NT	3 DD	29 NE	33 NA
Changes:	↓	↓	↓	↓	↓
2024	NT	LC	LC	LC	LC

2.5. Seabird assessment results

2.5.1 Introduction to seabirds

The sea bird community of the Baltic Sea is highly variable depending on the season. Some bird species are present throughout the year, but many migrate to the Baltic Sea to breed. In all, the Baltic Sea is an important area for around 80 species of seabird. A variety of species groups with different habitat preferences are found in coastal areas during the breeding period. In winter, the bird fauna is dominated by species that breed in arctic freshwater habitats, which use ice-free areas of the Baltic Sea as wintering areas

On Figure 21, the Red List II map showcases the number of total bird species (both breeding and wintering) that have been assigned the IUCN category (from Critical (CR) to Least Concern (LC)) per sub-basin.

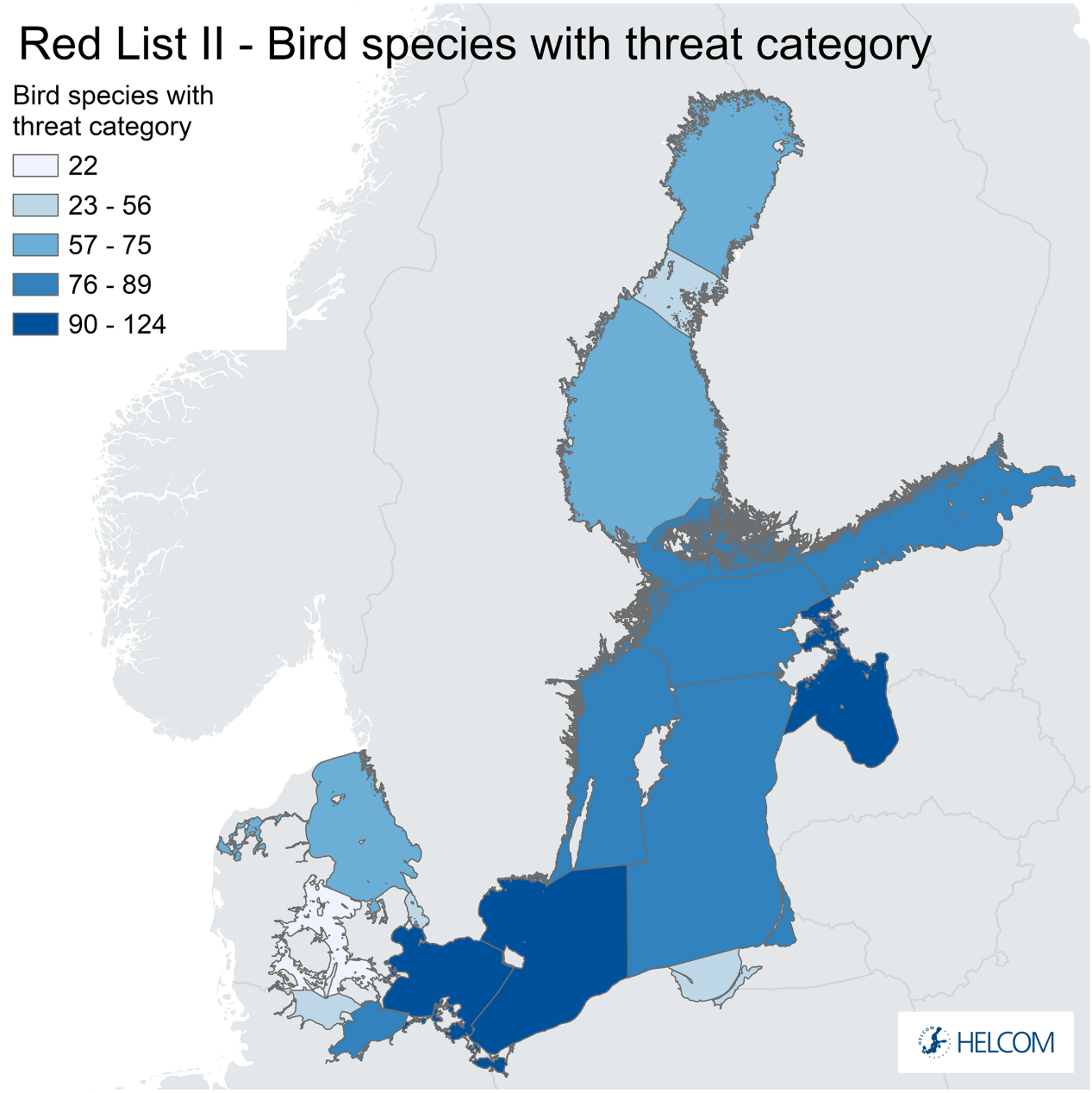

Figure 21. Red List II map showing number of total bird species (both breeding and wintering) per Baltic Sea sub-basins that have been assigned the IUCN category (from CR-LC).

2.5.2 Overview of the assessment results for seabirds

Breeding birds

There were 18 breeding bird species assessed as threatened (CR-VU) of the total 85 species that were evaluated in the HELCOM Red List II assessment. *Gelochelidon nilotica* is Regionally Extinct and *Charadrius alexandrines* Critically Endangered as both were also in 2013. *Rissa tridactyla* and *Larus melanocephalus* remained in Endangered category as in 2013. But many species were upscaled in their threat categories as listed in Table 18.

28 species or subspecies of the seabirds have been evaluated both as breeding and wintering populations in the Baltic Sea (marked with an asterisk in Annex 4). The total list of the assessed breeding bird species and the categories assigned to them are available in Annex 4 of this report.

Table 18. List of species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

*28 bird species assessed both as breeding and wintering

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
RE		*Gelochelidon nilotica*	Gull-billed tern	RE	
CR	D1	*Charadrius alexandrinus*	Kentish plover; snowy plover	CR	D1
CR	D1	*Xenus cinereus*	Terek sandpiper	EN	D1
CR	D1	*Calidris alpina schinzii**	Dunlin (Short-billed)	EN	A2ace, C1
CR	A2ab	*Philomachus pugnax*	Ruff	VU	A2abcd
CR	A2abce	*Somateria mollissima**	Common eider; eider; eider duck	VU	A2abe
CR	C1	*Calidris temminckii*	Temminck's stint	NT	A2a-c
CR	A2ace	*Limosa limosa*	Black-tailed godwit	NT	A2ac
EN	D1	*Rissa tridactyla**	Black-legged kittiwake; kittiwake; kittiwake gull	EN	D1
EN	D1	*Larus melanocephalus*	Mediterranean gull	EN	D1
EN	C1; D1	*Aythya marila**	Greater scaup; scaup	VU	A2bcd
EN	A2b	*Arenaria interpres*	Ruddy turnstone; turnstone	VU	A2abce + 3ce + 4abce
EN	A2a	*Larus fuscus fuscus*	Lesser black-backed gull	VU	A2abce
VU	A2b	*Melanitta fusca**	Velvet scoter; white-winged scoter	VU	A2b
VU	A2a	*Actitis hypoleucos*	Common sandpiper	NT	A2ab
VU	A4	*Vanellus vanellus*	Lapwing; northern lapwing	NT	A2bc
VU	A2b	*Aythya fuligula**	Tufted duck	NT	A2ab
VU	A2b	*Larus canus**	Common gull; mew gull	LC	
VU	A2a	*Larus marinus**	Great black-backed gull; greater black-backed gull	LC	

Out of the total list of 90 breeding bird species of the HELCOM Checklist 2.0 (HELCOM 2020), a total of 85 species entered the Red List II assessment process (Figure 22), out of which 57 species were evaluated and 28 species (32.9%) were assigned the category Not Applicable (NA). In the 2013 Red List all 58 species were evaluated.

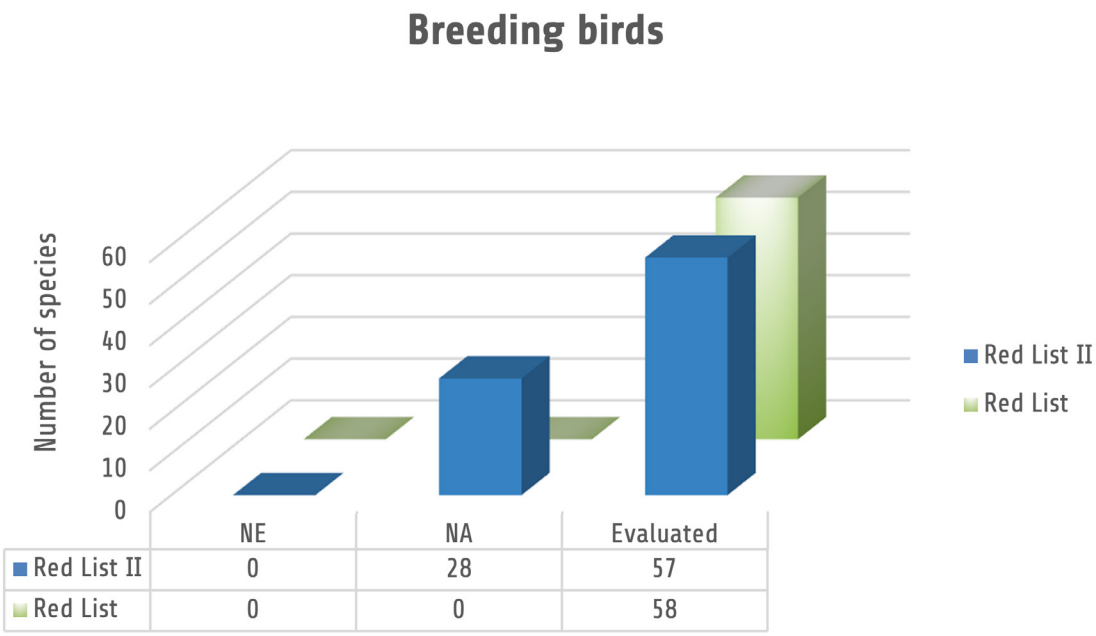

Figure 22. Proportions of species that were assessed, not assessed (Not Evaluated) or Not Applicable (NA) according to the IUCN criteria in 2013 and 2024 Red Lists.

The proportion of the category Least Concern was a bit lower among the 85 assessed species in 2024, 26 species (30.6%), compared to the 2013 assessment, 35 species (60.3%) out of the then total 58 assessed species (Figure 23). In 2013 no species were assigned to the category Not Applicable, compared to 28 species (32.9%) categorized as Not Applicable in 2024. Three breeding birds were categorized as Data Deficient in 2024, none in 2013.

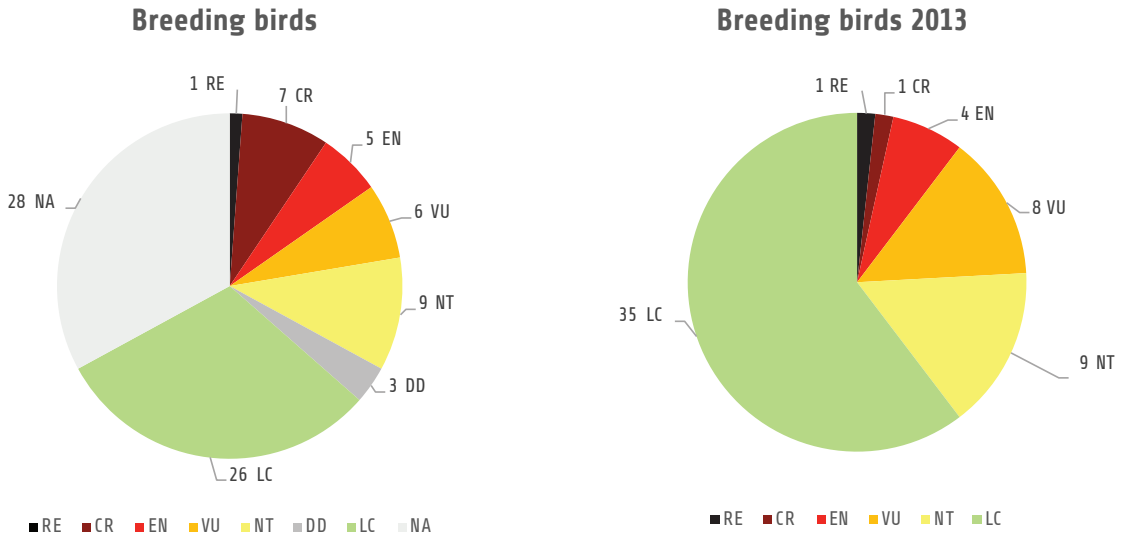

Figure 23. Proportions of Red List categories within the assessed breeding bird species in 2013 and 2014 Red Lists.

Altogether, 31 species were red-listed (CR-DD) in 2024, compared to the 23 species in 2013 (Table 19).

Table 19. Distribution of the categorization of breeding bird species in the current Red List II assessment and the 2013 Red List assessment.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	58	1	1	4	8	9	0	35
2024 Red List II	57	1	7	5	6	9	3	26

Wintering birds

There were 7 wintering bird species assessed as threatened (CR-VU) of the total 54 species that were evaluated in the HELCOM Red List II assessment. *Polysticta stelleri* was categorized as Critically Endangered in 2024 (Endangered in 2013), *Somateria mollissima** retained the Endangered status from 2013 also in 2024, while *Aythya ferina* and *Fulica atra* were previously assigned to Least Concern and in 2024 upscaled to the Endangered category (Table 20).

28 species or subspecies of seabirds have been evaluated both as breeding and wintering populations in the Baltic Sea (marked with an asterisk in Annex 4). The total list of the assessed wintering bird species and the categories assigned to them are available in Annex 4 of this report.

Table 20. List of species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

*28 bird species assessed both as breeding and wintering

Red List 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	A2b	*Polysticta stelleri*	Steller's eider	EN	A1a, B2ab(ii,iv,v), C1,2a
EN	A2abce	*Somateria mollissima**	Common eider; eider; eider duck	EN	A2b
EN	A2bd	*Aythya ferina*	Common pochard; pochard	LC	
EN	A2b	*Fulica atra*	Eurasian coot; coot; common coot	LC	
VU	A2b	*Clangula Hyemalis*	Long-tailed duck; oldsquaw	EN	A2b
VU	A2b	*Aythya fuligula**	Tufted duck	LC	
VU	A2acde	*Larus argentatus**	European herring gull; herring gull	LC	

Out of the total list of 69 wintering bird species of the HELCOM Checklist 2.0 (HELCOM 2020), a total of 54 species entered the Red List II assessment process (Figure 24), out of which 43 species (79.6%) were evaluated, one species was Not Evaluated and ten species were assigned the category Not Applicable (NA). In 2013 Red List 47 (74.6%) species were evaluated, four were Not Evaluated and 12 as Not Applicable.

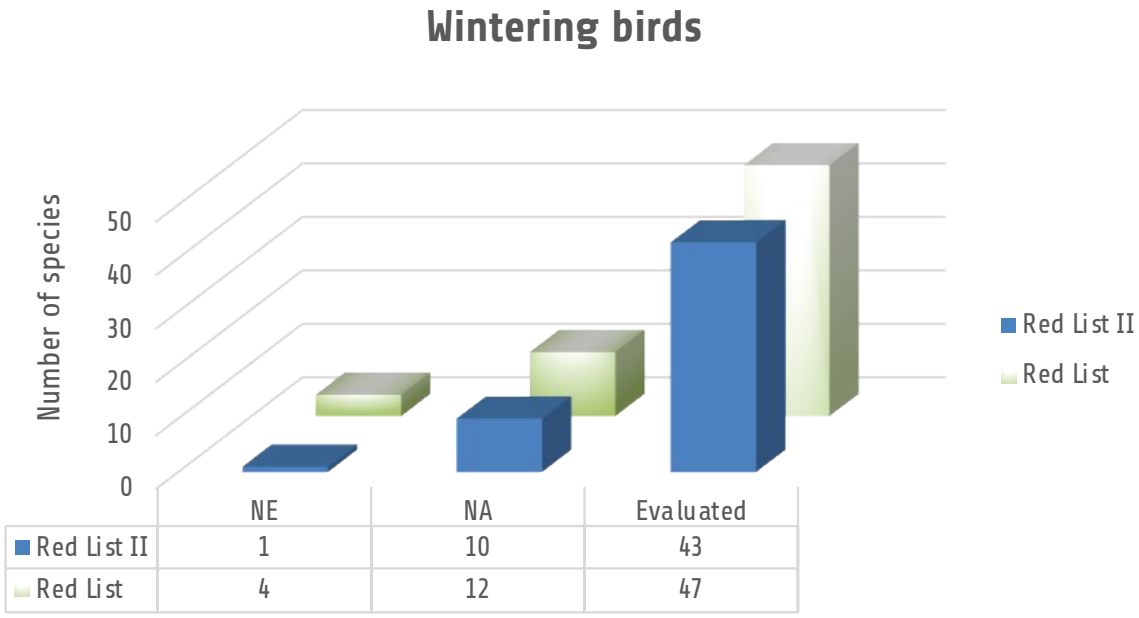

Figure 24. Proportions of species that were assessed, not assessed (Not Evaluated) or Not Applicable (NA) according to the IUCN criteria in 2013 and 2024 Red Lists.

The proportion of the category Least Concern was a about the same among the 54 assessed species in 2024, 26 species (48.1%), compared to the 2013 assessment, 31 species (49.2%) out of the then total 63 assessed species (Figure 25). In 2013, 12 species were assigned to the Not Applicable category, compared to 10 species in 2024. Four wintering birds were categorized as Data Deficient in 2024, none in 2013.

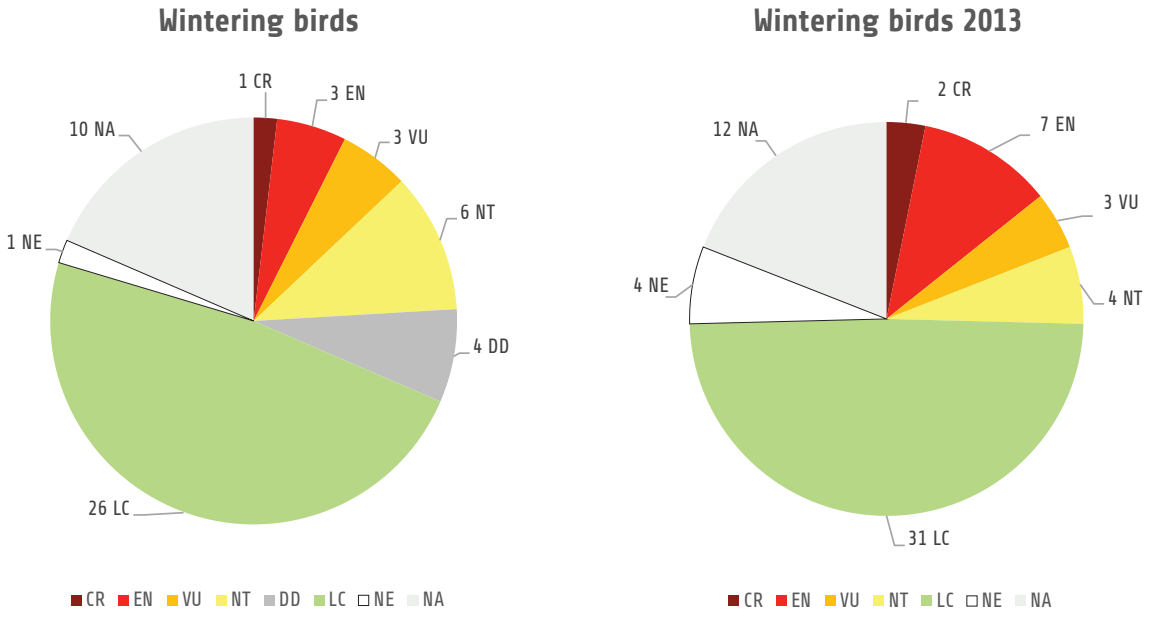

Figure 25. Proportions of Red List categories within the assessed wintering bird species in 2013 and 2014 Red Lists.

Altogether, 17 species were red-listed (RE-DD) in 2024, compared to the 16 species in 2013 (Table 21).

Table 21. Distribution of the categorization of wintering bird species in the current Red List II assessment and the 2013 Red List assessment.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	47	0	2	7	3	4	0	31
2024 Red List II	43	0	1	3	3	6	4	26

2.5.3 Assessment process

Species selection

A checklist with a total of 90 breeding bird species and 69 wintering bird species was used as a basis to collect all available data from the Contracting Parties.

Data collection and assessment

Denmark, Estonia, Finland, Germany, Poland and Sweden asked the data sent for HOLAS 3 process to be used for the Red List II project, no replay was received from Latvia and Lithuania concerning data availability. Noting that HOLAS 3 data covered only seabird data. In addition, for composing the parameter excel, national red lists were collected from, Denmark, Estonia, Finland, Germany, Latvia and Sweden.

The data and information provided by said Contracting Parties were combined to create a Baltic Sea wide dataset and the data was run through EDIT.

The species that are both breeding and wintering within the Baltic Sea region (28 species) are processed separately in each category, with data for said species being separated based on breeding and wintering seasons.

The use of the HELCOM EOO and AOO tool was not a useful way to assess the bird species, since the species distribution and migration paths extend beyond the Baltic Sea. Also, when some of the data are missing in the assessment process, the reflection of the EOO and AOO maps are not correct and cannot be used in the assessment process. For the bird red-listing assessment the available information on trends was used instead.

Data was collected starting from the year 1750. Therefore, observations of occurrence on some of the maps reflect occurrences that are no longer existing in nature and data should be classified as historical.

The HELCOM Red List II only assessed those seabirds occurring at shoreline and at sea, excluding terrestrial and inland species, if non-marine species were included on the species lists, they were given the Not Applicable (NA) category. The one exception was *Hydrocoloeus minutus* as it is a coastal population and was assessed both under breeding and wintering bird species.

The overall approach was to keep the assessment at species level rather than at subspecies level. Exception was made for *Alca torda torda*, *Branta bernicla hrota*, and *Alca torda islandica* under the wintering species; and for *Calidris alpina schinzii*, *Larus fuscus fuscus* and *Larus fuscus intermedius* under the breeding bird assessment.

Species specific results

Breeding birds

As a result of the Red List II assessment process, 23 species were moved to a category of higher threat (Table 22), 49 species kept their 2013 IUCN category (Table 23) and 13 species were moved to a category of lower threat (Table 24).

A large proportion of the breeding bird species (27.1%) were moved to a higher threat category in their assessment:

- *Xenus cinereus* and *Calidris alpina schinzii** are categorized as Critically Endangered (Endangered previously)
- *Philomachus pugnax* and *Somateria mollissima** were moved from Vulnerable to Critically Endangered
- *Calidris temminckii* and *Limosa limosa* were also moved to a higher threat category of Critically Endangered from Near Threatened
- *Aythya marila**, *Arenaria interpres* and *Larus fuscus fuscus* were previously as Vulnerable, now moved to Endangered
- *Actitis hypoleucos, Vanellus Vanellus* and *Aythya fuligula** were previously Near Threatened, now as Vulnerable
- *Larus canus** and *Larus marinus** have been moved up from previous Least Concern to Vulnerable.

Also, six breeding bird species, previously categorized as Least Concern, were assessed as Near Threatened and three species have been moved from Not Applicable to Data Deficient and need more background data to be collected via monitoring programmes in the near future (*Anas acuta**, *Anas crecca** and *Anas penelope**).

Anas acuta was previously assessed as Not Applicable, but in this 2024 assessment it has been categorized as a Data Deficient species. It is a strongly declining rare species, occurring both in Finland and Sweden with limited monitoring data available.

Table 22. Moving species to higher threat category from 2013 to 2024.

2013	2 EN	2 VU	2 NT	3 VU	3 NT	2 LC	6 LC	3 NA
Changes :	↑	↑	↑	↑	↑	↑	↑	↑
2024	CR	CR	CR	EN	VU	VU	NT	DD

For the next HELCOM Red List assessment, the 21 species that have kept their Least Concern category, and 22 species previously categorized as Not Applicable that remained in the same category, can be excluded as not marine species.

Table 23. No changes from 2013 to 2024.

2013	1 RE	1 CR	2 EN	1 VU	1 NT	21 LC	22 NA
No Change:	=	=	=	=	=	=	=
2024	RE	CR	EN	VU	NT	LC	NA

Hydroprogne caspia and *Podiceps auritus** have been moved to a lower category from Vulnerable into Near Threatened. *Charadrius hiaticula* and *Cepphus grylle** were moved from Near Threatened into Least Concern in 2024.

*Hydrocoloeus minutus**, *Fulica atra* and *Cygnus cygnus** were included in the evaluation process as Least Concern (Not Applicable in 2013).

*Cygnus cygnus** is a breeding seabird that occurs along the coast and is increasing, thus kept in the assessment process as Least Concern.

Calidris alpina (previously Endangered), *Charadrius hiaticula hiaticula* and *Oenanthe Oenanthe* (both previously Near Threatened), and *Phalacrocorax carbo sinensis*, *Larus fuscus* and *Mergellus albellus* (all previously Least Concern) were all excluded from the evaluation process as not marine species and thereby categorized as Not Applicable in 2024.

Table 24. Moving species to lower threat category changes from 2013 to 2024.

2013	2 VU	2 NT	3 NA	1 EN	2 NT	3 LC
Changes:	↓	↓	↓	↓	↓	↓
2024	NT	LC	LC	NA	NA	NA

Wintering birds

As a result of the Red List II assessment process 13 species were moved to a category of higher threat (Table 25), 19 species kept their 2013 IUCN category (Table 26) and 22 species were moved to a category of lower threat (Table 27).

Big proportion of the wintering bird species (24.1%) were moved to a higher category in their assessment:

- *Polysticta stelleri* was categorized as Critically Endangered compared to previous Endangered category in 2013
- *Aythya ferina and Fulica atra* were upscaled from 2013 Least Concern into Endangered in 2024
- *Aythya fuligula** *and Larus argentatus** were also moved to higher catetegory from 2013 Least Concern into Vulnerable in 2024
- *Anas platyrhynchos**, *Larus marinus** *and Aythya marila** were also Least Concern in 2013, but moved to Near Threatened in 2024

*Rissa tridactyla** (previously Vulnerable), *Hydrocoloeus minutus** (previously Near Threatened), *Alca torda torda* and *Anthus petrosus** (both previously Least Concern) were all moved into Data Deficient category in 2024 and need more background data to be collected via monitoring programmes for the next red listing process.

Numenius arquata was included in the assessment process from the previous Not Applicable category into Not Evaluated in 2024 and will require additional background data collection in the near future.

Table 25. Moving species to higher threat category from 2013 to 2024.

2013	1 EN	2 LC	2 LC	3 LC	1 VU	1 NT	2 LC	1 NA
Changes:	↑	↑	↑	↑	↑	↑	↑	↑
2024	CR	EN	VU	NT	DD	DD	DD	NE

16 wintering species have kept their Least Concern category. For the next HELCOM Red List assessment two species (*Falco peregrinus* and *Gallinago gallinago*) that remain in the Not Applicable category, can be excluded from the next red listing process.

Table 26. No changes from 2013 to 2024.

2013	1 EN	16 LC	2 NA
No Change:	=	=	=
2024	EN	LC	NA

Big proportion (40.7%) of wintering species have been also moved to a lower category:

- *Clangula Hyemalis* from Endangered in 2013 into Vulnerable in 2024
- *Gavia stellata and Gavia arctica* from Critically Endangered into Near Threatened in 2024
- *Mergus serrator** from Vulnerable into Near Threatened
- *Podiceps grisegena, Melanitta nigra and Melanitta fusca** have been moved from Endangered into Least Concern in 2024
- *Cepphus grylle** *has been moved* from Vulnerable into Least Concern
- *Branta bernicla hrota, Podiceps auritus** *and Tringa totanus** have also been moved to a lower category, Least Concern (previously all as Near Threatened).

Alca torda islandica (previously Not Evaluated), *Calidris alpina* and *Plectrophenax nivalis* (both Not Applicable in 2013) have all been assigned to Least Concern category.

Anser fabalis fabalis has been excluded from the evaluation process as not a marine species and categorized as Not Applicable in 2024 (previously as Endangered). Also, seven Least Concern species have been excluded from the assessment process as Not Applicable (*Anser albifrons, Anser fabalis rossicus, Anser answer, Larus fuscus, Phalacrocorax carbo carbo, Phalacrocorax carbo sinensis* and *Calidris alpina**).

Table 27. Moving species to lower threat category changes from 2013 to 2024.

2013	1 EN	2 CR	1 VU	3 EN	1 VU	3 NT	1 NE	2 NA	1 EN	7LC
Changes:	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
2024	VU	NT	NT	LC	LC	LC	LC	LC	NA	NA

2.6. Mammal assessment results

2.6.1 Introduction to mammals

Five marine mammal species are residents in the Baltic Sea: the grey seal, harbour seal, ringed seal, harbour porpoise and Eurasian otter. Of the seals, the grey seal lives in the whole region and the harbour seal only in the southwestern Baltic Sea and the Kattegat. The ringed seal is restricted to the eastern and northern Baltic Sea. The harbour porpoise is found throughout the Kattegat, the Belt Sea, the Sound, the southern parts of the Baltic Sea and the Baltic Proper. The Eurasian otter can be found in the whole Baltic Sea region mainly along the coast.

2.6.2 Overview of the assessment results for marine mammals

There are five species of marine mammals in the Baltic Sea, three of which are divided into two subpopulations and were assessed separately (five species and eight assessments).

From the five marine mammal species that were evaluated two species (with their respective subpopulations) were categorized as threatened (CR-VU):

— *Phocoena phocoena* (Baltic Proper) kept as Critically Endangered.
— *Phocoena phocoena* (Belt Sea) Endangered (previously Vulnerable).
— *Pusa hispida botnica* (Southern Management Units) Endangered (previously Vulnerable); and
— *Pusa hispida botnica* (Gulf of Bothnia) kept as Vulnerable,

In the HELCOM Red List II assessment (Table 28). The total list of the assessed marine mammal species and the categories assigned to them are available in Annex 5 of this report.

Table 28. List of species categorized as threatened in Red List II and their respective categorization in 2013 Red List.

Red List 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	C2a(ii)	*Phocoena phocoena* (Baltic Proper)	Harbour porpoise	CR	C1,2a(ii)
EN	A2ad	*Phocoena phocoena* (Belt Sea)	Harbour porpoise	VU	A2a
EN	C1	*Pusa hispida botnica* (Southern Management Units)	Ringed Seal	VU	A3c
VU	A3c	*Pusa hispida botnica* (Gulf of Bothnia)	Ringed Seal		
NT	D1	*Phoca vitulina* (Kalmarsund)	Harbour Seal	VU	D1
LC		*Halichoerus grypus*	Grey Seal	LC	
LC		*Phoca vitulina* (Kattegat/Southwestern Baltic)	Harbour Seal	LC	
LC		*Lutra lutra*	Otter	NT	D1

Out of the total list of 5 mammal species of the HELCOM Checklist 2.0 (HELCOM 2020), all five species entered the Red List II assessment process, all of which had also been assessed in 2013. Ringed seals were assessed as a single assessment unit in 2013 Red List thus seven assessment results compared to the eight assessment results in 2024 Red List II.

In 2024, three species were categorized as Least Concern, compared to two species in 2013. Both in 2013 and in 2024 one species were categorized as Near Threatened. *Phocoena phocoena* (Belt Sea) and *Pusa hispida botnica* (Southern Management Units) were categorized as Endangered in 2024, none in 2013. *Pusa hispida botnica* (Gulf of Bothnia) was Vulnerable in 2024, compared to the three species (*Phocoena phocoena* (Belt Sea), *Pusa hispida botnica* and *Phoca vitulina* (Kalmarsund)) in 2013. *Phocoena phocoena* (Baltic Proper) kept its Critically Endangered category both in 2013 and 2024 (Figure 26).

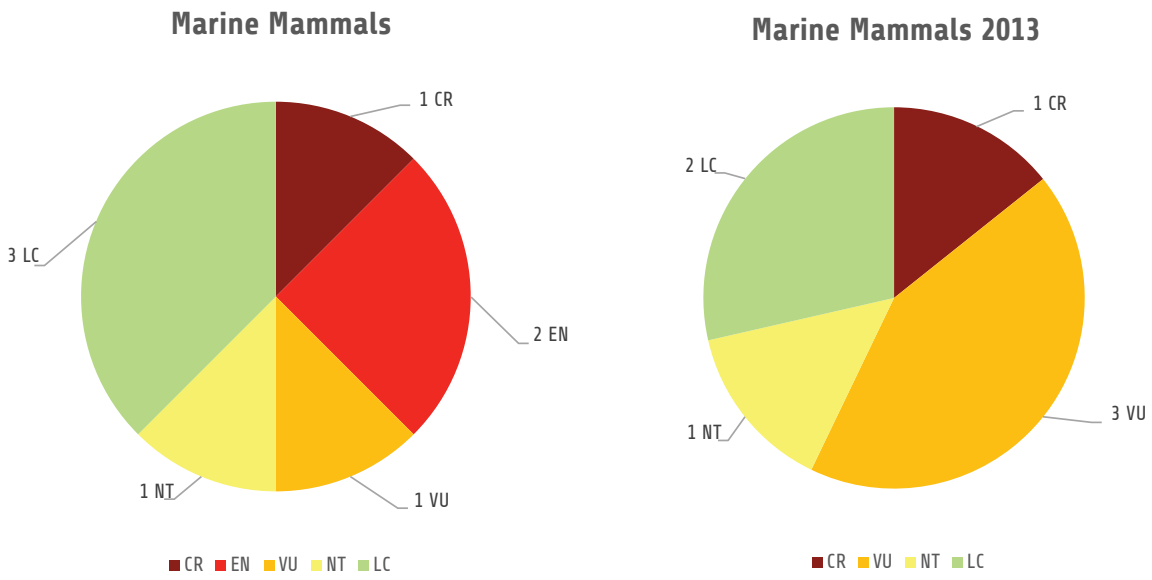

Figure 26. Proportions of Red List categories within the assessed marine mammal species in 2013 and 2014 Red Lists.

Altogether, three species (five assessments) were red-listed (RE-DD) in 2024, compared to the four species (five assessments) in 2013 (Table 29).

Table 29. Distribution of the categorization of benthic invertebrate species in the current Red List II assessment and the 2013 Red List assessment.

	SUM	RE	CR	EN	VU	NT	DD	LC
2013 Red List	7	0	1	0	3	1	0	2
2024 Red List II	8	0	1	2	1	1	0	3

2.6.3 Assessment process

Species selection

A checklist of marine mammal species with a total of five species was used as a basis to collect all available data from the Contracting Parties (Figure 27).

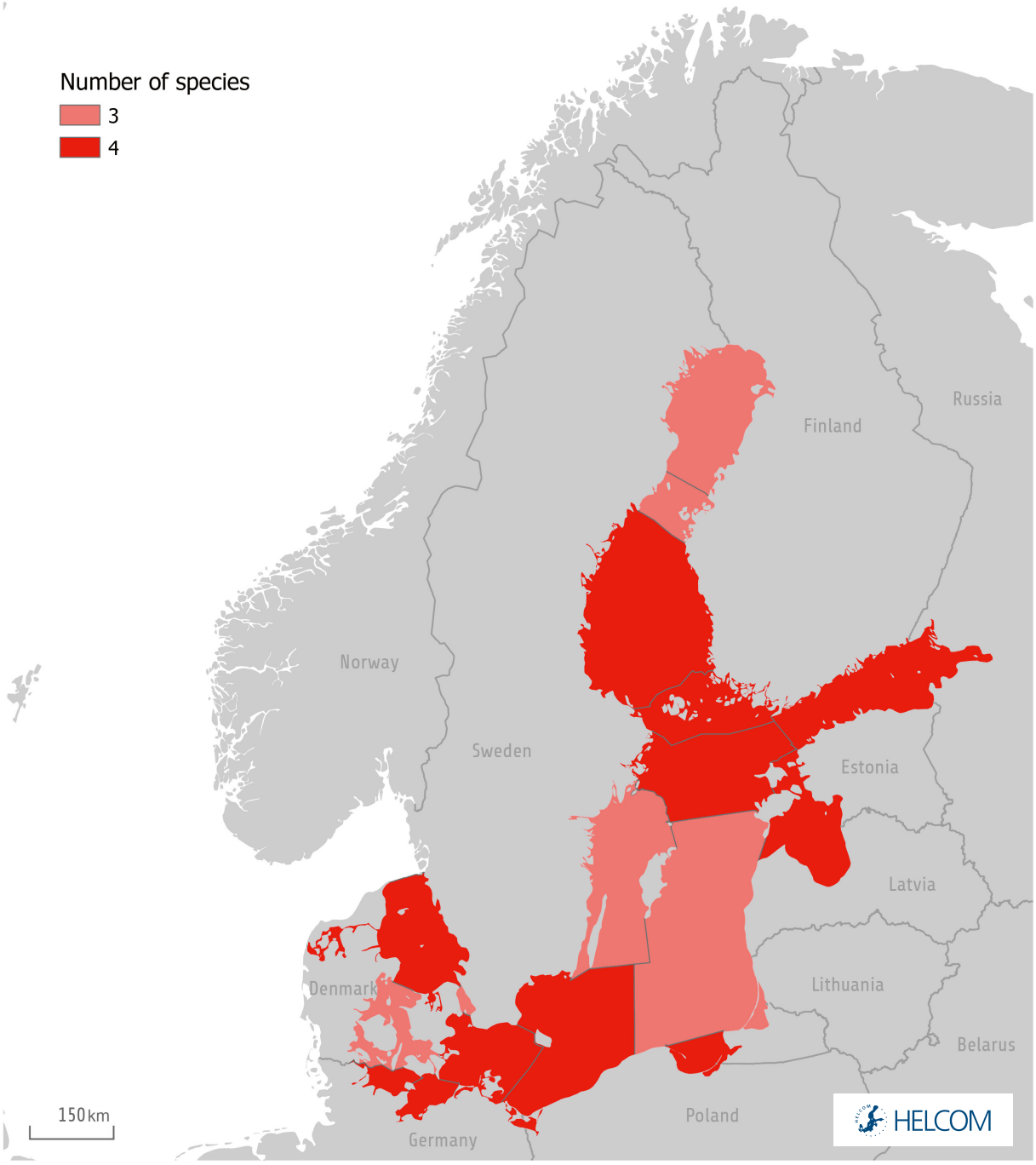

Figure 27. Number of marine mammal species per Baltic Sea sub-basin.

Data collection and assessment

Marine mammal data was sent by Latvia via the HELCOM data call. Denmark, Estonia, Finland, Germany, Poland and Sweden indicated to use the HOLAS 3 data sent to HELCOM. No reply was received from Lithuania concerning data availability. In addition, for composing the parameter excel, national red lists were collected from, Denmark, Estonia, Finland, Germany, Latvia and Sweden.

The data and information provided by said Contracting Parties were combined to create a Baltic Sea wide dataset and the data was run through EDIT.

It was agreed to assess marine mammals in units as follows:

- grey seal for the whole Baltic Sea
- otter for the whole Baltic Sea
- harbour seal in two units:
  - (i) the Kalmarsund
  - (ii) Kattegat/southwestern Baltic (including Limfjord)
- harbour porpoise in two units:
  - (i) the Belt Sea (population in southern Kattegat, the Belt Sea, the Sound, and south-western Baltic)
  - (ii) the Baltic Proper (population in the waters east thereof)
- ringed seal in two units:
  - (i) the Gulf of Bothnia
  - (ii) the southern management unit (consisting of sub-populations in the Archipelago Sea, the Gulf of Finland and western Estonia).

The time range used for the Red List II assessment is broad, as the data call requested all available data from 1750 until 31.12.2021, meaning some of the observations are historical and might not occur nowadays. This resulted in the HELCOM EOO and AOO maps not reflecting occurrence under current environmental conditions, and therefore the project agreed to use a 36-year assessment period instead of the IUCN criteria standards.

Furthermore, since the HELCOM EOO and AOO tool needs to be amended for the highly mobile species like mammals (also birds and fish), it was recommended not to use the EOO and AOO maps for the assessment process and use the HELCOM HOLAS 3 importance maps instead.

Species specific results

Harbour porpoise

Habour porpoise, *Phocoena phocoena* has been assessed in two subpopulations (the Baltic Proper and the Belt Sea) as was in the 2013 Red List (Table 30), both subpopulations are assigned to a red-listing threat category.

Table 30. Harbour porpoise threat categorization.

Red List 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criterion 2013
CR	C2a(ii)	*Phocoena phocoena* (Baltic Proper)	Harbour porpoise	CR	C1,2a(ii)
EN	A2ad	*Phocoena phocoena* (Belt Sea)	Harbour porpoise	VU	A2a

Harbour porpoise, *Phocoena phocoena* (Baltic Proper) subpopulation has kept its category of Critically Endangered (CR) due to small population size and continuous decline in the population and the number of mature individuals being between 90-100%. Area of importance for the Baltic Proper harbour porpoise can be seen in Figure 28.

Based on the very small current abundance estimate in combination with a drastic reduction in occurrence inferred from the historical records, the abundance of the Baltic Proper harbour porpoise is assessed as not good (HELCOM, 2023).

For the assessment, an undisturbed generation length of 12 years was used (making the assessment period 36 years). In the previous Red List in 2013 a generation length of 6 years was used.

The population is considered to be in decline or in expected decline. The size of decline was 64% over the 36-year assessment period. A total of about 500 individuals are left of the harbour porpoise Baltic Proper subpopulation, of which 216 are reproductive individuals and all of them in one subpopulation and thus is the reasoning for them being red-listed.

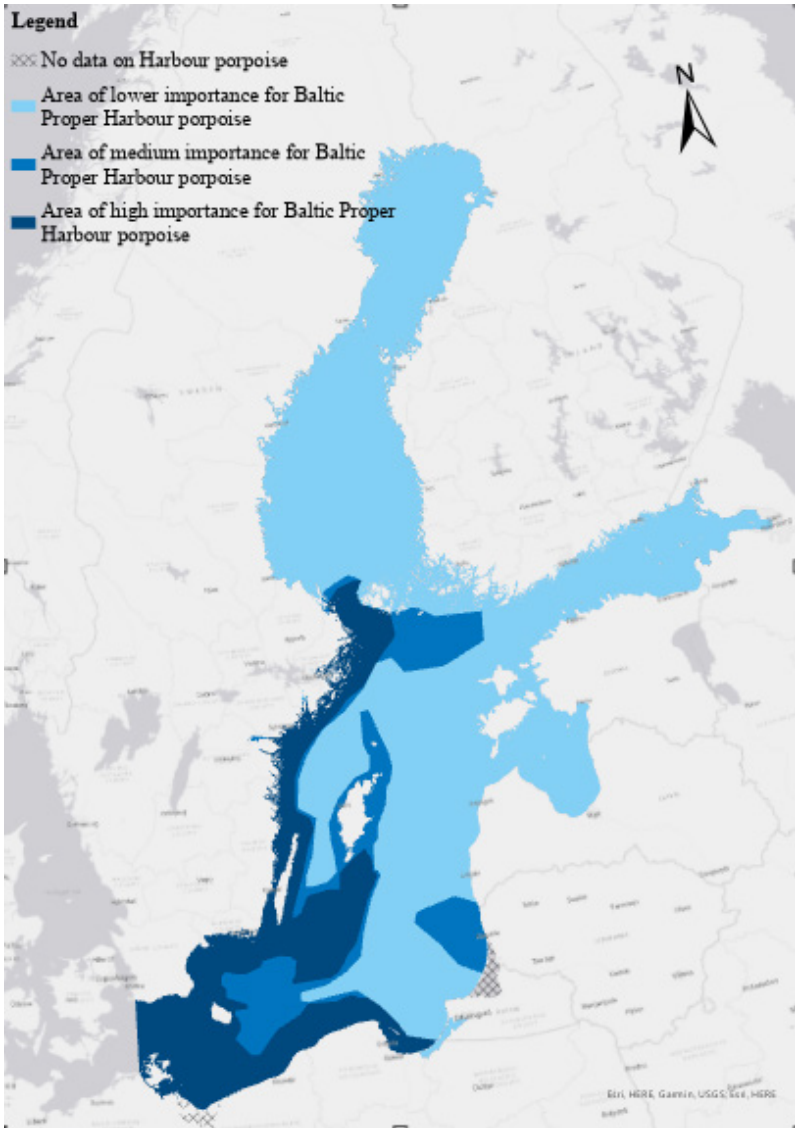

Figure 28. HELCOM HOLAS 3 importance map for the harbour porpoise (Phocoena Phocoena) in the Baltic Proper area.

Harbour porpoise, *Phocoena phocoena* (Belt Sea) subpopulation of *Phocoena Phocoena* is categorized as Endangered (EN) in 2024 Red List II assessment, which has gone up from the previous Vulnerable (VU) classification in 2013.

For the assessment the generation length of 12 years was used. Current Red List II assessment had a longer data series available compared to 2013 assessment. A robust trend analysis showed a decline of 2.7% per annum (Owen et al., 2024) over a period of 18 years. Currently available data indicates that the population is more endangered compared to the 2013 assessment. A lack of confidence in the available data still exists. Annual decline values should be used for the assessment process, instead of waiting for 3 generations to do the assessment. Area of importance for the Belt Sea harbour porpoise can be seen in Figure 29.

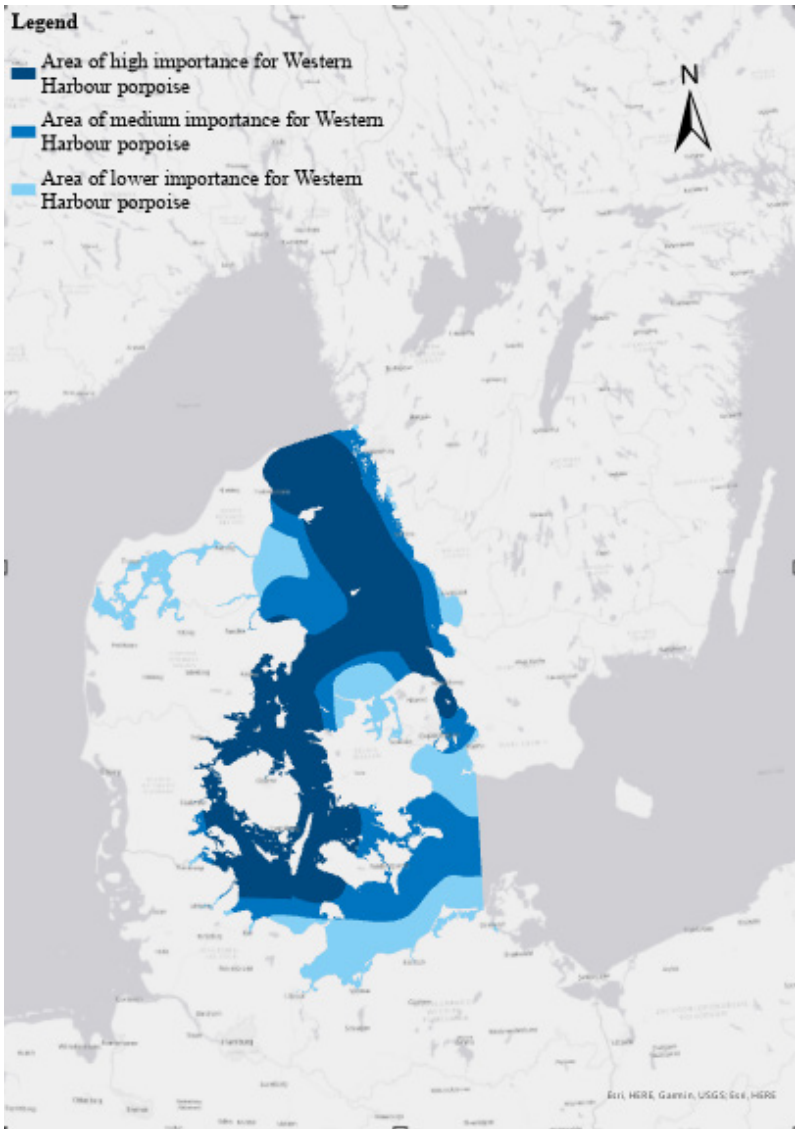

Figure 29. HELCOM HOLAS 3 importance map for the harbour porpoise (Phocoena Phocoena) in the Belt Sea area.

Seals

There are three species of seal in the Baltic Sea, two of which are divided into two subpopulations for assessment purposes:

— ringed seal (Southern Management Units and Gulf of Bothnia), previously assessed as one in 2013
— harbour seal (Kalmarsund and Kattegat/Southwestern Baltic)
— grey seal.

Overall distribution of the threat categories can be seen in Table 31.

Grey seal, *Halichoerus grypus* (Figure 30) is classified as Least Concern (LC) as they were also in 2013 since the population growth is indicated by national red lists although the grey seal monitoring data is quite limited on the age and animals counted (e.g. individuals are counted but no information on maturity). For the assessment process the generation length of 14 years was used, as in the previous Red List (2013).

Table 31. Seals threat categorization.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
EN	C1	*Pusa hispida botnica* (Southern Management Units)	Ringed Seal	VU	A3c
VU	A3c	*Pusa hispida botnica* (Gulf of Bothnia)	Ringed Seal		
NT	D1	*Phoca vitulina* (Kalmarsund)	Harbour Seal	VU	D1
LC		*Halichoerus grypus*	Grey Seal	LC	
LC		*Phoca vitulina* (Kattegat/Southwestern Baltic)	Harbour Seal	LC	

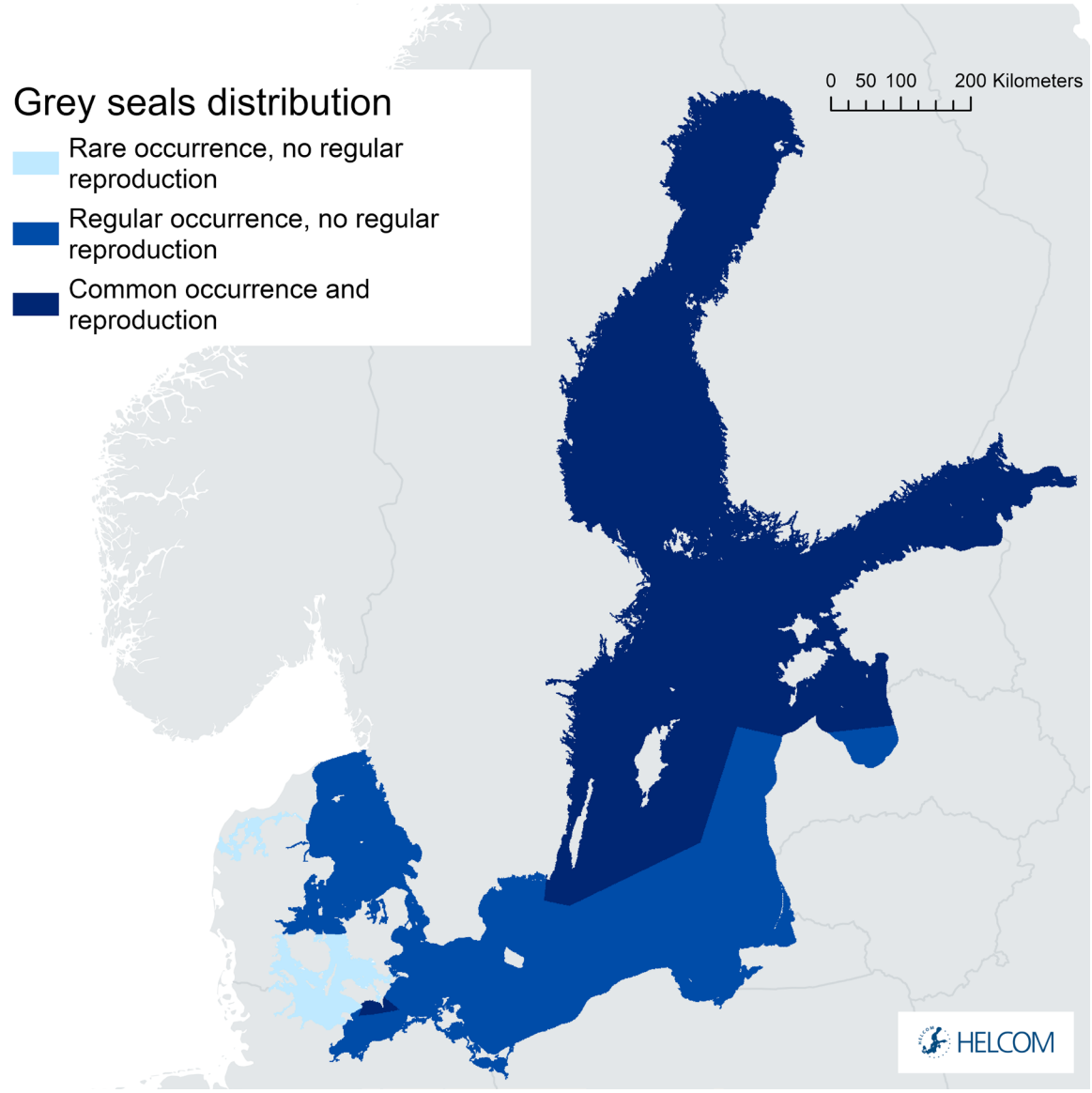

Figure 30. HOLAS 3 grey seal (Halichoerus grypus) distribution map.

Harbour seal, *Phoca vitulina* (Kattegat/Southwestern Baltic) has been classified as Least Concerned (LC) as they were also in 2013. The assessment is based on hunting analysis and indicates an unnaturally high population today. Timespan for the assessment is 3 generations meaning 45 years.

Harbour seal *Phoca vitulina* (Kalmarsund) is assessed as Near Threatened (NT), which has come down from Vulnerable (VU) assessment in 2013. The Kalmarsund population is steadily increasing, but still a small population. The actual observed number of individuals from 2023 is approximately 2 400 (Figure 31).

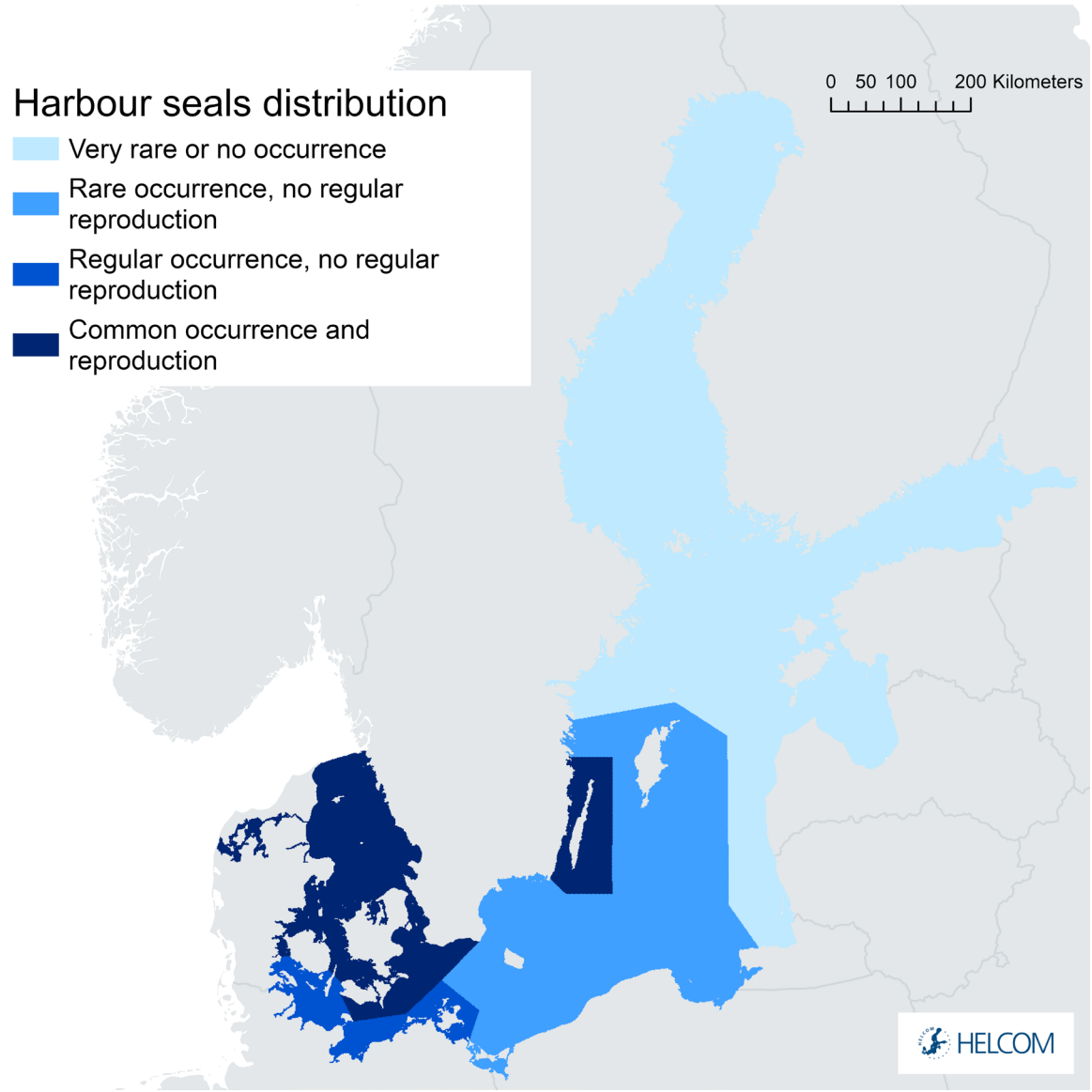

Figure 31. HOLAS 3 harbour seal (Phoca vitulina) distribution map.

Ringed seal, *Pusa hispida botnica* (Figure 32) was divided for the 2024 assessment into two subpopulations: the Southern Management Units and the Gulf of Bothnia subpopulations. The species was classified as one population in 2013. For the assessment 15 years was used for generation length, as was also previously done in 2013.

The *Pusa hispida botnica* (Gulf of Bothnia) subpopulation has kept its classification of Vulnerable (VU) both in 2013 and 2024. The seal is dependent on the sea ice and the available data shows loss of habitat quality and decrease in number of species.

The *Pusa hispida bothnica* (Southern Management Unit) subpopulation has been classified as Endangered (EN) in 2024 (previously as Vulnerable) as mature individuals are estimated to be less than 2 500 and a decrease of 20% is likely in five years or in two generations.

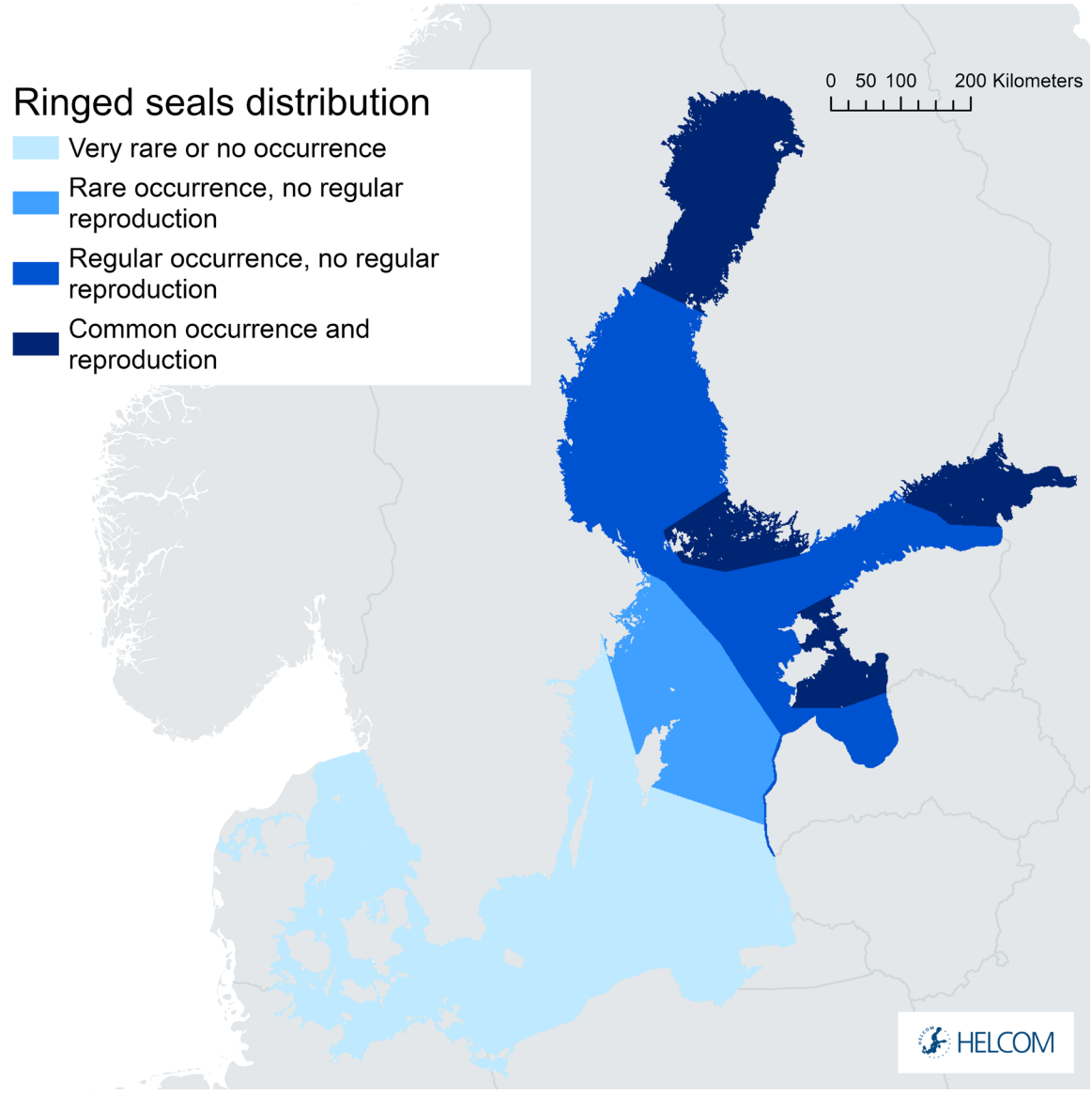

Figure 32. HOLAS 3 ringed seal (Pusa hispida botnica) distribution map.

Otters

In 2013 otters were assessed as Near Threatened (Table 32). In 2024 the otter (*Lutra lutra*) was assessed as Least Concern (LC) since the trend for the last 10 years shows that the population has been growing (according to the countries otter management plans), based on this finding the otter does no longer fulfil the NT category criteria.

Table 32. Otters threat categorization.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
LC		*Lutra lutra*	Otter	NT	D1

Otter data is collected by Contracting Parties under the EU Habitats Directive, where the otter map shows a clear increase of the distribution area. The coastal otters are connected to the inland otter population, and it can be concluded that even if we do not have specific data on coastal otters, the available data refers the increase and thus the population was assessed LC in 2024.

The mean age of an otter is 5-6 years. Negative pressures might have a marked and fast impact on the population (e.g. the hazardous substance PFOS has been shown to occur at high concentration in otters), therefore it is important to continue monitoring of otters even if the population is currently growing.

Since the otter is a highly mobile species, the assessment area was based on the range of a typical otter which was set as a 20km buffer zone from the coastline towards the inland, and 1 km seawards. This ensured that the monitoring data from within the buffer zone reflected 'coastal' otters (Figure 33).

Figure 33. HELCOM distribution map of otters (Lutra lutra).

3. Past, current and future threats

The Red List II project examined the Baltic Sea species that are at risk of becoming extinct. For that process it is crucial to understand the human activities and associated pressures that have resulted in threat or extinction, including identifying past threats.

However, it is also essential to assess the future threats these species will face, in order to take preventive actions before their condition worsens. In most cases, the same threat factors that have been recognized as causes for the species becoming endangered, past and present threats, are expected to remain significant in the future. The red list assessment addresses both past and future threats (Figure 34) and identifies the human activities (Table 33) and pressures that have a substantial negative impact on one or more of the red-listed species (Table 34).

Table 33. Human activities which caused threat to species in the past, the present or the future (HELCOM, 2023).

HUMAN ACTIVITIES	SPECIFICATION OF ACTIVITIES
CHANGES IN AGRICULTURAL MANAGEMENT	intensification of management, conversion of grassland to cropland etc.
CONSTRUCTION	all marine construction activities, e.g. wind power farms, gas pipelines, bridges, dredging, ports, coastal defence barriers, also coastal terrestrial construction, if relevant (vacation homes or roads), also noise from construction or operation.
DITCHING	ditching and draining of mires and coastal meadows.
EXTRA-REGIONAL THREATS	e.g. fi shing, hunting or habitat changes affecting migratory species outside the HELCOM marine area.
FISHING	both commercial and recreational fishing, surface and mid-water fishery, bottom-trawling, coastal stationary fishery, gillnets. Selective extraction of species.
HUNTING	selective extraction of species, including incidental non-target catches.
MINING AND QUARRYING	extraction of bottom substrates.
TOURISM	detrimental effects of tourism, e.g. trampling of beaches or cleaning of algal belts from sandy beaches.
WATER TRAFFIC	physical impact due to traffic, e.g. erosion caused by anchoring, boat wakes and other vessel effects, also underwater noise.
HAZARDOUS SUBSTANCES	the large majority of the pollutant load originates from sediments transported from harbours and rivers and these values represent a significant contribution to the potential contaminant pool. Other origins of contaminations stems from wastewater treatment plants and non-point sources.

None of the red-listed species appears to be affected by just one specific human activity, instead, each species is usually confronted with a range of pressures (Table 34).

Table 35 gives an overview of pressures resulting from human activities which caused threat to species on the red list, in the past, the present or the future (HELCOM, 2023).

Table 34. Species groups affected by a range of different pressures.

PRESSURES	MACROPHYTES	FISH AND LAMPREY	SEABIRDS	BENTHIC INVERTEBRATES	MARINE MAMMALS
EUTROPHICATION	■	■	■	■	
RESTRICTION OF HYDRODYNAMICS	■	■		■	
PHYSICAL DISTURBANCE	■	■	■	■	
PHYSICAL LOSS	■		■	■	
SILTATION				■	
OVERFISHING		■	■		■
CLIMATE CHANGE		■	■		■
BY CATCH			■		■
HUNTING			■		■
OIL SPILLS			■		
CONTAMINANTS		■	■		■
UNDERWATER NOISE		■			■

Table 35. Threats caused by the pressures resulting from human activities.

PRESSURE	HOW DOES IT CAUSE A THREAT?
NON-INDIGENOUS SPECIES	competition, predation, hybridization, diseases, ecosystem changes by introduced species.
BY-CATCH	by-catch by fishing, concerns both non-target species of fish and also other animals, such as waterbirds or marine mammals.
CLIMATE CHANGE	all detrimental effects of climate change.
COMPETITION AND PREDATION	competition and predation by native species, especially if promoted by human activities, such as rabies vaccination for foxes, improved food availability for gulls due to fishery and refuse disposal.
CONTAMINANT POLLUTION	all pollution to waters by hazardous substances, except for oil spills which have their own code (coastal industry, riverine load of heavy metals, discharges of radioactive substances, atmospheric deposition of metals and dioxins, polluting ship accidents excluding oil spills). Pollution can have detrimental ecosystem impacts that may range from direct toxicity and death of individual animals or plants (biota) to more persistent health and displacement effects.
EPIDEMICS	large-scale epidemics or diseases.
EUTROPHICATION	detrimental effects of nutrient enrichment that can be defi ned in more detail, e.g. anoxia and hypoxia, excessive growth of algae, reduction in water transparency, or siltation.
LITTER	plastic waste, ghost nets etc. Entanglement and ingestion.
MIGRATION BARRIERS	dams by hydroelectric power plants or other river constructions preventing spawning migrations of fish.
OVERGROWTH OF OPEN AREAS	e.g. coastal meadows or shallow water areas that become overgrown due to lack of management (related to eutrophication and interfloral competition, incl. expansion of reed).
HUMAN DISTURBANCE	e.g. disturbance due to people visiting bird islands or passing by too close to bird colonies, hauling-out areas of seals, etc., also disturbance of species due to hunting activities (especially species other than those targeted by hunting).
RANDOM THREAT FACTORS	used only for species that are so rare that even random catastrophic events can destroy their populations.
OIL SPILLS	oil spills from ship accidents, also from oil terminals, refineries, oil rigs. Oiling and contamination.
NOISE	elevated levels of underwater sound may affect aquatic animals, with impacts including masking of other sounds, behavioural disturbance and physiological changes (hearing loss, discomfort, injury to the auditory system). In extreme cases, where animals are close to very loud sources (in particular underwater explosions), the consequences can be tissue damage and death.

Past, current and future threats are listed on the Figure 34 (HELCOM, 2023).

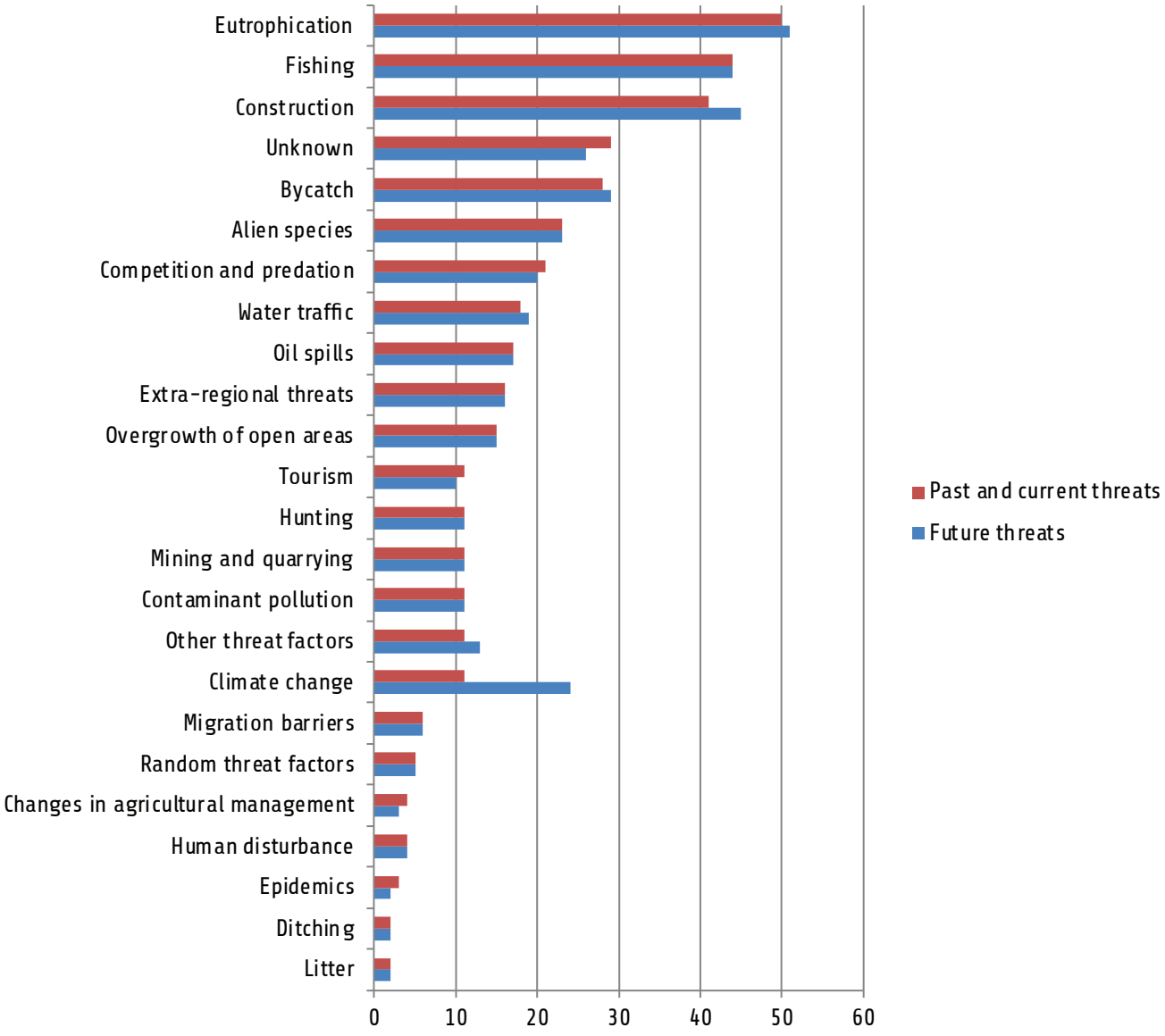

Figure 34. Past and current threats (reasons for becoming threatened) for the red-listed species and future threats, counted over all species groups. The x-axis shows the number of red-listed species for which the threat was regarded important by the HELCOM Red List experts in 2013 and in 2024.

4. Implementation reporting for HELCOM Recommendation 37/2 Conservation of Baltic Sea species categorized as threatened according to the 2013 HELCOM Red List

The Helsinki Convention is a legally binding instrument to protect the Baltic Sea marine environment and enables the Helsinki Commission (HELCOM) to adopt soft-law Recommendations that set out specific actions and measures to be implemented by the Contracting Parties.

An updated Red List assessment is a key component in reviewing the progress and effectiveness of implementation of both HELCOM and other relevant commitments. Regional coordination through HELCOM enhances the efficiency and impact of measures by focusing on areas or species identified as priorities. HELCOM applies adaptive management which implies that information received from updated assessments will be used to modify the management response, i.e. to review and as necessary revise existing management tools such as HELCOM Recommendations. Implementation reporting is a requirement and regularly recuring activity where Contracting Parties provide information on their implementation of HELCOM Recommendations. The information collected through this process is coupled in this section with the previous and current Red List assessment results to provide an indication of how well the actions and measures have been implemented and whether a positive change in status can be seen.

In 2016 the HELCOM Recommendation 37/2 on conservation of the Baltic Sea species categorized as threatened according to the 2013 HELCOM Red List was adopted. The aim of the Recommendation was to take necessary measures to improve the status of regionally threatened species according to the 2013 HELCOM Red List and reduce the number of red-listed species, herewith also working towards the goal to achieve a favourable conservation status of all species by 2021.

According to HELCOM Recommendation 37/2 those threatened species are to be protected from becoming regionally extinct and protection actions and conservation measures must be taken for HELCOM threatened species by the Contracting Parties and when scientifically meaningful, reintroduction programmes should be enforced for “Regionally Extinct” species.

The first implementation reporting of Recommendation 37/2 was conducted from October 2020 until June 2021. This resulted in an inventory of existing and planned national and regional conservation-, recovery- and/or action plans as well as other relevant programmes and measures for the protection of species which are threatened according to the 2013 HELCOM Red List.

The 2013 HELCOM Red List project listed 69 species as threatened (CR, EN, VU) and three species as Regionally Extinct (RE). In comparison the 2024 HELCOM Red List II project listed 95 species as threatened and five species as RE (Table 36).

Table 36. Threatened red-listed species in 2013 and 2024.

RED LIST:	2013	2024	2013	2024	2013	2024	2013	2024
SPECIES GROUPS:	**RE**	**RE**	**CR**	**CR**	**EN**	**EN**	**VU**	**VU**
BENTHIC INVERTEBRATES	0	0	0	2	1	9	18	31
BREEDING BIRDS	1	1	1	7	4	5	8	6
WINTERING BIRDS	0	0	2	1	7	3	3	3
FISH AND LAMPREY	2	4	4	4	3	7	7	10
MACROPHYTES	0	0	0	0	3	1	4	2
MARINE MAMMALS	0	0	1	1	0	2	3	1
TOTAL:	**3**	**5**	**8**	**15**	**18**	**27**	**43**	**53**

The following sections provide an overview of the implementation reporting from Contracting Parties against the 2013 Red List results of species then assessed as threatened and provides examples of what actions and measures have since been implemented by Contracting Parties. The section finally provides observations on cases where the 2024 Red List II assessment identified new species or topics that may require new types of interventions. The information is intended as a simple review of Recommendation 37/2 as a basis for possible future discussions on any needs for review of the Recommendation. A summary is presented in the conclusion section.

4.1. Macrophyte species; Recommendation 37/2 implementation overview

For the majority of the 2013 Red List threatened species (categories CR-VU) Contracting Parties have measures and plans in place – for five species out of the seven threatened species (see Table 37).

When looking at the overall status of macrophytes, of the seven species that were categorized as threatened in 2013 two species, *Lamprothamnium papulosum* (Endangered, no measures in place) and *Zostera noltii* (Vulnerable, measures in place) have kept their threat categories the same, other species have been moved to a category of lower threat during the 2024 assessment process, meaning their status has improved.

Table 37. Macrophyte implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation– or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Macrophytes	*Lamprothamnium papulosum*	EN	**Present. No measures in place.**	Not present	Not present	**Present. No measures in place.**	Not present	Not present	Not present	**Present. No measures in place.**	EN
	Hippuris tetraphylla	EN	Not present	Not present	**Present. General conservation- and additional legal measures.**	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Persicaria foliosa	EN	Not present	Not present	**Present. General conservation- and other legal measures.**	Not present	Not present	Not present	Not present	**Present. General conservation measures.**	NT
	Chara braunii	VU	Not present	**Present. No measures in place.**	**Present. Plan under consideration. Other legal measures.**	Not present	Not present	Not present	**Present. Targeted conservation measures.**	**Present. Targeted conservation measures.**	NT
	Nitella hyalina	VU	Not present	Not present	**Present. Plan under consideration. Other legal measures.**	Not present	Not present	Not present	Not present	Not present	NT
	Alisma wahlenbergii	VU	Not present	Not present	**Present. General conservation- and additional legal measures.**	Not present	Not present	Not present	**Present. Other legal measures.**	**Present. General conservation measures.**	NT
	Zostera noltii	VU	**Present. Spatial management plan.**	Not present	Not present	**Present. Other legal measures.**	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	*Chara horrida**	NT									DD

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

— only *Lamprothamnium papulosum* (Endangered), which is present in three Contracting Parties' marine waters, does not have any conservation measures in place. There is a need to revisit the need for such management plans nationally and if necessary than agree on joint measures regionally.
— *Chara horrida* was previously assessed as Near Threatened but has been categorised as Data Deficient during Red List II, needing additional data to be collected via monitoring programmes.
— Also, there is a general recommendation to keep on the implementation overview list Near Threatened category species, as their categorization my change either direction between red listing periods.

4.2. Benthic invertebrate species; Recommendation 37/2 implementation overview

Out of 19 threatened benthic invertebrate species only one, *Hippasteria phrygiana* (Vulnerable in 2013), has a plan or measures in place (Table 38).

Five species were moved in 2024 to a higher threat category:

— *Haploops tubicola* was previously Vulnerable, has no conservation measures in place and has now been moved to a higher threat category (Critically Endangered in 2024).
— *Haploops tenuis* was previously Endangered, being present in two Contracting Parties' marine waters, but not having protection measures in place and has been moved to higher, Critically Endangered, threat category. Might need regionally agreed joint measures to prevent the status going worse.
— *Cliona celata* was Vulnerable in 2013, the species is present in two Contracting Parties' marine waters, but no protections measures are in place and has now moved up to Endangered category.
— *Stomphia coccinea* was previously Vulnerable, is present in two Contracting Parties' marine waters, one has a plan in place, the other not and has moved up in 2024 into category Endangered.
— *Hippasteria phrygiana* was previously Vulnerable and measures are in place in both Contracting Parties' marine waters but despite has been moved to higher threat category (Endangered in 2024).

12 species have kept their previous Vulnerable category, and this might be due to the reason that despite the presence of the species about half of them have protection measures or plans in place and the other half do not, thus keeping the species in the same threat category.

Epitonium clathrus and *Abra prismatica* were Vulnerable in 2013, are present in two Contracting Parties' marine waters but have no measures in place, despite that have been moved to a lower category (Near Threatened) in 2024.

Table 38. Benthic invertebrate implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Benthic invertebrates	*Haploops tenuis*	EN	**Present. No action plan, under development.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan, under consideration.**	CR
	Cliona celata	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan.**	EN
	Stomphia coccinea	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	EN
	Clelandella miliaris	VU	**Present. No action plan, under development.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Epitonium clathrus	VU	**Present. No action plan, under development.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan (nationally LC).**	NT
	2013: Lunatia pallida / 2024: Euspira pallida	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Abra prismatica	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present, no action plan (nationally LC).**	NT
	Macoma calcarea	VU	**Present. Spatial management plan.**	Not present	Not present	**Present. No action plan.**	??	??	Not present	**Present. Targeted conservation measures (nationally LC).**	VU

Table 38. (Continued). Benthic invertebrate implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Benthic invertebrates	*Modiolus modiolus*	VU	**Present. Spatial management plan.**	Not present	Not present	**Present. No action plan.**	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Nucula nucleus	VU	**Present. No action plan, under development.**	Not present	Not present	**Present. No action plan.**	Not present	Not present	Not present	**Present. Targeted conservation measures (nationally LC).**	VU
	Parvicardium hauniense	VU	**Present. Spatial management plan.**	Not present	Not present	**Present. No action plan.**	??	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Scrobicularia plana	VU	**Present. No action plan.**	Not present	Not present	**Present. No action plan.**	Not present	Not present	Not present	**Present. General conservation measures.**	VU
	Deshayesorchestia deshayesii	VU	**Present. No action plan.**	Not present	Not present	**Present. No action plan.**	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Haploops tubicola	VU	**Present. No action plan, under development.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan, under consideration.**	CR
	Atelecyclus rotundatus	VU	Not present	Not present	Not present	Not present	Not present	Not present	Not present	**Present, no action plan.**	VU

Table 38. (Continued). Benthic invertebrate implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Benthic invertebrates	*Hippolyte varians*	VU	**Present. No action plan, under development.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	VU
	Hippasteria phrygiana	VU	**Present. Spatial management plan. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures (nationally LC).**	EN
	Solaster endeca	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. General conservation measures.**	VU
	Pelonaia corrugata	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. General conservation measures.**	VU
	*Corophium multisetosum**	NT									EN
	*Boreotrophon truncatus**	NT									EN
	*Epitonium turtonis**	DD									EN
	*Hanleya hanleyi**	LC									EN
	*Upogebia stellata**	DD									EN
	*Talitrus saltator**	DD									EN
	*Leptochiton alveolus**	LC									VU
	*Mya truncata**	NT									VU
	*Nuculana pernula**	LC									VU
	*Crenella decussata**	LC									VU
	*Alvania testae**	LC									VU
	*Roxania utriculus**	DD									VU

Table 38. (Continued).Benthic invertebrate implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Benthic invertebrates	*Amauropsis islandica**	NT									VU
	*Calocaris macandreae**	LC									VU
	*Eurynome aspera**	LC									VU
	*Campylaspis costata**	LC									VU
	*Corystes cassivelaunus**	NT									VU
	*Diastylis cornuta**	LC									VU
	*Eurynome spinosa**	LC									VU
	*Ophiura robusta**	LC									VU
	*Amphipholis squamata**	DD									VU
	*Eupolymnia nesidensis**	LC									VU
	*Palliolum incomparabile**	LC									VU
	*Musculus niger**	LC									VU
	*Pinnotheres pisum**	LC									VU
	*Skeneopsis planorbis**	DD									NT
	*Agrypnetes crassicornis**	DD									NT
	*Geryon trispinosus**	DD									NT
	*Inachus phalangium**	DD									NT
	*Gammarellus angulosus**	DD									NT

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

- The five species *(Haploops tubicola, Haploops tenuis, Cliona celata, Stomphia coccinea* and *Hippasteria phrygiana)* that moved to a category of higher threat are in need of protection measures from all Contracting Parties where the species are present. For *Hippasteria phrygiana* there is a need to consider regional joint measures since the nationally taken measures seem not to be enough.
- For the 12 species that have kept their previous Vulnerable category, there is a need to revise currently existing measures and plan measures where they are not currently present, to protect the species from moving into higher threat category.
- In the Red List II assessment five previously in 2013 Near Threatened species (*Corophium multisetosum, Boreotrophon truncatus, Mya truncata, Amauropsis islandica* and *Corystes cassivelaunus*) have moved up into threatened categories in 2024 and need a closer look which measures need to be taken in the near future to protect the species.
- 15 species that were categorized as Least Concern and five species categorized as Data Deficient in 2013 have been moved to a threat category in 2024;
- In addition, five Data Deficient species were categorized as Near Threatened in 2024 red-listing.
- The 2024 assessment results indicate a strongly the need to add the Near Threatened species on the implementation overview list that now only comprises of the threatened categories (CR, EN, VU).
- Also, there is a strong need is to keep collecting data for Data Deficient species to be correctly categorized during the next red listing.
- A '??' marking in the implementation reporting column indicates that no information was received during the implementation reporting round.

4.3. Fish and lamprey species; Recommendation 37/2 implementation overview

Out of 16 threatened fish and lamprey species three have protection measures in place (*Anguilla Anguilla* (Critically Endangered), *Coregonus maraena* (Endangered) and *Salmo salar* (Vulnerable in 2013). Two fish species remained as Regionally Extinct (*Acipenser oxyrinchus* and *Dipturus batis*). For *Acipenser oxyrinchus* five Contracting Parties have a recovery plan or other measures in place (Table 39).

For the three Critically Endangered species (*Lamna nasus, Squalus acanthias* and *Thymallus thymallus*), some Contracting Parties have protection measures in place, some do not. This inconsistency is the probable reason why despite some of the measures in place, the species have remained in their threat status also in 2024 and might need regionally coordinated joint measures in the future.

Anarhichas lupus has remained in the Endangered category and has no protection measures taken nationally. *Molva molva* has also remained in the Endangered category, but one of the Contracting Party has measures in place, the other does not.

Petromyzon marinus, Raja clavate, Merlangius merlangus and *Salmo trutta* have kept their Vulnerable category probably due to the reason that some of the Contacting Parties have measures in place, some not.

Gadus morhua has been moved up from Vulnerable to Endangered category and needs a revision of the nationally taken measures and measures to be impleamented where there is nothing in place currently.

Table 39. Fish and lamprey implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Fish and lamprey	*Acipenser oxyrinchus*	RE	RE	**Recovery plan and reintroduction project in place.**	RE	**Reestablishment of a selfsustaining Baltic sturgeon population.**	RE	**Targeted conservation measures.**	**Other legal measures.**	**General conservation measures.**	RE
	Dipturus batis	RE	RE	RE	RE	RE	RE	RE	RE	RE	RE
	Lamna nasus	CR	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. General conservation measures.**	CR
	Squalus acanthias	CR	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Plan in place.**	CR
	Anguilla anguilla	CR	**Present. Other legal measures.**	**Present. Targeted conservation measures.**	**Present. Targeted conservation measures.**	**Present. Targeted conservation measures.**	**Present. Spatial management plan.**	**Present. Targeted conservation measures.**	**Present. Plan in place.**	**Present. Plan in place.**	CR
	Thymallus thymallus	CR	**Present. No action plan.**	**Present. Plan in place.**	**Present. Plan in place.**	Not present	Not present	**Present. General conservation measures.**	**Present. Other legal measures.**	**Present. General conservation measures (nationally LC).**	CR
	Anarhichas lupus	EN	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan.**	EN
	Coregonus maraena	EN	**Present. Targeted conservation measures.**	**Present. Other legal measures.**	**Present. Other legal measures.**	**Present. Other legal measures.**	??	??	**Present. Other legal measures.**	**Present. Other legal measures.**	EN
	Molva molva	EN	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	EN
	Petromyzon marinus	VU	**Present. No action plan.**	**Present. No action plan.**	Not present	**Present. Other legal measures.**	Not present	Not present	**Present. Other legal measures.**	**Present. General conservation measures.**	VU
	Galeorhinus galeus	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	NA
	Raja clavata	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. General conservation measures.**	VU
	Gadus morhua	VU	**Present. Targeted conservation measures.**	**Present. No action plan.**	**Present. Targeted conservation measures.**	**Present. Plan in place.**	??	??	**Present. Plan in place.**	**Present. Plan in place.**	EN
	Merlangius merlangus	VU	**Present. No action plan.**	Not present	Not present	**Present. No action plan.**	Not present	Not present	**Present. No action plan.**	**Present. General conservation measures.**	VU

Table 39. (Continued). Fish and lamprey implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation– or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Fish and lamprey	*Salmo salar*	VU	**Present. Plan in place.**	**Present. Other legal measures.**	**Present. Targeted conservation measures.**	**Present. Other legal measures.**	**Present. General conservation measures.**	**Present. Targeted conservation measures.**	**Present. Other legal measures.**	**Present. Plan in place (nationally LC).**	EN
	Salmo trutta	VU	**Present. No action plan.**	**Present. Other legal measures.**	**Present. Plan in place.**	**Present. Plan in place.**	**Present. General conservation measures.**	**Present. Targeted conservation measures.**	**Present. Other legal measures.**	**Present. No action plan (nationally LC).**	VU
	*Pomatoschistus norvegicus**	DD									RE
	*Pomatoschistus pictus**	DD									RE
	*Glyptocephalus cynoglossus**	LC									EN
	*Liparis liparis**	LC									EN
	*Amblyrayes radiata**	LC									VU
	*Myoxocephalus scorpius**	LC									VU
	*Cyclopterus lumpus**	NT									VU
	*Enchelyopus cimbrius**	NT									VU
	*Zoarces viviparus**	NT									VU
	*Leuciscus aspius**	NT									VU

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

- Overall conclusion is to have the protection measures implemented for the threatened species by all Contracting Parties where the species is present.
- Where the threat category has not changed or has been moved up, there might be a need to consider joint regional measures to protect the threatened species.
- *Galeorhinus galeus* was excluded from the Red List II assessment and categorized as Not Applicable.
- Two species that were Data Deficient in 2013 are now categorized as Regionally Extinct in 2014 - *Pomatoschistus norvegicus* and *Pomatoschistus pictus*.
- *Glyptocephalus cynoglossus* and *Liparis liparis* were categorized as Least Concern in 2013 but have been moved up into Endangered category in Red List II.
- *Amblyrayes radiata* and *Myoxocephalus scorpius* were moved up from 2013 Least Concern to Vulnerable in 2024.
- Four Near Threatened species (*Cyclopterus lumpus*, *Enchelyopus cimbrius*, *Zoarces viviparus* and *Leuciscus aspius*) were moved into a Vulnerable threat category in 2024, indicating again that also Near Threatened categories need to be on the implementation overview list.
- A '??' marking in the implementation reporting column indicates that no information was received during the implementation reporting round.

4.4. Breeding bird species; Recommendation 37/2 implementation overview

Out of 13 threatened breeding bird species about half have conservation measures in place and *Gelochelidon nilotica* remained Regionally Extinct, also having recovery plans or other measures in place by the Contracting Parties (Table 40).

Hydroprogne caspia is the only breeding bird species that has been moved from Vulnerable status to a lower category of Near Threatened, having measures in place by all Contracting Parties where it is present, thus moved into more favourable status in 2024. *Podiceps auritus* has also been moved from Vulnerable into Near Threatened in 2024, but not all the Contracting Parties have protection measures in place.

Four species have remained in their previous categorization:

— Both *Charadrius alexandrines* kept its Critically Endangered category and *Larus melanocephalus* remained Endangered, despite all the national measures in place.
— *Rissa tridactyla* (Endangered) is the only breeding bird species that remains in the 2013 category also in 2024, with no protection measures in place by the Contracting Parties.
— *Melanitta fusca* has kept the Vulnerable category, since not all the Contracting Parties have protection measures in place.

Calidris alpina schinzii, *Xenus cinereus*, *Aythya marila* and *Somateria mollissima* have been moved to a higher threat categorization and need all Contracting Parties to have protection measures in place to prevent the species becoming even more threatened during the next red-listing process.

Despite all the protection measures taken by the Contracting Parties, *Philomachus pugnax, Arenaria interpres and Larus fuscus fuscus* has been moved to a higher threat category in 2024.

Table 40. Breeding bird implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation– or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Breeding birds	*Gelochelidon nilotica*	RE	**Additional conservation activities.**	RE	RE	**Additional conservation actions.**	RE	RE	RE	RE	RE
	Charadrius alexandrinus	CR	**Present. Other legal measures.**	Not present	Not present	**Present. Spatial management plan and other legal measures.**	Not present	Not present	Not present	**Not present but sometimes sighted. General conservation measures.**	CR
	Calidris alpina schinzii	EN	**Present. Other legal measures.**	**Present. Targeted conservation measures.**	**Present. General conservation measures.**	**Present. Spatial management plan and other legal measures.**	??	**Present. Spatial management plan.**	Not present	**Present. No action plan.**	CR
	Xenus cinereus	EN	**Present. No action plan.**	Not present	**Present. Plan in place.**	Not present	??	Not present	Not present	Not present	CR

Table 40. (Continued). Breeding bird implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Breeding birds	*Larus melanocephalus*	EN	**Present. Other legal measures.**	Not present	Not present	**Present. Spatial management plan.**	Not present	Not present	**Present. Plan in place**	**Present. Targeted conservation measures.**	EN
	Rissa tridactyla	EN	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan.**	EN
	Podiceps auritus	VU	Present. Other legal measures.	**Present. No action plan.**	**Present. General conservation measures.**	**Present. Spatial management plan and other legal measures.**	??	Not present	Not present	**Present, No action plan.**	NT
	Aythya marila	VU	**Present. No action plan.**	**Present. General conservation measures.**	**Present. Targeted conservation measures.**	**Present. Spatial management plan.**	Not present	Not present	Not present	**Present. Targeted conservation measures.**	EN
	Somateria mollissima	VU	**Present. No action plan.**	**Present. No action plan.**	**Present. Other legal measures.**	**Present. Spatial management plan.**	??	??	Not present	**Present. No action plan.**	CR
	Melanitta fusca	VU	Not present	**Present. No action plan.**	**Present. Plan in place.**	**Present. Other legal measures.**	??	??	Not present	**Present. No action plan.**	VU
	Philomachus pugnax	VU	**Present. Other legal measures.**	**Present. Targeted conservation measures.**	**Present. General conservation measures.**	**Present. Spatial management plan and other legal measures.**	??	**Present. Targeted conservation measures.**	**Present. Plan in place.**	**Present. Targeted conservation measures.**	CR
	Arenaria interpres	VU	**Present. Other legal measures.**	**Present. General conservation measures.**	**Present. Other legal measures.**	Not present	Not present	Not present	Not present	**Present. Other legal measures.**	EN
	Larus fuscus fuscus	VU	**Present. Other legal measures.**	**Present. General conservation measures and spatial management plan.**	**Present. Other legal measures.**	Not present	Not present	Not present	**Present. Plan in place.**	**Present. Targeted conservation measures.**	EN
	Hydroprogne caspia	VU	**Present. Other legal measures.**	**Present. General conservation measures and spatial management plan.**	**Present. General conservation- and other legal measures.**	**Present. Spatial management plan and other legal measures.**	Not present	Not present	Not present	**Present. General conservation measures.**	NT
	*Limosa limosa**	NT									CR
	*Calidris temminckii**	NT									CR
	*Larus canus**	LC									VU
	*Actitis hypoleucos**	NT									VU
	*Vanellus vanellus**	NT									VU
	*Aythya fuligula**	NT									VU
	*Larus marinus**	LC									VU

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

— *Charadrius alexandrines* has protection measures in place but still remains as Critically Endangered. *Larus melanocephalus* has also protection measures in place but remains in the Endangered category. Here is a need to revise the existing measures and consider the need for additional stricter measures, also discussion among the Contracting Parties on the need for joint regional measures.
— Three vulnerable breeding bird species, *Philomachus pugnax* (Critically Endangered in 2024), *Arenaria interpres* (Endangered in 2024) and *Larus fuscus fuscus* (Endangered in 2024), have been moved to a higher threat category despite the existing measures and are in need of the revision of existing measures and the consideration of joint regional measures.
— *Rissa tridactyla* remained Endangered and needs protection measures implemented during the next coming years.
— Species that are listed as threatened need to have protection measures in place by all the Contracting Parties and if needed also additional joint regional measures.
— Those species that have national protection measures in place, but the status has not improved or has even moved up to a higher threat category might need regionally coordinated additional measures to be taken.
— *Limosa limosa* and *Calidris temminckii* were previously categorized as Near Threatened and now moved to a threat category Critically Endangered.
— Two species categorized as Least Concern in 2013 (*Larus canus* and *Larus marinus*) and three Near Threatened species from 2013 (*Actitis hypoleucos*, *Vanellus vanellus* and *Aythya fuligula*) were all moved to a threat category Vulnerable in Red List II.
— A '??' marking in the implementation reporting column indicates that no information was received during the implementation reporting round.

4.5. Wintering bird species; Recommendation 37/2 implementation overview

Recommendation implementation table (Table 41) shows that out of 12 threatened species only three wintering bird species (Gavia stellata, Gavia arctica and Cepphus grylle arcticus) have protection measures implemented nationally by all Contracting Parties and the species have moved to a non-threatened category in 2024.

Five wintering species have been moved to a lower category in 2024, although the implementation of protection measures is somewhat 50-50 among Contracting Parties having the species present in their marine waters.

For *Somateria mollissima* not all Contracting Parties have the measures in place and that has resulted in remaining in Endangered status.

Polysticta stelleri has been upscaled from Endangered to Critically Endangered in 2024 due to a very steep decline of 93% documented according to HELCOM HOLAS 3. The Recommendation implementation shows that in many Contracting Parties the species is present, but none have a protection plan in place.

Table 41. Wintering bird implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation- or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Wintering birds	*Gavia stellata*	CR	**Present. Other legal measures.**	**Present. General conservation measures and spatial management plan.**	**Not present**	**Present. Other legal measures.**	??	??	**Present. Other legal measures.**	**Present. General conservation measures.**	NT
	Gavia arctica	CR	**Present. Other legal measures.**	**Present. General conservation measures and spatial management plan.**	**Not present**	**Present. Other legal measures.**	??	Not present	**Present. Partial plan.**	**Present. Partial plan.**	NT
	Podiceps grisegena	EN	**Present. Other legal measures.**	**Present. No action plan.**	**Not present**	**Present. Spatial management plan and other legal measures.**	Not present	Not present	**Present. Plan in place.**	**Present. Targeted conservation measures.**	LC
	Anser fabalis fabalis	EN	**Present. Targeted conservation measures.**	Not present	Not present	**Present. Other legal measures.**	Not present	Not present	**Present. Plan in place.**	**Present. No action plan.**	NA
	Somateria mollissima	EN	**Present. No action plan.**	Not present	Not present	**Present. Spatial management plan.**	??	??	**Present. No action plan.**	**Present. No action plan.**	EN
	Polysticta stelleri	EN	**Present. No action plan.**	**Present. No action plan.**	Not present	Not present	Not present	**Present. No action plan.**	**Not present**	**Not present, sometimes sighted. Other legal measures.**	CR
	Clangula hyemalis	EN	**Present. Targeted conservation measures.**	**Present. General conservation measures and spatial management plan.**	**Present. Targeted conservation measures.**	**Present. Other legal measures.**	??	**Present. No management plan.**	**Present. Other legal measures.**	**Present. General conservation measures.**	VU
	Melanitta nigra	EN	**Present. Other legal measures.**	**Present. No action plan.**	**Present. Other legal measures.**	**Present. Other legal measures.**	??	??	**Present. Other legal measures.**	**Present. No action plan.**	LC
	Melanitta fusca	EN	**Present. Targeted conservation measures.**	**Present. General conservation measures.**	**Present. Plan in place.**	**Present. Spatial management plan.**	??	**Present. No action plan.**	**Present. Other legal measures.**	**Present. Targeted conservation measures.**	LC
	Mergus serrator	VU	**Present. Other legal measures.**	**Present. No action plan.**	**Present. Other legal measures.**	**Present. Spatial management plan.**	??	??	**Present. Plan in place.**	**Present. No action plan.**	NT
	Rissa tridactyla	VU	**Present. No action plan.**	Not present	Not present	Not present	Not present	Not present	Not present	**Present. No action plan.**	DD
	Cepphus grylle arcticus	VU	**Present. Other legal measures.**	**Present. Other legal measures.**	**Present. Other legal measures.**	**Present. Other legal measures.**	??	??	Not present	**Present. Other legal measures.**	LC
	*Aythya ferina**	LC									EN
	*Fulica atra**	LC									EN
	*Aythya fuligula**	LC									VU
	*Larus argentatus**	LC									VU
	*Hydrocoloeus minutus**	NT									DD

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

— For *Somateria mollissima* and *Polysticta stelleri* Contracting Parties need to consider protection measures to prevent the species becoming even more threatened than the current statuses.
— *Rissa tridactyla* has been changed from Vulnerable to Data Deficient in 2024 due to the lack of data. It is highly recommended to collect monitoring data for this species in the coming years for the next red listing process. Noting that the species is present in two Contracting Parties with no action plan in place, which needs to be reconsidered based on the collected additional data.
— *Anser fabalis fabalis* has been excluded from the assessment process as not a marine species and categorized as Not Applicable in 2024 (Endangered in 2013).
— 2024 Red List II has categorized as Endangered two species (*Aythya ferina* and *Fulica atra*) previously categorized as Least Concern and as Vulnerable *Aythya fuligula* and *Larus argentatus,* previously categorized as Least Concern.
— *Hydrocoloeus minutus* was previously assessed as Near Threatened and in 2024 as Data Deficient.
— The same as for the breeding birds applies also for the wintering birds - all threatened species could benefit in this species group when Contracting Parties take a stricter approach to protective measures and also joint regional measures can influence the next red listing categories.
— A '??' marking in the implementation reporting column indicates that no information was received during the implementation reporting round.

4.6. Marine mammal species; Recommendation 37/2 implementation overview

The implementation overview (Table 42) shows that if the marine mammal is present in Contracting Parties marine waters, then there are also plans in place to protect the species (either targeted conservation measures or some other additional conservation measures).

Despite the plans that are in place, for example harbour porpoise, *Phocoena phocoena* (Baltic Sea subpopulation), is still Critically Endangered as the population is considered to be on decline or on expected decline with a total of about 500 individuals left, from which 216 are reproductive individuals.

Harbour porpoise, *Phocoena phocoena* (Belt Sea subpopulation) and ringed seal, *Pusa hispida botnica* (Southern Management Units) have been upscaled from Vulnerable in 2013 into Endangered in 2024.

For the harbour porpoise both subpopulations all Contracting Parties where the species is present have taken different measures to protect the species, like reduce by-catch, continuous research and monitoring, assign marine protection areas, raise public awareness.

For the ringed seal Estonia and Finland have in place many different measures, like habitat protection, continuation of national monitoring, environmental assessment of plans and projects, avoiding by-catch, raising public awareness, international cooperation, updating management plan, but despite this the status has not improved.

Table 42. Marine mammal implementation overview and 2024 Red List II categories assigned.
* a threat category assigned in 2024 (previously not threatened) and/or a species of interest to keep on the checklist of the Recommendation implementation overview.
?? indicates that there is no information provided by the Contracting Party.
Light green colour indicates a plan is in place (either targeted conservation measures or some other additional conservation– or legal measures).
Light orange colour indicates that the species is present, but no plan is in place.

Species group	Threatened species	Threat category 2013	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Threat category 2024
Marine mammals	*2013: Phocoena phocoena (Baltic Sea subpopulation) / 2024: Phocoena phocoena (Baltic Proper)*	CR	**Present. Targeted conservation measures.**	Not present	**Present. Targeted conservation measures.**	**Present. Targeted conservation measures.**	Not present	**Present. Targeted conservation measures.**	**Present. Plan in place.**	**Present. Other legal measures.**	CR
	2013: Phocoena phocoena (Western Baltic subpopulation) / 2024: Phocoena phocoena (Belt Sea)	VU	**Present. Targeted conservation measures.**	Not present	Not present	**Present. Targeted conservation measures.**	Not present	Not present	**Present. Plan in place.**	**Present. Targeted conservation measures.**	EN
	Phoca vitulina (Kalmarsund population)	VU	Not present	Not present	Not present	Not present	Not present	Not present	Not present	**Present. Targeted conservation measures.**	NT
	2013: Phoca hispida botnica / 2024: Pusa hispida botnica (Southern Management Units)	VU	Not present	**Present. Targeted conservation measures.**	**Present. Targeted conservation measures.**	Not present	??	??	Not present	**Present. No action plan.**	EN
	*Pusa hispida botnica (Gulf of Bothnia) **	VU									VU
	*Lutra lutra**	NT									LC

The 2024 HELCOM Red List II assessment highlighted some needs for future management action:

- harbour porpoise, *Phocoena phocoena* (Baltic Sea subpopulation) remains Critically Endangered despite the national measures in place. There is a need to consider joint regional measures for this species. Also looking at possible pressures to the species might give a valuable input to plan further measures/actions.
- For the Belt Sea harbour porpoise there is a strong need for further monitoring data to be collected for the next red listing assessment process.
- For both harbour porpoise subpopulations Contracting Parties need to revise the already existing protection measures and consider joint regional measures.
- The Southern Management Units ringed seals this assessment was based on expert opinion as a likely situation not based on factual data. Thus, also for this species it is essential to collect more monitoring data during the next years, to be able to categorize the species based on factual data for the next red listing process.
- Ringed seal, *Pusa hispida bothnica* was in 2013 assessed as one subpopulation, in 2024 it was suggested by the experts to be assessed in two separate subpopulations (*Pusa hispida botnica* (Southern Management Units) and *Pusa hispida botnica* (Gulf of Bothnia)). For both subpopulations in addition to the national measures already taken and those under consideration, also joint regional measures should be considered to protect the species becoming more threatened.
- A '??' marking in the implementation reporting column indicates that no information was received during the implementation reporting round.

4.7. Recommendation 37/2 review conclusions based on the implementation overview

Based on the Recommendation 37/2 implementation reporting on available national conservation measures, species can be divided into three groups based on the reported plans and measures in place:

— those threatened species for which no measures are in place (Table 43)
— those threatened species for which some measures have been taken by some of the Contracting Parties (Table 44) and
— those threatened species for which measures are in place in all Contracting Parties where the species occurs (Table 45).

Table 43. Threatened species with no measures in place.

Red List 2023	Species group	Species with no measures in place	Red List II 2024
EN	Benthic invertebrates	*Haploops tenuis*	CR
VU	Benthic invertebrates	*Cliona celata*	EN
VU	Benthic invertebrates	*Epitonium clathrus*	NT
VU	Benthic invertebrates	*Abra prismatica*	NT
VU	Benthic invertebrates	*Haploops tubicola*	CR
VU	Benthic invertebrates	*Atelecyclus rotundatus*	VU
EN	Macrophytes	*Lamprothamnium papulosum*	EN
EN	Fish and lamprey	*Anarhichas lupus*	EN
EN	Breeding birds	*Rissa tridactyla*	EN
VU	Wintering birds	*Rissa tridactyla*	DD

Table 44. Threatened species with some measures in place by some of the Contracting Parties.

Red List 2023	Species group	Species with some measures in place	Red List II 2024
VU	Benthic invertebrates	*Stomphia coccinea*	EN
VU	Benthic invertebrates	*Clelandella miliaris*	VU
VU	Benthic invertebrates	*Lunatia pallida*	VU
VU	Benthic invertebrates	*Macoma calcarea*	VU
VU	Benthic invertebrates	*Modiolus modiolus*	VU
VU	Benthic invertebrates	*Nucula nucleus*	VU
VU	Benthic invertebrates	*Parvicardium hauniense*	VU

Table 44. (Continued). Threatened species with some measures in place by some of the Contracting Parties.

Red List 2023	Species group	Species with some measures in place	Red List II 2024
VU	Benthic invertebrates	*Scrobicularia plana*	VU
VU	Benthic invertebrates	*Deshayesorchestia deshayesii*	VU
VU	Benthic invertebrates	*Hippolyte varians*	VU
VU	Benthic invertebrates	*Solaster endeca*	VU
VU	Benthic invertebrates	*Pelonaia corrugata*	VU
VU	Macrophytes	*Chara braunii*	NT
CR	Fish and lamprey	*Lamna nasus*	CR
CR	Fish and lamprey	*Squalus acanthias*	CR
CR	Fish and lamprey	*Thymallus thymallus*	CR
EN	Fish and lamprey	*Molva molva*	EN
VU	Fish and lamprey	*Petromyzon marinus*	VU
VU	Fish and lamprey	*Galeorhinus galeus*	NA
VU	Fish and lamprey	*Raja clavata*	VU
VU	Fish and lamprey	*Gadus morhua*	EN
VU	Fish and lamprey	*Merlangius merlangus*	VU
VU	Fish and lamprey	*Salmo trutta*	VU
EN	Breeding birds	*Calidris alpina schinzii*	CR
EN	Breeding birds	*Xenus cinereus*	CR
VU	Breeding birds	*Podiceps auritus*	NT
VU	Breeding birds	*Aythya marila*	EN
VU	Breeding birds	*Somateria mollissima*	CR
VU	Breeding birds	*Melanitta fusca*	VU
EN	Wintering birds	*Podiceps grisegena*	LC
EN	Wintering birds	*Anser fabalis fabalis*	NA
EN	Wintering birds	*Somateria mollissima*	EN
EN	Wintering birds	*Polysticta stelleri*	CR
EN	Wintering birds	*Clangula hyemalis*	VU
EN	Wintering birds	*Melanitta nigra*	LC
EN	Wintering birds	*Melanitta fusca*	LC
VU	Wintering birds	*Mergus serrator*	NT
VU	Marine mammals	*Phoca hispida botnica (2013) / Pusa hispida botnica (Southern Management Units) (2024)*	EN

Table 45. Threatened species with measures in place.

Red List 2023	Species group	Species with measures in place	Red List II 2024
VU	Benthic invertebrates	*Hippasteria phrygiana*	EN
EN	Macrophytes	*Hippuris tetraphylla*	VU
EN	Macrophytes	*Persicaria foliosa*	NT
VU	Macrophytes	*Nitella hyalina*	NT
VU	Macrophytes	*Alisma wahlenbergii*	NT
VU	Macrophytes	*Zostera noltii*	VU
CR	Fish and lamprey	*Anguilla anguilla*	CR
EN	Fish and lamprey	*Coregonus maraena*	EN
VU	Fish and lamprey	*Salmo salar*	EN
CR	Breeding birds	*Charadrius alexandrinus*	CR
EN	Breeding birds	*Larus melanocephalus*	EN
VU	Breeding birds	*Philomachus pugnax*	CR
VU	Breeding birds	*Arenaria interpres*	EN
VU	Breeding birds	*Larus fuscus fuscus*	EN
VU	Breeding birds	*Hydroprogne caspia*	NT
CR	Wintering birds	*Gavia stellata*	NT
CR	Wintering birds	*Gavia arctica*	NT
VU	Wintering birds	*Cepphus grylle arcticus*	LC
CR	Marine mammals	*Phocoena phocoena (Baltic Sea subpopulation) (2013) / Phocoena phocoena (Baltic Proper) (2024)*	CR
VU	Marine mammals	*Phocoena phocoena (Western Baltic subpopulation) (2013) / Phocoena phocoena (Belt Sea) (2024)*	EN
VU	Marine mammals	*Phoca vitulina (Kalmarsund population)*	NT

This review of the Recommendation 37/2 identified a further need to understand and classify the measures taken by the Contracting Parties and have a coordinated approach for which level of measures (spatial measures, conservation measures, targeted measures, legal measures etc.) should be applied as a minimum requirement for protecting the status of red-listed threatened species (Table 46). It was not feasible in this review to compare reported information from Contracting Parties on a level of the concrete actions implemented for each species. To evaluate whether measures are sufficient, more information is needed than merely whether plans and measures are in place or not. There is also a need to identify those species that need regionally joint measures to reach the positive change in certain species threat categories.

The current Recommendation 37/2 implementation overview list consists of those species that were categorized as threatened (Critically Endangered (CR), Endangered (EN) and Vulnerable (VU)) according to the 2013 Red List results. Regionally Extinct species are also on the reporting list for the Contracting Parties to indicate if there are any recovery plans in place or reintroduction measures if deemed necessary. The 2024 Red List II has also identified that there could be a need to add those species that have been categorized as Near Threatened to the species for which implementation reporting would be needed. When comparing the 2013 Red List categories to 2024 Red List II categories it shows changes for many species categorization from Near Threaten into threaten categories. It thereby seems like Near Threatened species would already be in need of protective action in order to prevent further deterioration.

There is also a need to call on those Contracting Parties that find '??' marking in their implementation reporting column to contribute information to the next implementation reporting round.

Strong emphasis is on the need for continuous periodical data collection especially for those species that are categorized as Data Deficient already since the 2013 Red List and for those that have been categorized Data Deficient as a result of the Red List II process in 2024. Without data availability it is not possible to assess these species status in the Baltic Sea and necessary measures cannot be taken to protect these species from becoming regionally extinct.

Table 46. Recommendations to strengthen future protection.

Recommendation 37/2 implementation overview list and reporting template update	Crucial data collection by Contracting Parties	Conservation measures implementation	Joint regional measures
Add to the implementation overview list of the implementation reporting Near Threatened (NT) category species.	Data Deficient species should be prioritized through monitoring programmes for collecting crucial background data for the (next) red listing process.	Agree on a minimum implementation level of conservation measures (spatial measures, conservation measures, targeted measures, legal measures etc.) to be implemented by each Contracting Party.	Despite the national measures in place, some species remain threatened. There is a possible need for those species to have regionally coordinated plan/measures in place to protect them becoming regionally extinct.
Update current reporting template with selective drop-down answers to keep the comparable responses.	Many species that have been categorized by the red-listing process are still in need of additional background data collection.	A joint approach is needed for those species that are nationally not in a threatened category, however, are regionally assessed as threatened. Recommend which conservation actions are needed as a minimum for these species to be implemented by Contracting Parties.	Those species that are nationally Least Concern (e.g. benthic invertebrate species: *Epitonium clathrus, Abra prismatica*) but are regionally threatened might need to have joint regional actions in place.
Add a field to the reporting template column for reporting species national red listing category (as an input to SIS sheets).			Those species where no action plans/measures are in place might also need joint regional cooperation/measures.

5. Conclusions and proposals of the HELCOM Red List II project

The number of Regionally Extinct species have increased to five from the three in 2013. In 2024, American atlantic sturgeon (*Acipenser oxyrinchus*), skate (*Dipturus batis*), Norway goby (*Pomatoschistus norvegicus*), Painted goby (*Pomatoschistus pictus*) and Gull-billed tern (*Gelochelidon nilotica*) - are regionally extinct from the Baltic Sea.

Altogether, 95 species or subspecies (compared to 69 in 2013) are threatened (CR-VU) and classified either as Critically Endangered (15 in 2024, 8 in 2013), Endangered (27 in 2024, 18 in 2013) or Vulnerable (53 in 2024, 43 in 2013) (Table 47).

An additional 46 species were listed as threatened in 2024 that had not been assessed as threatened in the 2013 Red List. This might be due in part to having more data available for the 2024 Red List II assessment process.

The HELCOM BioBase database was updated as a result of the Red List II project with about 6 million observation points. This information will be made available for future Red List projects as well as other assessments of Baltic Sea biodiversity.

Table 47. Summary of the threatened species in Red List II 2024.

Red List II 2024	Scientific name	English name	Species group	Red List 2013
RE	*Acipenser oxyrinchus*	American atlantic sturgeon	Fish and lamprey	RE
RE	*Dipturus batis*	Skate	Fish and lamprey	RE
RE	*Pomatoschistus norvegicus*	Norway goby	Fish and lamprey	DD
RE	*Pomatoschistus pictus*	Painted goby	Fish and lamprey	DD
RE	*Gelochelidon nilotica*	Gull-billed tern	Breeding bird	RE
CR	*Anguilla anguilla*	Eel	Fish and lamprey	CR
CR	*Lamna nasus*	Porbeagle	Fish and lamprey	CR
CR	*Squalus acanthias*	Spurdog	Fish and lamprey	CR
CR	*Thymallus thymallus*	Grayling	Fish and lamprey	CR
CR	*Haploops tenuis*		Benthic invertebrates	EN
CR	*Haploops tubicola*		Benthic invertebrates	VU
CR	*Charadrius alexandrinus*	Kentish plover; snowy plover	Breeding bird	CR
CR	*Xenus cinereus*	Terek sandpiper	Breeding bird	EN
CR	*Calidris alpina schinzii*	Dunlin (Short-billed)	Breeding bird	EN
CR	*Philomachus pugnax*	Ruff	Breeding bird	VU
CR	*Somateria mollissima*	Common eider; eider; eider duck	Breeding bird	VU
CR	*Calidris temminckii*	Temminck's stint	Breeding bird	NT
CR	*Limosa limosa*	Black-tailed godwit	Breeding bird	NT
CR	*Polysticta stelleri*	Steller's eider	Wintering birds	EN
CR	*Phocoena phocoena* (Baltic Proper)	Harbour porpoise	Marine mammal	CR
EN	*Anarhichas lupus*	Wolf-fish	Fish and lamprey	EN
EN	*Coregonus maraena*	Whitefish	Fish and lamprey	EN
EN	*Molva molva*	Ling	Fish and lamprey	EN
EN	*Salmo salar*	Salmon	Fish and lamprey	VU
EN	*Gadus morhua*	Cod	Fish and lamprey	VU
EN	*Glyptocephalus cynoglossus*	Witch	Fish and lamprey	LC
EN	*Liparis liparis*	Sea-snail	Fish and lamprey	LC
EN	*Lamprothamnium papulosum*		Macrophytes	EN
EN	*Stomphia coccinea**	Spotted sea anemone; spotted swimming anemone; swimming anemone	Benthic invertebrates	VU
EN	*Hippasteria phrygiana**		Benthic invertebrates	VU
EN	*Cliona celata**	Boring sponge; red boring sponge; sulfur sponge; yellow boring horny sponge; yellow boring sponge	Benthic invertebrates	VU
EN	*Corophium multisetosum*		Benthic invertebrates	NT
EN	*Boreotrophon truncatus*		Benthic invertebrates	NT
EN	*Epitonium turtonis*	Finely ribbed wentletrap; Turton's wentletrap	Benthic invertebrates	DD
EN	*Upogebia stellata*		Benthic invertebrates	DD
EN	*Talitrus saltator*	Sand hopper	Benthic invertebrates	DD
EN	*Hanleya hanleyi*	Eastern hanleya; Hanley's chiton	Benthic invertebrates	LC
EN	*Rissa tridactyla*	Black-legged kittiwake; kittiwake; kittiwake gull	Breeding bird	EN
EN	*Larus melanocephalus*	Mediterranean gull	Breeding bird	EN
EN	*Aythya marila*	Greater scaup; scaup	Breeding bird	VU
EN	*Arenaria interpres*	Ruddy turnstone; turnstone	Breeding bird	VU
EN	*Larus fuscus fuscus*	Lesser black-backed gull	Breeding bird	VU

Table 47. (Continued). Summary of the threatened species in Red List II 2024.

Red List II 2024	Scientific name	English name	Species group	Red List 2013
EN	*Somateria mollissima*	Common eider; eider; eider duck	Wintering birds	EN
EN	*Aythya ferina*	Common pochard; pochard	Wintering birds	LC
EN	*Fulica atra*	Eurasian coot; coot; common coot	Wintering birds	LC
EN	*Phocoena phocoena* (Belt Sea)	Harbour porpoise	Marine mammal	VU
EN	*Pusa hispida botnica* (Southern Management Units)	Ringed Seal	Marine mammal	VU
VU	*Merlangius merlangus*	Whiting	Fish and lamprey	VU
VU	*Raja clavata*	Thornback ray	Fish and lamprey	VU
VU	*Petromyzon marinus*	Sea lamprey	Fish and lamprey	VU
VU	*Salmo trutta*	Trout	Fish and lamprey	VU
VU	*Cyclopterus lumpus*	Lumpsucker	Fish and lamprey	NT
VU	*Enchelyopus cimbrius*	Four-bearded rockling	Fish and lamprey	NT
VU	*Zoarces viviparus*	Eelpout	Fish and lamprey	NT
VU	*Leuciscus aspius*	Asp	Fish and lamprey	NT
VU	*Amblyrayes radiata*	Starry ray /Thorny skate	Fish and lamprey	LC
VU	*Myoxocephalus scorpius*	Bull-rout	Fish and lamprey	LC
VU	*Hippuris tetraphylla*	Fourleaf mare's tail	Macrophytes	EN
VU	*Zostera (Zosterella) noltei*	Dwarf eelgrass	Macrophytes	VU
VU	*Modiolus modiolus*	Horse mussel; horse-mussel; northern horsemussel	Benthic invertebrates	VU
VU	*Pelonaia corrugata**		Benthic invertebrates	VU
VU	*Clelandella miliaris**		Benthic invertebrates	VU
VU	*Hippolyte varians*	Chamaeleon prawn; chameleon prawn	Benthic invertebrates	VU
VU	*Parvicardium hauniense*	Copenhagen cockle	Benthic invertebrates	VU
VU	*Atelecyclus rotundatus**	Circular crab; old mans face crab; old-man's face crab	Benthic invertebrates	VU
VU	*Euspira pallida**	Pale moonsnail	Benthic invertebrates	VU
VU	*Deshayesorchestia deshayesii*		Benthic invertebrates	VU
VU	*Macoma calcarea*	Chalky macoma	Benthic invertebrates	VU
VU	*Nucula nucleus*	Common nut clam; nuclear nut clam	Benthic invertebrates	VU
VU	*Scrobicularia plana*	Peppery furrow clam; peppery furrow shell	Benthic invertebrates	VU
VU	*Solaster endeca*	Purple sun star	Benthic invertebrates	VU
VU	*Mya truncata*	Blunt gaper; blunt gaper clam; clam; truncate softshell; truncate softshell clam	Benthic invertebrates	NT
VU	*Amauropsis islandica*	Iceland moonsnail	Benthic invertebrates	NT
VU	*Corystes cassivelaunus**	Helmet crab; masked crab	Benthic invertebrates	NT
VU	*Amphipholis squamata**	Brooding snake star; dwarf brittle star	Benthic invertebrates	DD
VU	*Roxania utriculus**		Benthic invertebrates	DD
VU	*Leptochiton alveolus**		Benthic invertebrates	LC
VU	*Nuculana pernula*	Müller's nut clam; Müller's nutclam; northern nut clam; northern nutclam	Benthic invertebrates	LC
VU	*Crenella decussata*	Cross-sculpture crenella; decussate crenella	Benthic invertebrates	LC
VU	*Alvania testae**		Benthic invertebrates	LC
VU	*Calocaris macandreae**		Benthic invertebrates	LC

Table 47. (Continued). Summary of the threatened species in Red List II 2024.

Red List II 2024	Scientific name	English name	Species group	Red List 2013
VU	*Eurynome aspera**	Strawberry crab	Benthic invertebrates	LC
VU	*Campylaspis costata*		Benthic invertebrates	LC
VU	*Diastylis cornuta**		Benthic invertebrates	LC
VU	*Eurynome spinosa**		Benthic invertebrates	LC
VU	*Ophiura robusta*		Benthic invertebrates	LC
VU	*Eupolymnia nesidensis**		Benthic invertebrates	LC
VU	*Palliolum incomparabile**		Benthic invertebrates	LC
VU	*Musculus niger*	Black musculus; black mussel; little black mussel	Benthic invertebrates	LC
VU	*Pinnotheres pisum**		Benthic invertebrates	LC
VU	*Melanitta fusca*	Velvet scoter; white-winged scoter	Breeding bird	VU
VU	*Actitis hypoleucos*	Common sandpiper	Breeding bird	NT
VU	*Vanellus vanellus*	Lapwing; northern lapwing	Breeding bird	NT
VU	*Aythya fuligula*	Tufted duck	Breeding bird	NT
VU	*Larus canus*	Common gull; mew gull	Breeding bird	LC
VU	*Larus marinus*	Great black-backed gull; greater black-backed gull	Breeding bird	LC
VU	*Clangula Hyemalis*	Long-tailed duck; oldsquaw	Wintering birds	EN
VU	*Aythya fuligula*	Tufted duck	Wintering birds	LC
VU	*Larus argentatus*	European herring gull; herring gull	Wintering birds	LC
VU	*Pusa hispida botnica* (Gulf of Bothnia)	Ringed Seal	Marine mammal	VU

There are still many species that do not have enough data available to categorize them through the red listing process. A total of 148 species were categorized as Data Deficient and 14 as Not Evaluated due to this reason. In comparison to the 2013 HELCOM Red List indicated that 37 species were Data Deficient and 818 were Not Evaluated. This big difference in final numbers might be the result of less data available for the 2013 process and/or some different approach in categorizing the species.

Total of 564 species were categorized as Not Applicable in 2024 due to not being a marine species or being a non-indigenous species (220 Not Applicable species in 2013). The significant difference in number may be the result of the different definition of a "marine species" and "not a marine species" among the experts assessing the different species groups in 2013.

As a conclusion of the HELCOM Recommendation 37/2 implementation reporting, there are ten threatened species from 2013 that do not have any conservation measures in place and 38 threatened species that have some measures implemented by some of the Contracting parties and 12 threatened species which have conservation measures in place but still remain in the same threat category or have even higher in their threat status. This indicated a need for a review among the Contracting Parties to clarify which level of measures (spatial measures, conservation measures, targeted measures, legal measures, regional measures etc.) have been implemented, list the concrete measures in place, and what can be done both regionally and nationally in near future to protect the threatened species even more from not becoming regionally extinct.

Some overall recommendations based on the HELCOM Red List II project for future include:

- Ensure continued, coordinated monitoring, assessment and analysis among Baltic Sea countries of common and rare species, and developing these processes further. These are key to ensuring the coherence and communication needed to support environmental policy when applying the ecosystem approach and precautionary principle.
- There is a need for continuous monitoring of the threatened species to be able to see the changes in their status and threat categorization. Lack of monitoring is a general problem, resulting in lack of data for the assessment and species status categorization process (HELCOM BSAP action S49).
- Conservation measures and action plans must be set in place to protect the species with a high risk of becoming regionally extinct. Experience shows that reintroducing species once lost is very difficult to accomplish.
- Compile a separate list of species that are relevant to the definitions of benthic and pelagic habitats (e.g. macrophytes, benthic invertebrates) to give additional input the habitat red listing process.
- For the IUCN threat categorization process different species parameter information needs to be available (e.g generation length, continuing decline, number of reproductive individuals etc.). Red List II project collected species parameter information into an excel, based on the available national red lists parameter info. For the next assessment process this collected info should be updated with all available information between the period of red list assessments by the relevant expert groups of the HELCOM Working Group on Biodiversity (WG BioDiv) (HELCOM BSAP action B10, see Table 1).
- For the IUCN threat categorization process the extent of occurrence (EOO) and area of occupancy (AOO) values need to be made available as well in the species parameter excel. During the Red List II project, it was indicated by nationally nominated experts that the HELCOM EOO and AOO tool needs modification, especially for the highly mobile species (e.g. birds, mammals and fish). The validation of the updated HELCOM EOO and AOO tool can be done in the relevant expert groups of the HELCOM WG BioDiv (HELCOM BSAP action B10, see Table 1).
- HELCOM pressure layers might give a valuable input to the species assessment process in the future, as tried out and proven a valuable exercise within the Red List II biotope complexes. With the input from HELCOM pressure layers it would be possible to tie more concretely pressures to species (HELCOM BSAP action B22) and thus be able to better plan needed conservation measures for threatened species (HELCOM BSAP action B23 and B24) not becoming regionally extinct.
- The Red List II assessment has pointed out that it is important to keep also those species on the horizon that are not categorized as threatened, since there have been big flips in categories (e.g. otters that were Near Threatened in 2013 but are Least Concern in 2024).
- Regional joint actions taken in the frame of the HELCOM BSAP is essential to assure the most effective approach to keep the Baltic Sea in a good status and species not becoming regionally extinct.
- Regularly updating the HELCOM Red List assessments and national red list assessments are crucial processes for following the status of the species in the Baltic Sea.
- Red List expert network is crucially needed for the Red List assessment process to be the most up to date with the best available knowledge and expertise. National red list expert participation in the HELCOM red-listing process should be ensured and encouraged by the Contracting Parties.
- The status and progress update by the Contracting Parties for preparing for the next HELCOM Red List process should be a continuous work programme task for the HELCOM WG BioDiv, ensuring a regular overview of the ongoing national data collection and conservation measure implementation processes with an aim of aligning national processes and needs with the ongoing HELCOM work and with other EU related obligations and processes related to red listing and to using the generated information on risk of extinction.

Annex 1 Macrophyte threat categories 2024

Download the Excel sheet (.XLSX) here.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
EN	B2b(i,ii,iii,iv,v)c(iv)	*Lamprothamnium papulosum*		EN	B2ab(ii,iii,iv,v)
VU	B2ab(ii,iii,v); D2	*Hippuris tetraphylla*	Fourleaf mare's tail	EN	B2ab(i,ii,iii,iv,v)
VU	A2b; B2ab(ii,iii,v)	*Zostera (Zosterella) noltei*	Dwarf eelgrass	VU	B2ab (iii, iv)
NT	B2ab(ii,iii)	*Persicaria foliosa*		EN	B2ab(ii,iii,iv,v)
NT	B2ab(ii,iii,iv,v)	*Alisma wahlenbergii*		VU	B2ab(ii,iii,iv,v)
NT	B2ab(ii,iii,iv,v)	*Chara braunii*	Braun's stonewort	VU	B2ab(iii)
NT	B1a	*Nitella hyalina*	Many-branched stonewort	VU	B2ab(iii)
NT		*Potamogeton friesii*		NT	B2a
NT		*Nitellopsis obtusa*	Starry stonewort	NT	B2a
DD		*Chara horrida*		NT	B2b(ii,iii,iv,v)
DD		*Botrytella reinboldii*		DD	
DD		*Myriocladia lovenii*		DD	
DD		*Helminthora divaricata*		DD	
DD		*Delamarea attenuata*		DD	
DD		*Halopteris scoparia*		NA	
DD		*Stuckenia vaginata*	Sheathed pondweed	NA	
DD		*Tilopteris mertensii*		LC	
DD		*Acrothrix gracilis*		LC	
DD		*Tsengia bairdii*		LC	
LC		*Crassula aquatica*		NT	B2ab(ii,iii,iv,v)c(iv)
LC		*Vertebrata nigra*		LC	
LC		*Fontinalis antipyretica*	Greater water-moss	LC	
LC		*Rhodomela confervoides*		LC	
LC		*Zostera (Zostera) marina*	Eelgrass; sea grass	LC	
LC		*Acrosiphonia arcta*		LC	
LC		*Aegagropila linnaei*		LC	
LC		*Aglaothamnion bipinnatum*		LC	
LC		*Aglaothamnion tenuissimum*		LC	
LC		*Ahnfeltia plicata*	Red seaweed	LC	
LC		*Alisma plantago-aquatica*		LC	

LC	*Antithamnion cruciatum*		LC
LC	*Antithamnion villosum*		LC
LC	*Apoglossum ruscifolium*		LC
LC	*Arthrocladia villosa*		LC
LC	*Ascophyllum nodosum*		LC
LC	*Asperococcus bullosus*		LC
LC	*Asperococcus fistulosus*		LC
LC	*Blastophysa rhizopus*		LC
LC	*Blidingia marginata*		LC
LC	*Blidingia minima*	Lesser grass-kelp	LC
LC	*Bolboschoenus maritimus*	Sea club-rush	LC
LC	*Bonnemaisonia asparagoides*		LC
LC	*Botrytella micromora*		LC
LC	*Bryopsis hypnoides*		LC
LC	*Bryopsis plumosa*	Hen pen	LC
LC	*Butomus umbellatus*	Flowering rush	LC
LC	*Callithamnion corymbosum*		LC
LC	*Callithamnion tetragonum*		LC
LC	*Callitriche cophocarpa*		LC
LC	*Callitriche hermaphroditica*	Autumnal water-starwort	LC
LC	*Callitriche palustris*		LC
LC	*Caltha palustris*		LC
LC	*Ceramium tenuicorne*		LC
LC	*Ceramium virgatum*	Red seaweed	LC
LC	*Ceratophyllum demersum*	Hornwort; rigid hornwort	LC
LC	*Chaetomorpha linum*		LC
LC	*Chaetomorpha melagonium*		LC
LC	*Chara aspera*	Rough stonewort	LC
LC	*Chara baltica*	Baltic stonewort	LC
LC	*Chara canescens*	Bearded stonewort	LC
LC	*Chara globularis*	Fragile stonewort	LC

LC	*Chara tomentosa*	Coral stonewort; mossy stonewort	LC
LC	*Chara virgata*	Delicate stonewort	LC
LC	*Chondrus crispus*	Carrageen; carragheen; Irish moss	LC
LC	*Chorda filum*	man's rope	LC
LC	*Chordaria flagelliformis*		LC
LC	*Chroodactylon ornatum*		LC
LC	*Chylocladia verticillata*		LC
LC	*Cladophora glomerata*		LC
LC	*Cladophora rupestris*	Rock-weed	LC
LC	*Cladosiphon zosterae*		LC
LC	*Cladostephus spongiosus*		LC
LC	*Coccotylus truncatus*		LC
LC	*Colaconema daviesii*		LC
LC	*Colaconema pectinatum*		LC
LC	*Compsothamnion gracillimum*		LC
LC	*Corallina officinalis*	Coral meed; coral weed	LC
LC	*Cruoria pellita*		LC
LC	*Cutleria multifida*		LC
LC	*Cystoclonium purpureum*		LC
LC	*Delesseria sanguinea*	Sea beech	LC
LC	*Derbesia marina*		LC
LC	*Desmarestia aculeata*		LC
LC	*Desmarestia viridis*		LC
LC	*Dictyosiphon chordaria*		LC
LC	*Dictyosiphon foeniculaceus*		LC
LC	*Dilsea carnosa*	Red rags	LC
LC	*Drepanocladus aduncus*		LC
LC	*Dudresnaya verticillata*		LC
LC	*Dumontia contorta*		LC
LC	*Ectocarpus fasciculatus*		LC

LC	*Ectocarpus siliculosus*		LC
LC	*Elachista fucicola*		LC
LC	*Elachista stellaris*		LC
LC	*Elatine hydropiper*	Eight-stamened waterwort	LC
LC	*Elatine triandra*		LC
LC	*Eleocharis acicularis*		LC
LC	*Eleocharis palustris*		LC
LC	*Eleocharis parvula*	Dwarf spike-rush	LC
LC	*Eleocharis uniglumis*	spikerush	LC
LC	*Equisetum fluviatile*	Swamp horsetail; water horsetail	LC
LC	*Erythrocladia irregularis*		LC
LC	*Erythrodermis traillii*		LC
LC	*Erythrotrichia carnea*		LC
LC	*Erythrotrichia reflexa*		LC
LC	*Eudesme virescens*		LC
LC	*Feldmannia kjellmanii*		LC
LC	*Fissidens fontanus*		LC
LC	*Fontinalis dalecarlica*		LC
LC	*Fontinalis hypnoides*	Fontinalis moss	LC
LC	*Fucus radicans*		LC
LC	*Fucus serratus*	Serrated wrack; toothed wrack	LC
LC	*Fucus spiralis*	Flat wrack; spiral; spiral wrack	LC
LC	*Fucus vesiculosus*	Bladder wrack; popweed; rockweed	LC
LC	*Furcellaria lumbricalis*	Red seaweed	LC
LC	*Gayralia oxysperma*		LC
LC	*Giraudya sphacelarioides*		LC
LC	*Glyceria maxima*	Reed mannagrass	LC
LC	*Grania efflorescens*		LC
LC	*Griffithsia corallinoides*		LC
LC	*Haemescharia hennedyi*		LC

LC	*Halarachnion ligulatum*		LC
LC	*Halidrys siliquosa*	Pod weed; sea oak	LC
LC	*Halosiphon tomentosus*		LC
LC	*Haplospora globosa*		LC
LC	*Harveyella mirabilis*		LC
LC	*Hecatonema terminale*		LC
LC	*Herponema desmarestiae*		LC
LC	*Heterosiphonia plumosa*		LC
LC	*Hildenbrandia rivularis*		LC
LC	*Hildenbrandia rubra*		LC
LC	*Hincksia granulosa*		LC
LC	*Hincksia ovata*		LC
LC	*Hincksia sandriana*		LC
LC	*Hippuris vulgaris*		LC
LC	*Hydrocharis morsus-ranae*		LC
LC	*Isoëtes echinospora*	Spiny-spore quillwort	LC
LC	*Isoëtes lacustris*	Lake quillwort	LC
LC	*Isthmoplea sphaerophora*		LC
LC	*Laminaria digitata*	Kelp; oarweed; tangle	LC
LC	*Laminaria hyperborea*	Cuvie; tangle or cuvie	LC
LC	*Laminariocolax aecidioides*		LC
LC	*Laminariocolax tomentosoides*		LC
LC	*Leathesia marina*		LC
LC	*Lemna gibba*	duckweed	LC
LC	*Lemna minor*	duckweed; lesser duckweed	LC
LC	*Lemna trisulca*	Ivy-leaved duckweed	LC
LC	*Leptodictyum riparium*		LC
LC	*Leptonematella fasciculata*		LC
LC	*Limosella aquatica*	northern mudwort	LC
LC	*Lithophyllum crouaniorum*		LC
LC	*Lithothamnion glaciale*	Maerl	LC

LC	*Lithothamnion sonderi*		LC
LC	*Litosiphon laminariae*		LC
LC	*Lomentaria clavellosa*		LC
LC	*Lomentaria orcadensis*		LC
LC	*Meiodiscus spetsbergensis*		LC
LC	*Melobesia membranacea*		LC
LC	*Membranoptera alata*		LC
LC	*Mesogloia vermiculata*		LC
LC	*Microcoryne ocellata*		LC
LC	*Microspongium globosum*		LC
LC	*Mikrosyphar polysiphoniae*		LC
LC	*Mikrosyphar porphyrae*		LC
LC	*Mikrosyphar zosterae*		LC
LC	*Monostroma balticum*		LC
LC	*Monostroma grevillei*		LC
LC	*Myriactula chordae*		LC
LC	*Myriactula fucorum*		LC
LC	*Myrionema balticum*		LC
LC	*Myrionema magnusii*		LC
LC	*Myrionema strangulans*		LC
LC	*Myriophyllum alterniflorum*	Alternateflower watermilfoil	LC
LC	*Myriophyllum sibiricum*		LC
LC	*Myriophyllum spicatum*	Spiked water-milfoil	LC
LC	*Myriophyllum verticillatum*		LC
LC	*Myriotrichia clavaeformis*		LC
LC	*Najas marina*	Holly-leaved naiad	LC
LC	*Nitella flexilis*	Smooth stonewort	LC
LC	*Nitella wahlbergiana*		LC
LC	*Nuphar lutea*	Yellow pond-lily; yellow cowlily	LC

LC	*Nymphaea alba*	European white waterlily	LC
LC	*Nymphaea candida*		LC
LC	*Odonthalia dentata*		LC
LC	*Ostreobium quekettii*		LC
LC	*Palmaria palmata*	Dillisk; dulse	LC
LC	*Percursaria percursa*		LC
LC	*Petalonia fascia*		LC
LC	*Petroderma maculiforme*		LC
LC	*Peyssonnelia dubyi*		LC
LC	*Phaeostroma pustulosum*		LC
LC	*Phragmites australis*	Common reed; reed grass	LC
LC	*Phycocelis foecunda*		LC
LC	*Phycodrys rubens*		LC
LC	*Phyllophora crispa*		LC
LC	*Phymatolithon laevigatum*		LC
LC	*Phymatolithon lenormandii*		LC
LC	*Phymatolithon purpureum*		LC
LC	*Pilinia rimosa*		LC
LC	*Plagiospora gracilis*		LC
LC	*Planosiphon zosterifolius*		LC
LC	*Platyhypnidium riparoides*	Platyhypnidium moss	LC
LC	*Pleurocladia lacustris*		LC
LC	*Plocamium cartilagineum*		LC
LC	*Plumaria plumosa*		LC
LC	*Pneophyllum fragile*		LC
LC	*Pneophyllum limitatum*		LC
LC	*Pogotrichum filiforme*		LC
LC	*Polysiphonia brodiei*		LC
LC	*Polysiphonia elongata*		LC
LC	*Polysiphonia fibrillosa*		LC
LC	*Polysiphonia stricta*		LC
LC	*Porphyra linearis*		LC
LC	*Porphyra purpurea*	Laver; purple laver	LC

LC	*Porphyra umbilicalis*	Laver; pink laver; purple laver; sloke	LC
LC	*Porphyropsis coccinea*		LC
LC	*Potamogeton berchtoldii*	Small pondweed	LC
LC	*Potamogeton crispus*	Curly pondweed	LC
LC	*Potamogeton filiformis*	Slender-leaved pondweed	LC
LC	*Potamogeton gramineus*		LC
LC	*Potamogeton natans*	pondweed; floating pondweed	LC
LC	*Potamogeton obtusifolius*	Bluntleaf pondweed	LC
LC	*Potamogeton perfoliatus*	Perfoliate pondweed	LC
LC	*Potamogeton praelongus*	White-stem pondweed	LC
LC	*Potamogeton pusillus*		LC
LC	*Prasiola crispa*		LC
LC	*Protectocarpus speciosus*		LC
LC	*Protomonostroma undulatum*		LC
LC	*Pseudolithoderma extensum*		LC
LC	*Pseudolithoderma rosenvingei*		LC
LC	*Pseudolithoderma subextensum*		LC
LC	*Pterothamnion plumula*		LC
LC	*Ptilota gunneri*		LC
LC	*Punctaria plantaginea*		LC
LC	*Punctaria tenuissima*		LC
LC	*Pylaiella littoralis*		LC
LC	*Ralfsia verrucosa*		LC
LC	*Ranunculus peltatus*		LC
LC	*Ranunculus reptans*		LC
LC	*Rhizoclonium riparium*		LC
LC	*Rhodochorton purpureum*		LC
LC	*Rhodophyllis divaricata*		LC
LC	*Rhodophysema elegans*		LC

LC	*Rhodophysema georgei*		LC
LC	*Rosenvingiella polyrhiza*		LC
LC	*Ruppia cirrhosa*	Spiral tasselweed	LC
LC	*Ruppia maritima*	Beaked tasselweed	LC
LC	*Saccharina latissima*	Sugar Kelp	LC
LC	*Sagittaria sagittifolia*	Arrowhead	LC
LC	*Schmitzia hiscockiana*		LC
LC	*Schmitzia neapolitana*		LC
LC	*Schoenoplectus lacustris*		LC
LC	*Schoenoplectus tabernaemontani*		LC
LC	*Scytosiphon lomentaria*	Beanweed	LC
LC	*Seirospora interrupta*		LC
LC	*Sorapion kjellmanii*		LC
LC	*Sparganium emersum*	European bur-reed	LC
LC	*Sparganium gramineum*		LC
LC	*Sparganium natans*	Small bur-reed	LC
LC	*Spermatochnus paradoxus*		LC
LC	*Spermothamnion repens*		LC
LC	*Sphacelaria plumula*		LC
LC	*Sphaerotrichia divaricata*		LC
LC	*Spirodela polyrrhiza*	duckweed; common duckmeat	LC
LC	*Spongomorpha aeruginosa*		LC
LC	*Spongonema tomentosum*		LC
LC	*Sporochnus pedunculatus*		LC
LC	*Stictyosiphon soriferus*		LC
LC	*Stictyosiphon tortilis*		LC
LC	*Stilophora nodulosa*		LC
LC	*Stilophora tenella*		LC
LC	*Stragularia clavata*		LC
LC	*Striaria attenuata*		LC
LC	*Stylonema alsidii*		LC

LC	*Subularia aquatica*	American awlwort; waterawlwort	LC
LC	*Tolypella nidifica*	Bird's-nest stonewort	LC
LC	*Typha angustifolia*	Narrowleaf cattail	LC
LC	*Typha latifolia*	cattail	LC
LC	*Ulva clathrata*		LC
LC	*Ulva compressa*		LC
LC	*Ulva intestinalis*	Gut weed; gutweed	LC
LC	*Ulva lactuca*	Sea lettuce	LC
LC	*Ulva linza*		LC
LC	*Ulva prolifera*		LC
LC	*Urospora penicilliformis*		LC
LC	*Urospora wormskioldii*		LC
LC	*Utricularia vulgaris*		LC
LC	*Zannichellia palustris*	Horned pondweed	LC
LC	*Zannichellia major*		LC
LC	*Ranunculus peltatus subsp. Baudoti*		LC
LC	*Nemalion elminthoides*	Sea noodle	LC
LC	*Phyllophora pseudoceranoïdes*		LC
LC	*Gaillona hookeri*		LC
LC	*Gaillona rosea*		LC
LC	*Vertebrata byssoides*		LC
LC	*Vertebrata fucoides*		LC
LC	*Battersia arctica*		LC
LC	*Stuckenia pectinata*		LC
LC	*Battersia plumigera*		NE
LC	*Chaetopteris plumosa*		NE
LC	*Protohalopteris radicans*		NE
LC	*Ulvella scutata*		NE
LC	*Sparganium erectum*		NE
LC	*Ranunculus aquatilis var. diffusus*		NE
LC	*Chaetomorpha capillaris*		NE
LC	*Vaucheria*		NE
LC	*Spirogyra*		NE
LC	*Zygnema*		NE

LC	*Lithophyllum corallinae*		NA
LC	*Coccotylus hartzii*		NA
LC	*Polyides rotunda*		NA
LC	*Fucus distichus*	Brown seaweed	NA
LC	*Neostromatella monostromatica*		NA
LC	*Okellya curvata*		NA
LC	*Symphyocladia parasitica*		NA
LC	*Endodictyon infestans*		NA
LC	*Microspongium stilophorae*		NA
LC	*Ulva flexuosa subsp. paradoxa*		NA
LC	*Rosenvingiellopsis constricta*		NA
LC	*Binuclearia lauterbornii*		NA
LC	*Neodangemannia microcystis*		NA
LC	*Pneophyllum coronatum*		NA
LC	*Sphaceloderma caespitulum*		NA
LC	*Sphacelorbus nanus*		NA
LC	*Potamogeton illinoensis*	Illinois pondweed	NA
LC	*Polysiphonia elongella*		NA
LC	*Potamogeton zosteriformis*	Flatstem pondweed	NA
LC	*Bangia atropurpurea*		NA
LC	*Wildemania amplissima*		NA
LC	*Elatine orthosperma*		NA
LC	*Fissidens osmundoides*		NA
LC	*Fissidens adianthoides*	Fissidens moss	NA
LC	*Drepanocladus sordidus*		NA
LC	*Calliergon cordifolium*	Calliergon moss	NA
LC	*Calliergon megalophyllum*	Calliergon moss	NA
LC	*Hygrohypnum luridum*	Hygrohypnum moss	NA
LC	*Sagittaria natans*		NA
LC	*Stratiotes aloides*	Water soldiers	NA
LC	*Triglochin maritima*	Arrow-grass; seaside arrowgrass	NA

LC	*Cicuta virosa*	Mackenzie's water hemlock	NA
LC	*Iris pseudacorus*	Yellow flag; paleyellow iris	NA
LC	*Utricularia australis*		NA
LC	*Utricularia intermedia*	bladderwort; flatleaf bladderwort	NA
LC	*Utricularia minor*	Lesser bladderwort	NA
LC	*Hippuris lanceolata*		NA
LC	*Eleocharis mamillata*	Common club-rush	NA
LC	*Juncus gerardii*	Saltmarsh rush	NA
LC	*Pyropia leucosticta*		NA
LC	*Wildemania miniata*		NA
LC	*Rubrointrusa membranacea*		NA

Annex 2 Fish and lamprey threat categories 2024

Download the Excel sheet (.XLSX) here.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
RE		*Acipenser oxyrinchus*	American atlantic sturgeon	RE	
RE		*Dipturus batis*	Skate	RE	
RE		*Pomatoschistus norvegicus*	Norway goby	DD	
RE		*Pomatoschistus pictus*	Painted goby	DD	
CR	A1cd+2bcde+3cd+4cd	*Anguilla anguilla*	Eel	CR	A3bde+4bde
CR	A1d+2d+3d+4d; D	*Lamna nasus*	Porbeagle	CR	A2bd
CR	A1bd+2bd+3bd+4bd	*Squalus acanthias*	Spurdog	CR	A2bd
CR	A2bd+3bd+4bd	*Thymallus thymallus*	Grayling	CR	A2bcd
EN	A1cd+2bcde+3cd+4cd	*Anarhichas lupus*	Wolf-fish	EN	A2d
EN	A2d+3d+4d	*Coregonus maraena*	Whitefish	EN	A2bd
EN	A2d+3d+4d	*Molva molva*	Ling	EN	A2d
EN	B1ab(v)	*Salmo salar*	Salmon	VU	A2cd+3d+4d
EN	A2abcde+3bcd+4bcd	*Gadus morhua*	Cod	VU	A2b,c+A4b,c
EN	A2d	*Glyptocephalus cynoglossus*	Witch	LC	
EN	A2b	*Liparis liparis*	Sea-snail	LC	
VU	A2abd+3bd+4bd	*Merlangius merlangus*	Whiting	VU	A2bd
VU	A3bd+4bd	*Raja clavata*	Thornback ray	VU	A2bd
VU	A2ac; C2a(i)	*Petromyzon marinus*	Sea lamprey	VU	C2a(i)
VU	A3d	*Salmo trutta*	Trout	VU	A3d
VU	A2bd	*Cyclopterus lumpus*	Lumpsucker	NT	A2b
VU	A2bd	*Enchelyopus cimbrius*	Four-bearded rockling	NT	A2b
VU	A2bd+3bd+4bd	*Zoarces viviparus*	Eelpout	NT	A2b
VU	B2ab(iii,v)	*Leuciscus aspius*	Asp	NT	A3d
VU	A2bd	*Amblyrayes radiata*	Starry ray /Thorny skate	LC	
VU	A2bcd	*Myoxocephalus scorpius*	Bull-rout	LC	
NT	A1bd+2bd+3bd+4bd	*Lampetra fluviatilis*	River lamprey	NT	A2bd
NT	A2abcd+3bd+4bd	*Lota lota*	Burbot	NT	A2b
NT	A1bd+2bd+3bd+4bd; B1b(v)	*Scophthalmus maximus*	Turbot	NT	A2bd
NT	A4bd	*Abramis brama*	Bream	LC	
NT	A4bd	*Blicca bjoerkna*	Silver bream	LC	
NT	A4bd	*Carassius carassius*	Crucian carp	LC	
NT	B1b(v)+2b(v)	*Ciliata mustela*	Five-bearded rockling	LC	
NT	A2bcd	*Cottus gobio*	Bullhead	LC	
NT	D1	*Thorogobius ephippiatus*	Leopard-spotted goby	LC	
DD		*Lebetus guilleti*	Guillet's goby	DD	
DD		*Lebetus scorpioides*	Diminutive goby	DD	
DD		*Lycodes gracilis*	Checker eelpout	DD	

DD	*Phrynorhombus norvegicus*	Norwegian topknot	DD	
DD	*Zeugopterus punctatus*	Topknot	DD	
DD	*Platichthys solemdali*	Baltic flouder	NA	
DD	*Chelon ramada*	Thin-lipped grey mullet	NA	
LC	*Melanogrammus aeglefinus*	Haddock	NT	B1a+2a
LC	*Merluccius merluccius*	Hake	NT	
LC	*Lesueurigobius friesii*	Fries's goby	DD	B1a+2a
LC	*Belone belone*	Garfish	LC	
LC	*Hippoglossoides platessoides*	Long rough dab	LC	
LC	*Esox lucius*	Pike	LC	
LC	*Pelecus cultratus*	Razor-fish	LC	
LC	*Phoxinus phoxinus*	Minnow	LC	
LC	*Rutilus rutilus*	Roach	LC	
LC	*Sander lucioperca*	Zander	LC	
LC	*Spinachia spinachia*	Fifteen-spined stickleback	LC	
LC	*Scyliorhinus canicula*	Lesser spotted dogfish	LC	
LC	*Agonus cataphractus*	Hook-nose	LC	
LC	*Alburnus alburnus*	Bleak	LC	
LC	*Ammodytes marinus*	Raitt,s sandeel	LC	
LC	*Ammodytes tobianus*	Sandeel	LC	
LC	*Aphia minuta*	Transparent Goby	LC	
LC	*Arnoglossus laterna*	Scaldfish	LC	
LC	*Buglossidium luteum*	Solenette	LC	
LC	*Callionymus lyra*	Dragonet	LC	
LC	*Callionymus maculatus*	Spotted dragonet	LC	
LC	*Centrolabrus exoletus*	Rock cook	LC	
LC	*Chelon labrosus*	Thick-lipped grey mullet	LC	
LC	*Chirolophis ascanii*	Yarrell's blenny	LC	
LC	*Clupea harengus*	Herring	LC	
LC	*Cobitis taenia*	Spined loach	LC	
LC	*Coregonus albula*	Vendace	LC	
LC	*Crystallogobius linearis*	Crystal goby	LC	
LC	*Ctenolabrus rupestris*	Goldsinny	LC	
LC	*Entelurus aequoreus*	Snake pipefish	LC	
LC	*Eutrigla gurnardus*	Grey gurnard	LC	
LC	*Gasterosteus aculeatus*	Three-spined stickleback	LC	
LC	*Gobius niger*	Black goby	LC	
LC	*Gobiusculus flavescens*	Two-spotted goby	LC	
LC	*Gymnocephalus cernuus*	Ruffe	LC	
LC	*Hyperoplus lanceolatus*	Greater sandeel	LC	
LC	*Labrus bergylta*	Ballan wrasse	LC	

LC	*Labrus mixtus*	Cuckoo wrasse	LC
LC	*Leucaspius delineatus*	Sunbleak	LC
LC	*Leuciscus idus*	Ide	LC
LC	*Leuciscus leuciscus*	Dace	LC
LC	*Limanda limanda*	Dab	LC
LC	*Liparis montagui*	Montagu's sea-snail	LC
LC	*Lumpenus lampretaeformis*	Snake blenny	LC
LC	*Microstomus kitt*	Lemon sole	LC
LC	*Myxine glutinosa*	Hagfish	LC
LC	*Nerophis lumbriciformis*	Worm pipefish	LC
LC	*Nerophis ophidion*	Straight-nosed pipefish	LC
LC	*Osmerus eperlanus*	Smelt	LC
LC	*Perca fluviatilis*	Perch	LC
LC	*Pholis gunnellus*	Butterfish	LC
LC	*Platichthys flesus*	Flounder	LC
LC	*Pleuronectes platessa*	Plaice	LC
LC	*Pomatoschistus microps*	Common goby	LC
LC	*Pomatoschistus minutus*	Sand goby	LC
LC	*Pungitius pungitius*	Nine-spine stickleback	LC
LC	*Raniceps raninus*	Tadpole-fish	LC
LC	*Scardinius erythrophthalmus*	Rudd	LC
LC	*Scophthalmus rhombus*	Brill	LC
LC	*Solea solea*	Sole	LC
LC	*Sprattus sprattus*	Sprat	LC
LC	*Symphodus melops*	Corkwing wrasse	LC
LC	*Syngnathus acus*	Greater pipefish	LC
LC	*Syngnathus rostellatus*	Nilsson's pipefish	LC
LC	*Syngnathus typhle*	Deep-snouted pipefish	LC
LC	*Taurulus bubalis*	Sea scorpion	LC
LC	*Tinca tinca*	Tench	LC
LC	*Trachinus draco*	Greater weever	LC
LC	*Trisopterus esmarkii*	Norway pout	LC
LC	*Trisopterus minutus*	Poor cod	LC
LC	*Vimba vimba*	Vimba bream	LC
LC	*Auxis rochei*	Frigate mackerel, Bullet tuna	NA
LC	*Myoxocephalus quadricornis*	Fourhorn sculpin	NA
LC	*Alosa fallax*	Twaite shad	NA
LC	*Scomberesox saurus*	Skipper, Atlantic saury	NA

Annex 3 Benthic invertebrate threat categories 2024

Download the Excel sheet (.XLSX) here.

Species that are restricted to the Kattegat region are marked with a *.

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	A2b	*Haploops tenuis*		EN	B1ab(i,iii)+2ab(ii,iii)
CR	A2b	*Haploops tubicola*		VU	B1ab(i,iii)+2ab(ii,iii)
EN	B2ab(iii,v)	*Stomphia coccinea**	Spotted sea anemone; spotted swimming anemone; swimming anemone	VU	B1ab(iii)
EN	B2ab(v)	*Hippasteria phrygiana**		VU	B1ab(iii)
EN	B1ab(v)+2ab(v)	*Cliona celata**	Boring sponge; red boring sponge; sulfur sponge; yellow boring horny sponge; yellow boring sponge	VU	D2
EN	B2ab(v)	*Corophium multisetosum*		NT	B2b
EN	B2ab(i,ii,iii)	*Boreotrophon truncatus*		NT	B2ab(ii,iii)
EN	B2ab(i,ii,iii,v)	*Epitonium turtonis*	Finely ribbed wentletrap; Turton's wentletrap	DD	
EN	B2ab(v)	*Upogebia stellata*		DD	
EN	B2ab	*Talitrus saltator*	Sand hopper	DD	
EN	B1ab(iii)+2ab(iii)	*Hanleya hanleyi*	Eastern hanleya; Hanley's chiton	LC	
VU	A2c	*Modiolus modiolus*	Horse mussel; horse-mussel; northern horsemussel	VU	A2c
VU	D2	*Pelonaia corrugata**		VU	D2
VU	B1ab(iii,v)+2ab(iii,v)	*Clelandella miliaris**		VU	B1ab(i,iii)
VU	B1ab(iii,v)+2ab(iii,v)	*Hippolyte varians*	Chamaeleon prawn; chameleon prawn	VU	B1ab(iii)
VU	D2	*Parvicardium hauniense*	Copenhagen cockle	VU	B2ab(ii,iii)
VU	D2	*Atelecyclus rotundatus**	Circular crab; old mans face crab; old-man's face crab	VU	D2
VU	B1ab(iii,v)+2ab(iii,v)	*Euspira pallida**	Pale moonsnail	VU	B1ab(iii)
VU	B2	*Deshayesorchestia deshayesii*		VU	B2ab(iii)
VU	A2	*Macoma calcarea*	Chalky macoma	VU	A2c
VU	A2	*Nucula nucleus*	Common nut clam; nuclear nut clam	VU	A2c
VU	A2	*Scrobicularia plana*	Peppery furrow clam; peppery furrow shell	VU	A2c
VU	B1	*Solaster endeca*	Purple sun star	VU	B1ab(iii)
VU	A2ac	*Mya truncata*	Blunt gaper; blunt gaper clam; clam; truncate	NT	A2c

			softshell; truncate softshell clam		
VU	B2ab(iii)	*Amauropsis islandica*	Iceland moonsnail	NT	B2ab(ii,iii,iv)
VU	B1ab(v)+2ab(v)	*Corystes cassivelaunus**	Helmet crab; masked crab	NT	D2
VU	B1ab(v)+2ab(v)	*Amphipholis squamata**	Brooding snake star; dwarf brittle star	DD	
VU	B1ab(iii,v)+2ab(iii,v)	*Roxania utriculus**		DD	
VU	B1ab(iii)+2ab(iii)	*Leptochiton alveolus**		LC	
VU	A2b	*Nuculana pernula*	Müller's nut clam; Müller's nutclam; northern nut clam; northern nutclam	LC	
VU	D2	*Crenella decussata*	Cross-sculpture crenella; decussate crenella	LC	
VU	B1ab(i,iii)	*Alvania testae**		LC	
VU	A2ac	*Calocaris macandreae**		LC	
VU	B1ab(iii)+2ab(iii)	*Eurynome aspera**	Strawberry crab	LC	
VU	B1ab(ii,iii)+2ab(ii,iii)	*Campylaspis costata*		LC	
VU	D2	*Diastylis cornuta**		LC	
VU	D2	*Eurynome spinosa**		LC	
VU	B2ab(ii,iii)	*Ophiura robusta*		LC	
VU	B1ab(i,ii,iii)+2ab(i,ii,iii)	*Eupolymnia nesidensis**		LC	
VU	B1ab(i)+2ab(i)	*Palliolum incomparabile**		LC	
VU	A1	*Musculus niger*	Black musculus; black mussel; little black mussel	LC	
VU	A2c	*Pinnotheres pisum**		LC	
NT	B1ab(v)+2ab(v)	*Abra prismatica*		VU	B1ab(iii)+2ab(iii)
NT	B1ab(v)+2ab(v)	*Epitonium clathrus*	Common European wentletrap; common wentletrap; European wentletrap; false wentletrap	VU	B1ab(iii)
NT	B2b(v)	*Sabella pavonina**	Peacock feather-duster worm; peacock worm	NT	B1ab(iii)
NT	B2	*Alderia modesta*		NT	B2a
NT	D2	*Skeneopsis planorbis*	Flat skenea; planorb skenea	DD	
NT	B1a+2a	*Agrypnetes crassicornis*		DD	
NT	B1ab(iii,v)+2ab(iii,v)	*Geryon trispinosus**		DD	
NT	B1b(v)+2b(v)	*Inachus phalangium**	Leach's spider crab; Mediterranean spider crab	DD	
NT	D2	*Gammarellus angulosus*		DD	
NT	D2	*Palaemon varians*		DD	
NT	A2bc; B2ab(ii,v)	*Ampelisca macrocephala*		LC	

NT	B1ab(i,ii,iii)+2ab(i,ii,iii)	*Ampelisca spinipes**		LC
NT	B2ab(i,ii,iii)	*Ampelisca typica**		LC
NT	B2b(ii,iii,v)	*Byblis gaimardii**		LC
NT	D2	*Calliopaea bellula*		LC
NT	B1a+2a	*Callochiton septemvalvis**	Sevenplated chiton; smooth European chiton	LC
NT	A2a	*Crangon allmanni*		LC
NT	A2bc; B2b(ii,v)	*Nuculana minuta*	Beaked nutclam; minute nutclam	LC
NT	B1ab(iii)+2ab(iii)	*Panningia hyndmani*		LC
NT	D2	*Polycirrus norvegicus*		LC
NT	B1ab(i,ii,iii)+2ab(i,ii,iii)	*Spatangus purpureus*	Purple heart urchin; violet heart-urchin	LC
NT	A1d	*Travisia forbesii*		LC
NT	A1a (GER)	*Astarte montagui*		LC
NT	A1a (GER)	*Arctica islandica*	Iceland cyprina; Icelandic cyprine; ocean quahog	LC
NT	B1b+B2b	*Cuspidaria obesa**		LC
NT	B1b+B2b	*Eualus pusiolus*	Doll eualid; doll shrimp	LC
NT	B1b+B2b	*Spirontocaris liljeborgii**	Friendly blade shrimp; friendly bladed shrimp	LC
NT	B2b(ii)	*Tryphosa nana*		LC
NT	B2b	*Neoamphitrite affinis*		LC
NT	B1b(iii) + B2b(iii)	*Patinella verrucaria**		NE
NT	B1b+B2b	*Nucella lapillus**	Atlantic dog whelk; Atlantic dogwinkle; dog whelk; dogwhelk; northern dog whelk; northern dogwinkle	NA
NT	A1d	*Ostrea edulis*	Common oyster; edible oyster; European flat oyster; flat oyster	NA
DD		*Ekmania barthii*	Barth's sea cucumber	DD
DD		*Lekanesphaera rugicauda*		DD
DD		*Limnoria lignorum*	Gribble; wood gribble	DD
DD		*Myosotella myosotis*	Mouse-eared snail	DD
DD		*Orchestia gammarellus*	Beach-flea; common scud; common shore-skipper; shore-hopper	DD
DD		*Thia scutellata*	Polished crab; thumbnail crab	DD
DD		*Eurydice pulchra*	Speckled sea louse; speckled selouse	DD
DD		*Cryptonatica affinis**	Arctic moonsnail; Artic moonsnail	DD
DD		*Epitonium clathratulum**	Small wentletrap; white wentletrap	DD
DD		*Ebala nitidissima*		LC
DD		*Eulima bilineata*		LC
DD		*Protohydra leuckarti*		LC
DD		*Peachia cylindrica**		LC

DD	*Gari tellinella**		LC
DD	*Yoldiella lucida**		LC
DD	*Gracilechinus acutus**		LC
DD	*Harrimania kupfferi**		LC
DD	*Lamellaria perspicua**	Transparent lamellaria	LC
DD	*Aeolidiella glauca**		LC
DD	*Emarginula crassa**	Thick emarginula; thick slit limpet	LC
DD	*Iothia fulva**	Tawny limpet	LC
DD	*Ondina divisa**	Divided pyramid snail	LC
DD	*Ondina perezi**		LC
DD	*Raphitoma leufroyi**		LC
DD	*Aetea truncata**		LC
DD	*Parasmittina trispinosa**		LC
DD	*Galathea strigosa**	Spinous squad lobster; strigose squat lobster	LC
DD	*Diastylis boecki**		LC
DD	*Hemilamprops assimilis**		LC
DD	*Ephesiella abyssorum**		LC
DD	*Hyalinoecia tubicola**	Bristleworm	LC
DD	*Perinereis cultrifera**	Marine ragworm; ragworm	LC
DD	*Sabella spallanzanii**	European fan worm; fanworm; feather duster worm; feather-duster worm; Mediterranean fanworm	LC
DD	*Onchnesoma steenstrupii steenstrupii**		LC
DD	*Kellia suborbicularis**		LC
DD	*Montacuta substriata**	Substriated montacutid	LC
DD	*Kelliella miliaris**		LC
DD	*Antedon petasus**		LC
DD	*Curtitoma trevelliana**	Small arrow cone	LC
DD	*Melanella sinuosa**		LC
DD	*Omalogyra atomus**	Aaom snail	LC
DD	*Margarites helicinus**	Helicina margarite; pearly top shell; pearly topsnail; smooth margarite; spiral margarite	LC
DD	*Smittina bella*		LC
DD	*Phaeostachys spinifera**		LC
DD	*Alcyonidium albidum*		LC
DD	*Amphiblestrum flemingii*		LC
DD	*Membraniporella nitida**		LC
DD	*Escharella ventricosa*		LC
DD	*Aquiloniella scabra*		LC
DD	*Crisularia purpurotincta*		LC
DD	*Cradoscrupocellaria reptans*		LC
DD	*Scruparia chelata**		LC
DD	*Scruparia ambigua**		LC
DD	*Psolus squamatus**	*Psolus squamatus**	LC
DD	*Oerstedia similiformis**		LC
DD	*Calycella syringa*	Creeping bell hydroid	LC
DD	*Astacilla intermedia*		LC
DD	*Leucothoe incisa*		LC
DD	*Leptomysis gracilis**		LC

DD	*Microdeutopus versiculatus**		LC
DD	*Monoculopsis longicornis**		LC
DD	*Apherusa ovalipes*		LC
DD	*Epimeria (Epimeria) cornigera*		LC
DD	*Centraloecetes kroyeranus*		LC
DD	*Erythrops erythrophthalmus**		LC
DD	*Erythrops serratus**		LC
DD	*Siphonenteron bilineatum*		LC
DD	*Capitella giardi**		LC
DD	*Nicomache (Loxochona) trispinata**		LC
DD	*Nicomache (Nicomache) minor*		LC
DD	*Magelona filiformis*		LC
DD	*Ophelina abranchiata**		LC
DD	*Cirriformia tentaculata*		LC
DD	*Dasybranchus caducus**		LC
DD	*Ophelina modesta*		LC
DD	*Parougia eliasoni**		LC
DD	*Hauchiella tribullata**		LC
DD	*Discocelides langi**		LC
DD	*Onchnesoma squamatum**		LC
DD	*Nephasoma (Nephasoma) minutum**		LC
DD	*Phascolion (Isomya) tuberculosum**		LC
DD	*Entalophoroecia deflexa**		LC
DD	*Tubulipora lobifera*		LC
DD	*Crisidia cornuta*		LC
DD	*Crisiella producta*		LC
DD	*Crisia calyptostoma**		LC
DD	*Tubulipora plumosa**		LC
DD	*Phoronis pallida*		LC
DD	*Nephasoma (Nephasoma) abyssorum abyssorum**		LC
DD	*Schizomavella (Schizomavella) linearis*		LC
DD	*Amathia imbricata*		NE
DD	*Metopa rubrovittata*		NE
DD	*Clathrina blanca**		NE
DD	*Lumbriclymene cylindricauda**		NE
DD	*Malmgrenia mcintoshi**		NE
DD	*Stomacrustula sinuosa**		NE
DD	*Janua heterostropha*		NE
DD	*Chirimia biceps biceps*		NE
DD	*Malmgrenia andreapolis**		NE
DD	*Callopora rylandi*		NA
DD	*Ericthonius brasiliensis*		NA
DD	*Ericthonius rubricornis**		NA
DD	*Pseudomystides limbata*		NA
DD	*Sertularella polyzonias*	Great tooth hydroid	NA
DD	*Sertularella tenella*		NA
DD	*Schizotricha frutescens*		NA
DD	*Campanularia hincksii*		NA

DD	*Halecium beanii*		NA	
DD	*Halopteris catharina*		NA	
DD	*Halecium muricatum*	Sea hedgehog hydroid	NA	
DD	*Laomedea neglecta*		NA	
DD	*Parapleustes bicuspis*		NA	
DD	*Tmetonyx cicada**		NA	
DD	*Idotea neglecta*		NA	
DD	*Gammaropsis palmata*		NA	
DD	*Prosphaerosyllis tetralix*		NA	
DD	*Hubrechtella dubia*		NA	
DD	*Circeis spirillum*		NA	
DD	*Bushiella (Jugaria) granulata*		NA	
DD	*Scoletoma impatiens*		NA	
DD	*Eusyllis blomstrandi**		NA	
DD	*Drilonereis filum*		NA	
DD	*Cryptocelides loveni**		NA	
DD	*Modiolula phaseolina**	Bean horse mussel; bean mussel	NA	
LC	*Inachus dorsettensis*	Scorpion spider crab	NT	B1ab(iii)
LC	*Gammarus inaequicauda*		DD	
LC	*Macroplea pubipennis*		DD	
LC	*Pleurogonium rubicundum*		DD	
LC	*Pandalus borealis*	Deep-water prawn; northern pink shrimp; northern prawn; northern prawn/shrimp; northern shrimp; pink shrimp	LC	
LC	*Alcyonium digitatum*	Dead man's fingers; dead man's fingers soft coral; dead-man's fingers; sea-fingers	LC	
LC	*Edwardsia danica*		LC	
LC	*Edwardsia longicornis*		LC	
LC	*Metridium senile*		LC	
LC	*Swiftia rosea*		LC	
LC	*Ciona intestinalis*	Sea vase; yellow sea squirt	LC	
LC	*Dendrodoa grossularia*	Baked bean ascidian; baked-bean ascidian	LC	
LC	*Molgula citrina*	Sea grapes	LC	
LC	*Molgula occulta*		LC	
LC	*Abra alba*		LC	
LC	*Cerastoderma edule*	Common cockle; common edible cockle; common European cockle; edible cockle	LC	
LC	*Spisula elliptica*	Elliptic trough shell; elliptical surfclam; elliptical trough shell	LC	
LC	*Abra nitida*		LC	
LC	*Barnea candida*		LC	
LC	*Cerastoderma glaucum*	Brackish cockle; lagoon cockle; olive green cockle	LC	
LC	*Brissopsis lyrifera*	Heart urchin	LC	
LC	*Echinocardium cordatum*	Heart-urchin; sea-potato	LC	
LC	*Echinocardium flavescens*		LC	
LC	*Einhornia crustulenta*		LC	

LC	*Flustra foliacea*	Broad-leaved horn wrack; broad-leaved hornwrack; greater horn wrack; greater hornwrack; hornwrack	LC
LC	*Balanus crenatus*	An acorn barnacle; crenate barnacle; wrinkled barnacle	LC
LC	*Balanus balanus*		LC
LC	*Semibalanus balanoides*	Acorn barnacle; barnacle; common rock barnacle; northern rock barnacle	LC
LC	*Dynamena pumila*	Garland hydroid; minute garland hydroid; minute hydroid; sea oak	LC
LC	*Kirchenpaueria pinnata**	Fine feather-hydroid; plumed hydroid	LC
LC	*Laomedea flexuosa*	Seabells	LC
LC	*Operculariella lacerata*		LC
LC	*Abietinaria abietina*		LC
LC	*Clytia hemisphaerica*		LC
LC	*Corymorpha nutans*	Nodding hydroid	LC
LC	*Gonothyraea loveni*		LC
LC	*Hartlaubella gelatinosa*		LC
LC	*Hydractinia echinata*	Hermit crab fur; hermit crab hydroid; rough hydroid; snail fur; snailfur	LC
LC	*Obelia longissima*	Hydroid	LC
LC	*Sertularia cupressina*	Sea cypress; sea cypress hydroid; squirrel's-tail hydroid; white weed; whiteweed; whiteweed hydroid	LC
LC	*Corophium volutator*	European mud scud; mud dwelling amphipod; mud shrimp	LC
LC	*Gammarus duebeni*		LC
LC	*Gammarus locusta*	Common intertidal amphipod; locust amphipod	LC
LC	*Apocorophium lacustre*		LC
LC	*Bathyporeia elegans*		LC
LC	*Bathyporeia pilosa*		LC
LC	*Bathyporeia sarsi*		LC
LC	*Crangon crangon*	Brown shrimp; common European shrimp; common shrimp	LC
LC	*Crassicorophium bonellii*		LC
LC	*Crassicorophium crassicorne*		LC
LC	*Gammarus oceanicus*	Oceanic scud	LC
LC	*Gammarus salinus*	Gammarid shrimp	LC
LC	*Gammarus zaddachi*		LC
LC	*Medicorophium affine*		LC
LC	*Monocorophium insidiosum*		LC
LC	*Monoporeia affinis*		LC
LC	*Tanaissus lilljeborgi*		LC

LC	*Amphiura chiajei*		LC
LC	*Amphiura filiformis*		LC
LC	*Hediste diversicolor*	Estuary ragworm; harbour rag; harbour ragworm; ragworm	LC
LC	*Lagis koreni*	Trumpet worm	LC
LC	*Arenicola marina*		LC
LC	*Capitella capitata*	Gallery worm	LC
LC	*Pygospio elegans*	Pygospio worm	LC
LC	*Streptosyllis websteri*		LC
LC	*Halcampa chrysanthellum*		LC
LC	*Sagartiogeton undatus*	Small snakelocks anemone	LC
LC	*Urticina felina*	Dahlia anemone; dahlia sea anemone; feline dahlia anemone; feline sea dahlia	LC
LC	*Sagartiogeton viduatus*	Eelgrass anemone	LC
LC	*Sarcodictyon roseum*		LC
LC	*Ascidia virginea**		LC
LC	*Eugyra arenosa**		LC
LC	*Styela coriacea*		LC
LC	*Styela rustica*		LC
LC	*Ascidia conchilega*		LC
LC	*Ascidia mentula**		LC
LC	*Ascidiella aspersa*		LC
LC	*Ascidiella scabra*		LC
LC	*Botrylloides leachii**		LC
LC	*Botryllus schlosseri**		LC
LC	*Corella parallelogramma**	Gas mantle ascidian	LC
LC	*Polyclinum aurantium*		LC
LC	*Crossaster papposus*	Common sun star	LC
LC	*Asterias rubens*		LC
LC	*Astropecten irregularis*		LC
LC	*Henricia perforata**		LC
LC	*Leptasterias (Leptasterias) muelleri**		LC
LC	*Leptasterias danica**		LC
LC	*Marthasterias glacialis**	Spiny starfish	LC
LC	*Astarte sulcata**	Sulcate astarte	LC
LC	*Hiatella arctica*	Arctic hiatella; Arctic rock borer; Arctic saxicave; red nose; red-nose clam; wrinkled rock borer; wrinkled rockborer	LC
LC	*Limaria loscombi**		LC
LC	*Lucinoma borealis*	Northern lucina; northern lucine	LC
LC	*Mimachlamys varia*	Variegated scallop	LC
LC	*Nucula sulcata**	Furrowed nutclam; sulcate nut clam	LC
LC	*Palliolum striatum*	Striate scallop	LC
LC	*Parvicardium pinnulatum*	Oval cockle	LC
LC	*Saxicavella jeffreysi*		LC
LC	*Spisula subtruncata*	Cut surfclam; cut trough shell; subtruncate surf clam	LC

LC	*Tellimya ferruginosa*	Rusty Montagu shell	LC
LC	*Acanthocardia echinata**		LC
LC	*Aequipecten opercularis*		LC
LC	*Astarte elliptica*		LC
LC	*Clausinella fasciata**	Banded venus	LC
LC	*Cochlodesma praetenue*	European spoon clam	LC
LC	*Corbula gibba*	Basket shell; common basket clam; common corbula	LC
LC	*Cuspidaria cuspidata**		LC
LC	*Dosinia exoleta**	Rayed artemis; rayed dosinia	LC
LC	*Dosinia lupinus**	Smooth artemis; smooth dosinia	LC
LC	*Ennucula tenuis*	Smooth nutclam	LC
LC	*Gari fervensis**	Faroe sunset shell; Faroe sunsetclam	LC
LC	*Kurtiella bidentata*	Two-toothed Montagu shell	LC
LC	*Laevicardium crassum**	Norway cockle; Norwegian cockle	LC
LC	*Musculus discors*	Discordant mussel; green crenella	LC
LC	*Mysia undata*		LC
LC	*Mytilus edulis*	Bay mussel; blue mussel; common blue mussel; common mussel; edible blue mussel	LC
LC	*Mytilus trossulus*	Foolish mussel; northern bay mussel; Pacific blue mussel	LC
LC	*Nucula nitidosa*	Shiny nut clam; shiny nutclam	LC
LC	*Palliolum tigerinum*	Tiger scallop	LC
LC	*Parvicardium minimum**		LC
LC	*Parvicardium scabrum**		LC
LC	*Phaxas pellucidus*	Razor shell; transparent razor shell	LC
LC	*Pododesmus patelliformis*		LC
LC	*Pseudamussium peslutrae*	Seven-rayed scallop	LC
LC	*Tellimya tenella**		LC
LC	*Thracia convexa**		LC
LC	*Thracia phaseolina*	Kidneybean thracia; paper thracia	LC
LC	*Thracia villosiuscula**		LC
LC	*Thyasira flexuosa*	Flexuose cleftclam; wavy hatchetclam; wavy hatchet-shell	LC
LC	*Timoclea ovata**	Oval venus	LC
LC	*Zirfaea crispata*	Atlantic great piddock; great piddock; oval piddock	LC
LC	*Chaetoderma nitidulum*	Glistenworm	LC
LC	*Clitellio arenarius*		LC
LC	*Enchytraeus albidus*	White potworm; whiteworm	LC
LC	*Lumbricillus arenarius*		LC

LC	*Lumbricillus helgolandicus*		LC
LC	*Lumbricillus lineatus*		LC
LC	*Marionina spicula*		LC
LC	*Tubificoides heterochaetus*		LC
LC	*Paranais litoralis*		LC
LC	*Thalassodrilus prostatus*		LC
LC	*Tubificoides amplivasatus*		LC
LC	*Tubificoides benedii*		LC
LC	*Novocrania anomala**		LC
LC	*Chalinula limbata*		LC
LC	*Haliclona (Haliclona) oculata*	Mermaid's glove	LC
LC	*Suberites ficus*	Fig sponge; orange fig horny sponge; sea orange	LC
LC	*Echinocyamus pusillus*	Broad beau of sea; green sea urchin; green urchin	LC
LC	*Echinus esculentus**	Edible sea urchin; European edible sea urchin	LC
LC	*Psammechinus miliaris*	Green sea urchin	LC
LC	*Strongylocentrotus droebachiensis**	Green sea urchin; northern sea urchin; sea egg	LC
LC	*Armina loveni**		LC
LC	*Bela nebula**	Nebular needle conch	LC
LC	*Bittium reticulatum*	Needle shell; needle whelk	LC
LC	*Cadlina laevis*	White Atlantic cadlina; white sea slug	LC
LC	*Capulus ungaricus*	Bonnet shell; capsnail; fool's cap; fools capsnail; Hungarian cap shell	LC
LC	*Crisilla semistriata*		LC
LC	*Euspira catena*		LC
LC	*Facelina bostoniensis*	Boston facelina; Drummond's facelina; facelina	LC
LC	*Hyala vitrea*	Translucent hyala; translucent spire shell	LC
LC	*Lepeta caeca**	Northern blind limpet	LC
LC	*Littorina obtusata*	Flat periwinkle; northern yellow periwinkle; yellow periwinkle	LC
LC	*Marshallora adversa*	Reversed needle-whelk	LC
LC	*Onchidoris muricata*	Rough doris	LC
LC	*Onoba semicostata*	Semi-ribbed spire snail	LC
LC	*Retusa truncatula*	Truncate barrel-bubble	LC
LC	*Tectura virginea*	White tortoiseshell limpet	LC
LC	*Acanthodoris pilosa*		LC
LC	*Aclis minor**		LC
LC	*Aclis walleri**		LC
LC	*Acteon tornatilis*		LC
LC	*Adalaria proxima*		LC
LC	*Aeolidia papillosa*		LC
LC	*Ancula gibbosa*		LC
LC	*Aplysia punctata*		LC
LC	*Aporrhais pespelecani*		LC

LC	*Cylichna cylindracea*	Cylindrical barrel-bubble	LC
LC	*Dendronotus frondosus*	Bushy-backed nudibranch; bushy-backed sea slug; frond eolis; frond-aeolis	LC
LC	*Diaphana minuta*	Arctic paperbubble; Arctic paper-bubble; brown paper-bubble; weak paper-bubble	LC
LC	*Doris pseudoargus**	Sea lemon	LC
LC	*Ecrobia ventrosa*	Hanging mud snail; spine snail	LC
LC	*Emarginula fissura**	Slit limpet	LC
LC	*Epitonium trevelyanum**		LC
LC	*Euspira montagui*	Unspotted moonsnail	LC
LC	*Lacuna vincta*	Banded chink shell; banded chink snail; northern lacuna	LC
LC	*Limapontia capitata*	Broad-headed lanceolate sea slug	LC
LC	*Littorina littorea*	Common periwinkle; common winkle; edible winkle; periwinkle	LC
LC	*Littorina saxatilis*	Black-lined periwinkle; rough periwinkle	LC
LC	*Mangelia attenuata**		LC
LC	*Mangelia costata**		LC
LC	*Melanella lubrica**	Smooth urchin-snail	LC
LC	*Neptunea antiqua*	Ancient neptune; ancient neptune snail; ancient whelk; buckie; common spindle snail; neptune snail; red whelk	LC
LC	*Onoba aculeus*	Pointed cingula	LC
LC	*Philine aperta*	European paperbubble; open-shelled paperbubble; paper-bubble	LC
LC	*Polycera quadrilineata*	Fourline nudibranch; four-striped polycera	LC
LC	*Retusa obtusa*	Arctic barrel-bubble; pearl bubble	LC
LC	*Rissoa membranacea*	Thick-lipped risso snail; thicklipped spire shell	LC
LC	*Rissoa parva*	Tiny risso snail	LC
LC	*Rissoa violacea*	Violet risso; violet risso snail	LC
LC	*Tritonia plebeia*		LC
LC	*Vitreolina philippi*		LC
LC	*Alcyonidium hirsutum*		LC
LC	*Alcyonidium polyoum*		LC
LC	*Bicellariella ciliata**	Furry bryozoan	LC
LC	*Palmiskenea skenei*		LC
LC	*Scrupocellaria scruposa**	Scrupocellaria	LC
LC	*Securiflustra securifrons**	Narrow-leaved hornwrack	LC
LC	*Alcyonidium diaphanum*		LC
LC	*Alcyonidium gelatinosum*		LC

LC	*Alcyonidium parasiticum*		LC
LC	*Alderina imbellis**		LC
LC	*Amathia gracilis*		LC
LC	*Callopora dumerilii**		LC
LC	*Conopeum reticulum*	An encrusting bryozoan	LC
LC	*Conopeum seurati*		LC
LC	*Cryptosula pallasiana**	Red crust	LC
LC	*Electra pilosa*	Hairy sea-mat	LC
LC	*Escharella immersa*		LC
LC	*Eucratea loricata*	Paired bryozoan	LC
LC	*Farrella repens*		LC
LC	*Membranipora membranacea*	Lacy crust bryozoan; sea mat; sea-mat	LC
LC	*Microporella ciliata*		LC
LC	*Penetrantia concharum**		LC
LC	*Porella concinna*		LC
LC	*Reteporella beaniana**		LC
LC	*Smittoidea reticulata*		LC
LC	*Tegella unicornis*		LC
LC	*Triticella flava**		LC
LC	*Triticella pedicellata*		LC
LC	*Scalpellum scalpellum**	Velvet goose barnacle	LC
LC	*Leptopentacta elongata*		LC
LC	*Labidoplax buskii**		LC
LC	*Ocnus lacteus**		LC
LC	*Psolus phantapus**	Fuzzy sea cucumber	LC
LC	*Thyone fusus**		LC
LC	*Nipponnemertes pulchra*		LC
LC	*Cyanophthalma obscura*		LC
LC	*Malacobdella grossa*	Leech nemertean	LC
LC	*Branchiostoma lanceolatum*		LC
LC	*Ampithoe rubricata*		LC
LC	*Anapagurus laevis*	Yellow hermit crab	LC
LC	*Athanas nitescens*	Hooded shrimp	LC
LC	*Bathymedon longimanus*		LC
LC	*Dexamine spinosa*		LC
LC	*Ebalia tumefacta**	Bryers nut crab; Bryer's nut crab	LC
LC	*Eudorella emarginata*		LC
LC	*Eudorella truncatula*		LC
LC	*Eudorellopsis deformis*		LC
LC	*Hardametopa nasuta*		LC
LC	*Harpinia antennaria*		LC
LC	*Heterotanais oerstedii*		LC
LC	*Lembos websteri*		LC
LC	*Macropodia rostrata*	Long legged spider crab; long-legged spider crab	LC
LC	*Mesopodopsis slabberi*		LC
LC	*Metopa pusilla*		LC
LC	*Munna minuta*		LC
LC	*Mysis mixta*		LC
LC	*Nephrops norvegicus*	Nephrops norvegicus	LC
LC	*Pagurus cuanensis**	Woolly hermit crab	LC
LC	*Pontocrates arenarius*		LC
LC	*Pontoporeia femorata*		LC
LC	*Protomedeia fasciata*		LC
LC	*Saduria entomon*		LC

LC	*Schistomysis ornata*		LC
LC	*Acidostoma obesum*		LC
LC	*Ampelisca brevicornis*		LC
LC	*Ampelisca tenuicornis*		LC
LC	*Amphilochoides serratipes*		LC
LC	*Anapagurus chiroacanthus**		LC
LC	*Apherusa bispinosa*		LC
LC	*Argissa hamatipes*		LC
LC	*Arrhis phyllonyx**		LC
LC	*Autonoe longipes*		LC
LC	*Bodotria scorpioides**		LC
LC	*Callianassa subterranea*	Burrowing mud shrimp	LC
LC	*Calliopius laeviusculus*		LC
LC	*Cancer pagurus*	Edible crab; European edible crab	LC
LC	*Caprella linearis*	Ghost shrimp; linear skeleton shrimp	LC
LC	*Caprella septentrionalis*		LC
LC	*Carcinus maenas*	crab	LC
LC	*Cheirocratus assimilis*		LC
LC	*Cheirocratus intermedius*		LC
LC	*Cyathura carinata*		LC
LC	*Diastylis bradyi*		LC
LC	*Diastylis laevis*		LC
LC	*Ebalia cranchii**	Cranch's nut crab	LC
LC	*Eriopisa elongata**		LC
LC	*Erythrops elegans*		LC
LC	*Galathea intermedia**		LC
LC	*Galathea squamifera**	Black squat lobster; Leach's squat lobster	LC
LC	*Gammarellus homari*		LC
LC	*Gastrosaccus spinifer*		LC
LC	*Harpinia serrata*		LC
LC	*Hippomedon denticulatus*		LC
LC	*Hyas araneus*	Atlantic lyre crab; great spider crab; toad crab	LC
LC	*Hyperia galba*	Big-eye amphipod	LC
LC	*Idotea balthica*	Baltic isopod; Baltic sea “centipede”	LC
LC	*Idotea chelipes*	Clawfooted marine isopod	LC
LC	*Idotea granulosa*	Granular marine isopod	LC
LC	*Iphimedia obesa*		LC
LC	*Jaera (Jaera) albifrons*		LC
LC	*Jassa falcata*	Mottled tube-maker	LC
LC	*Jassa herdmani*		LC
LC	*Jassa pusilla*		LC
LC	*Lamprops fasciatus**		LC
LC	*Lekanesphaera hookeri*		LC
LC	*Leptocheirus hirsutimanus*		LC
LC	*Leptocheirus pilosus*		LC
LC	*Liocarcinus depurator*	Blue-leg swimcrab; blue-leg swimming-crab; harbour crab; harbour swimming crab; sandy swimming crab	LC
LC	*Liocarcinus holsatus*	Common swimming crab; flying crab; flying	LC

		swimming crab; swimming crab	
LC	*Liocarcinus navigator**	Arch-fronted swimming crab	LC
LC	*Liocarcinus pusillus**	Dwarf swimming crab	LC
LC	*Lithodes maja**	Devil's crab; northern stone crab; Norway crab; Norway king crab; prickly crab; stone king crab	LC
LC	*Megamphopus cornutus*		LC
LC	*Melita palmata*		LC
LC	*Microdeutopus gryllotalpa*	Tube builder	LC
LC	*Mysis oculata*		LC
LC	*Mysis relicta*	Common Northern European opossum shrimp; opossum shrimp	LC
LC	*Natatolana borealis*		LC
LC	*Neomysis integer*		LC
LC	*Pagurus bernhardus*	Bernhard's hermit crab; common hermit crab; large hermit crab; soldier crab; soldier hermit crab	LC
LC	*Pagurus pubescens**	Downy hermit crab	LC
LC	*Palaemon adspersus*	Baltic prawn	LC
LC	*Palaemon serratus**	Common prawn	LC
LC	*Pandalina brevirostris*		LC
LC	*Pandalus montagui*	Aesop prawn; Aesop shrimp; pink shrimp	LC
LC	*Pariambus typicus*		LC
LC	*Perioculodes longimanus*		LC
LC	*Philocheras bispinosus*		LC
LC	*Photis longicaudata*		LC
LC	*Phtisica marina*	Least skeleton shrimp	LC
LC	*Pisidia longicornis**	Common porcelain crab; long clawed porcelain crab; long-clawed porcelain crab; minute porcelain crab; very hairy crab	LC
LC	*Pontocrates altamarinus*		LC
LC	*Praunus flexuosus*	Bent mysid shrimp; chameleon shrimp	LC
LC	*Praunus inermis*		LC
LC	*Praunus neglectus*		LC
LC	*Processa canaliculata**		LC
LC	*Processa nouveli holthuisi*		LC
LC	*Schistomysis spiritus*	Ghost shrimp	LC
LC	*Scopelocheirus hopei*		LC
LC	*Tryphosites longipes**		LC
LC	*Upogebia deltaura**		LC
LC	*Urothoe poseidonis*		LC
LC	*Xantho pilipes*	Risso's crab	LC
LC	*Ophiocten affinis*		LC
LC	*Ophiopholis aculeata*	Crevice brittlestar	LC
LC	*Ophiothrix fragilis*	Common brittlestar	LC
LC	*Ophiura albida*	Brittlestar; Serpent's table brittlestar	LC

LC	*Ophiocomina nigra**	Black brittle star; black serpent star	LC
LC	*Ophiura ophiura*	Serpent star	LC
LC	*Ophiura sarsii*		LC
LC	*Tubulanus annulatus*	Football Jersey worm	LC
LC	*Tubulanus polymorphus*		LC
LC	*Lineus ruber*	Red bootlace; red ribbon worm	LC
LC	*Micrura baltica*		LC
LC	*Micrura fasciolata*		LC
LC	*Sphaerodoropsis baltica*		LC
LC	*Ampharete baltica*		LC
LC	*Aphrodita aculeata*	Sea mouse	LC
LC	*Artacama proboscidea*		LC
LC	*Eteone longa*	Paddleworm	LC
LC	*Eulalia bilineata*		LC
LC	*Eumida bahusiensis*		LC
LC	*Eumida ockelmanni**		LC
LC	*Eumida punctifera**		LC
LC	*Eumida sanguinea*		LC
LC	*Galathowenia oculata*		LC
LC	*Goniada maculata*		LC
LC	*Harmothoe impar*		LC
LC	*Lepidonotus squamatus*	Twelve-scaled worm	LC
LC	*Nephtys ciliata*		LC
LC	*Nephtys hombergii*	Catworm	LC
LC	*Nicolea zostericola*		LC
LC	*Notomastus latericeus*		LC
LC	*Paraonis fulgens*		LC
LC	*Petaloproctus tenuis*		LC
LC	*Pista cristata*		LC
LC	*Platynereis dumerilii*	Comb-toothed nereid; Dumeril's clam worm	LC
LC	*Poecilochaetus serpens*		LC
LC	*Polydora cornuta*		LC
LC	*Proceraea cornuta*		LC
LC	*Pseudopolydora paucibranchiata*		LC
LC	*Rhodine loveni*		LC
LC	*Scolelepis (Scolelepis) foliosa*		LC
LC	*Scolelepis (Scolelepis) squamata*		LC
LC	*Spirobranchus triqueter*		LC
LC	*Thelepus cincinnatus*		LC
LC	*Aglaophamus agilis**		LC
LC	*Ampharete acutifrons*		LC
LC	*Ampharete falcata*		LC
LC	*Ampharete finmarchica*		LC
LC	*Amphicteis gunneri*		LC
LC	*Amphitrite cirrata*		LC
LC	*Anobothrus gracilis*		LC
LC	*Apistobranchus tullbergi*		LC
LC	*Aricidea (Acmira) cerrutii*		LC
LC	*Brada villosa*		LC
LC	*Bylgides sarsi*		LC
LC	*Diplocirrus glaucus*		LC

LC	*Dipolydora caulleryi*		LC
LC	*Dipolydora coeca*		LC
LC	*Dipolydora quadrilobata*		LC
LC	*Echiurus echiurus**		LC
LC	*Enipo kinbergi*		LC
LC	*Eteone barbata*		LC
LC	*Eteone flava*		LC
LC	*Euchone analis**		LC
LC	*Euchone papillosa*		LC
LC	*Euchone rubrocincta**		LC
LC	*Eulalia viridis*	Green paddle worm; green worm; greenleaf worm; green-leaf worm	LC
LC	*Eupolymnia nebulosa*	Strawberry worm	LC
LC	*Fabricia stellaris*		LC
LC	*Fabriciola baltica*		LC
LC	*Flabelligera affinis*		LC
LC	*Gattyana amondseni*		LC
LC	*Gattyana cirrhosa*		LC
LC	*Glycera alba*		LC
LC	*Glycera capitata*		LC
LC	*Harmothoe imbricata*	Common fifteen-scaled worm	LC
LC	*Heteromastus filiformis*	Capitellid thread worm; capitellid threadworm; red thread worm	LC
LC	*Lanassa venusta**		LC
LC	*Lanice conchilega*	Sand mason; sand mason worm	LC
LC	*Levinsenia gracilis*		LC
LC	*Lysilla loveni*		LC
LC	*Manayunkia aestuarina*		LC
LC	*Mediomastus fragilis*	Bristleworm	LC
LC	*Melinna cristata*		LC
LC	*Microphthalmus aberrans*		LC
LC	*Microphthalmus sczelkowii*		LC
LC	*Myrianida prolifera*		LC
LC	*Neoamphitrite figulus*		LC
LC	*Nephtys assimilis*		LC
LC	*Nephtys caeca*		LC
LC	*Nephtys cirrosa*	White catworm	LC
LC	*Nephtys incisa*		LC
LC	*Nephtys longosetosa*		LC
LC	*Nephtys pente*		LC
LC	*Nereimyra punctata*		LC
LC	*Nereis pelagica*	Pelagic clam worm; slender ragworm	LC
LC	*Nicomache lumbricalis*		LC
LC	*Ophelia limacina*	Hamlet's ophelia worm; snail opheliid	LC
LC	*Ophelia rathkei*		LC
LC	*Owenia fusiformis*	Tubeworm	LC
LC	*Paradoneis eliasoni*		LC
LC	*Paradoneis lyra*		LC
LC	*Pherusa plumosa*		LC
LC	*Pholoe assimilis*		LC
LC	*Pholoe baltica*		LC

LC	*Pholoe inornata*		LC
LC	*Phyllodoce maculata*	Spotted leafworm; spotted paddleworm	LC
LC	*Phyllodoce mucosa*		LC
LC	*Phyllodoce rosea*		LC
LC	*Phylo norvegicus**		LC
LC	*Pisione remota*		LC
LC	*Polycirrus plumosus*		LC
LC	*Polydora ciliata*	Bristleworm; common polydora worm	LC
LC	*Potamilla neglecta*		LC
LC	*Pseudopolydora antennata*		LC
LC	*Pseudopolydora pulchra*		LC
LC	*Rhodine gracilior*		LC
LC	*Scalibregma inflatum*		LC
LC	*Scolelepis bonnieri*		LC
LC	*Sigalion mathildae*		LC
LC	*Sosane sulcata**		LC
LC	*Sphaerodorum gracilis*		LC
LC	*Sphaerosyllis hystrix*		LC
LC	*Spio goniocephala*		LC
LC	*Spio martinensis*		LC
LC	*Spiophanes bombyx*	Bee spionid	LC
LC	*Spirorbis (Spirorbis) corallinae*		LC
LC	*Spirorbis (Spirorbis) spirorbis*		LC
LC	*Syllis cornuta*		LC
LC	*Trichobranchus roseus**		LC
LC	*Trochochaeta multisetosa*		LC
LC	*Leptochiton asellus**	Coat-of-mail chiton; pill chiton	LC
LC	*Tonicella marmorea**	Lined red chiton; mottled red chiton	LC
LC	*Priapulus caudatus*	Cactus worm; tailed priapulid worm	LC
LC	*Halicryptus spinulosus*		LC
LC	*Callipallene brevirostris*		LC
LC	*Nymphon brevirostre*	Elegant sea spider	LC
LC	*Procerodes littoralis*		LC
LC	*Crisia eburnea*	Ivory bryozoan	LC
LC	*Oncousoecia dilatans*		LC
LC	*Crisia aculeata*		LC
LC	*Disporella hispida**		LC
LC	*Plagioecia patina**		LC
LC	*Tubulipora aperta*		LC
LC	*Tubulipora liliacea*		LC
LC	*Phoronis muelleri*	Common elongated phoronid; horseshoe worm	LC
LC	*Halichondria (Halichondria) panicea*	Breadcrumb sponge	LC
LC	*Golfingia (Golfingia) vulgaris vulgaris*		LC
LC	*Cerianthus lloydii*	North Sea cerianthid; North Sea tube anemone	LC
LC	*Hormathia digitata**	Maned sea anemone	LC

LC	*Gonactinia prolifera**		LC
LC	*Caryophyllia (Caryophyllia) smithii*		LC
LC	*Luidia sarsii**		LC
LC	*Musculus subpictus*	Marbled crenella; marbled musculus; marbled mussel; spotted mussel	LC
LC	*Fabulina fabula*	Bean-like tellin; semi-striated tellin	LC
LC	*Parathyasira equalis*		LC
LC	*Pecten maximus**	James' shell	LC
LC	*Chamelea striatula*	Chicken venus; striped venus	LC
LC	*Heteranomia squamula*	Prickly jingle; smallest saddle oyster	LC
LC	*Astarte borealis*	Boreal astarte	LC
LC	*Scutopus ventrolineatus**	Bellylined glistenworm	LC
LC	*Ophidonais serpentina*		LC
LC	*Nais elinguis*		LC
LC	*Psammoryctides albicola*		LC
LC	*Claparedrilus semifuscus*		LC
LC	*Baltidrilus costatus*		LC
LC	*Halisarca dujardinii*	Dujardin's slime sponge; soft horny sponge	LC
LC	*Megastomia conoidea*		LC
LC	*Lacuna pallidula*	Pale lacuna; pallid chink shell; pallid chink snail; pallid lacuna	LC
LC	*Lacuna parva*	Least chink shell; least chink snail; small chink snail; tiny lacuna	LC
LC	*Pusillina inconspicua*	Spotted risso	LC
LC	*Theodoxus fluviatilis*	Common freshwater nerite; river nerite; the nerite	LC
LC	*Buccinum undatum*	Buckie; common northern whelk; common whelk; edible European whelk; waved whelk; whelk	LC
LC	*Akera bullata*	Common bubble snail	LC
LC	*Testudinalia testudinalis*	Common tortoiseshell limpet; plant limpet; tortoiseshell limpet	LC
LC	*Propebela turricula**	Small staircase cone; turriculate lora	LC
LC	*Tenellia adspersa*	Lagoon sea slug; miniature aeolis	LC
LC	*Steromphala tumida**	Pointed topsnail	LC
LC	*Hydrobia acuta neglecta*		LC
LC	*Parthenina interstincta*		LC
LC	*Pusillina sarsii*		LC
LC	*Turritellinella tricarinata*	Auger shell; common screw shell; common tower shell; common turretsnail; European turretsnail; great screw shell	LC

LC	*Colus jeffreysianus**	Jeffrey's colus	LC
LC	*Sorgenfreispira brachystoma**		LC
LC	*Euspira nitida*	Alder's necklace shell; Alder's necklace snail; common necklace shell; Poli's necklace snail	LC
LC	*Hermania scabra*		LC
LC	*Patella pellucida**		LC
LC	*Peringia ulvae*	Common mudflat snail; European mudsnail; laver spire shell	LC
LC	*Tritia incrassata**	Angulate nassa; smooth western nassa; thick-lipped dog whelk	LC
LC	*Tritia nitida**		LC
LC	*Tritia reticulata*	Netted dog whelk; netted dogwhelk; netted nassa	LC
LC	*Tritonia hombergii**		LC
LC	*Steromphala cineraria**		LC
LC	*Paludicella articulata*		LC
LC	*Flustrellidra hispida*		LC
LC	*Turbicellepora avicularis*		LC
LC	*Aetea anguina**		LC
LC	*Aetea sica**		LC
LC	*Celleporina decipiens*		LC
LC	*Escharella laqueata**		LC
LC	*Escharina vulgaris**		LC
LC	*Cellaria sinuosa*		LC
LC	*Cellaria fistulosa*		LC
LC	*Celleporella hyalina*		LC
LC	*Callopora craticula**		LC
LC	*Cribrilina punctata*		LC
LC	*Callopora lineata*		LC
LC	*Alcyonidium mamillatum*		LC
LC	*Verruca stroemia*		LC
LC	*Halecium halecinum*	Herringbone hydroid; herring-bone hydroid	LC
LC	*Elophila nymphaeata*	Brown China-mark	LC
LC	*Macroplea mutica*		LC
LC	*Potthastia longimanus*		LC
LC	*Nototropis swammerdamei*		LC
LC	*Nototropis vedlomensis*		LC
LC	*Hemimysis lamornae*		LC
LC	*Hyas coarctatus*	Arctic lyre crab; contracted crab; lesser toad crab	LC
LC	*Diastylis rathkei*		LC
LC	*Philocheras bispinosus bispinosus*		LC
LC	*Microprotopus maculatus*		LC
LC	*Amphilochoides boecki*		LC
LC	*Leptognathia breviremis**		LC
LC	*Pseudomma affine*		LC
LC	*Dulichia tuberculata*		LC
LC	*Gitana sarsi*		LC
LC	*Aora gracilis*		LC

LC	*Bathyporeia guilliamsoniana*		LC
LC	*Bathyporeia pelagica*		LC
LC	*Ampelisca diadema*		LC
LC	*Baeonectes muticus**		LC
LC	*Dulichia falcata*		LC
LC	*Ischyrocerus megacheir**		LC
LC	*Typhlotanais aequiremis**		LC
LC	*Abludomelita obtusata*		LC
LC	*Cheirocratus sundevallii*		LC
LC	*Dyopedos monacanthus*		LC
LC	*Gammaropsis melanops*		LC
LC	*Gammaropsis nitida*		LC
LC	*Cephalothrix linearis*		LC
LC	*Tharyx killariensis*		LC
LC	*Cirratulus cirratus*	Bristleworm; northern cirratule; redthreads	LC
LC	*Chaetopterus variopedatus*	Parchment tubeworm; parchment worm	LC
LC	*Alitta succinea*		LC
LC	*Alitta virens*		LC
LC	*Exogone dispar*		LC
LC	*Thoracophelia flabellifera*		LC
LC	*Harmothoe borealis*		LC
LC	*Capitella minima*		LC
LC	*Exogone naidina*		LC
LC	*Laonome kroyeri*		LC
LC	*Harmothoe glabra*		LC
LC	*Parexogone hebes*		LC
LC	*Pennatula phosphorea**		LC
LC	*Aricidea (Aricidea) minuta*		LC
LC	*Chaetozone setosa*		LC
LC	*Ceratocephale loveni*		LC
LC	*Pectinaria belgica*		LC
LC	*Scoloplos armiger*	Armored bristleworm; bristleworm	LC
LC	*Streblospio shrubsolii*		LC
LC	*Hypereteone foliosa*		LC
LC	*Phyllodoce groenlandica*		LC
LC	*Terebellides stroemii*		LC
LC	*Boreochiton ruber*		LC
LC	*Lepidochitona cinerea*	Cinereous chiton	LC
LC	*Diplosolen obelium**		LC
LC	*Pencilletta penicillata*		LC
LC	*Phascolion (Phascolion) strombus strombus*		LC
LC	*Tritia pygmaea*	Small dog whelk	LC
LC	*Retusa umbilicata*		NE
LC	*Megamoera dentata*		NE
LC	*Prionospio multibranchiata*		NE
LC	*Malmgrenia lunulata**		NE
LC	*Ampharete octocirrata**		NE
LC	*Aphelochaeta mcintoshi*		NE
LC	*Exogone verugera*		NE
LC	*Chaetozone vivipara*		NE
LC	*Aurospio banyulensis*		NE
LC	*Malmgrenia ljungmani**		NE
LC	*Neogyptis rosea**		NE

LC	*Orbinia sertulata*		NE
LC	*Aricidea (Strelzovia) suecica*		NE
LC	*Macomangulus tenuis*	Petal tellin; plain tellin; thin tellin	NE
LC	*Oxydromus flexuosus*		NE
LC	*Prionospio steenstrupi*		NE
LC	*Scoletoma fragilis*		NE
LC	*Lipobranchius jeffreysii*		NE
LC	*Podarkeopsis helgolandicus*		NE
LC	*Coryphella verrucosa*		NE
LC	*Prionospio dubia**		NE
LC	*Chone filicaudata*		NE
LC	*Hydroides norvegica*		NE
LC	*Leucon (Leucon) acutirostris**		NE
LC	*Kroyera carinata**		NE
LC	*Podocoryna carnea*	Smoothspined snailfur	NE
LC	*Campanulina pumila*		NE
LC	*Thyasira sarsii**		NE
LC	*Venerupis corrugata*	Corrugated venus; pullet carpet shell; pullet carpetclam; pullet venus	NE
LC	*Leucosolenia botryoides*	Orange pipe calcareous sponge; orange pipe sponge; organ-pipe sponge	NA
LC	*Hybocodon prolifer*		NA
LC	*Anomia ephippium*	Saddle oyster; European saddle oyster; European jingle shell	NA
LC	*Eudorella hirsuta**		NA
LC	*Macoma balthica*	Baltic macoma; Baltic tellin	NA
LC	*Cumopsis goodsir**		NA
LC	*Urothoe grimaldii*		NA
LC	*Microdeutopus damnoniensis**		NA
LC	*Jaera (Jaera) ischiosetosa*		NA
LC	*Jaera (Jaera) praehirsuta*		NA
LC	*Clavelina lepadiformis*	Pin-head squirt; light bulb tunicate; light bulb sesquirt	NA
LC	*Paramysis (Mesomysis) intermedia*		NA
LC	*Fjordia lineata**		NA
LC	*Stenothoe marina*		NA
LC	*Ophiocten gracilis**		NA
LC	*Iphinoe trispinosa*		NA
LC	*Echinogammarus finmarchicus**		NA
LC	*Spio arndti*		NA
LC	*Euclymene droebachiensis**		NA
LC	*Ampharete lindstroemi*		NA
LC	*Asbjornsenia pygmaea*	Dwarf tellin	NA
LC	*Psamathe fusca*		NA
LC	*Spiralinella spiralis**		NA
LC	*Chone fauveli**		NA

LC	*Streblosoma bairdi**		NA
LC	*Streblospio benedicti*		NA
LC	*Malacoceros vulgaris*		NA
LC	*Brachystomia scalaris*	Mussel pyramid shell; mussel pyramidsnail; mussel slurper	NA
LC	*Alcyonidioides mytili*		NA
LC	*Scolelepis (Parascolelepis) tridentata*		NA
LC	*Antalis entalis**	Common elephant tusk; North European elephant tusk	NA
LC	*Tubulipora phalangea*		NA
LC	*Pistella lornensis**		NA

Annex 4 Seabird threat categories 2024

Download the Excel sheet (.XLSX) here.

Breeding birds

*28 bird species assessed both as breeding and wintering

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
RE		*Gelochelidon nilotica*	Gull-billed tern	RE	
CR	D1	*Charadrius alexandrinus*	Kentish plover; snowy plover	CR	D1
CR	D1	*Xenus cinereus*	Terek sandpiper	EN	D1
CR	D1	*Calidris alpina schinzii**	Dunlin (Short-billed)	EN	A2ace, C1
CR	A2ab	*Philomachus pugnax*	Ruff	VU	A2abcd
CR	A2abce	*Somateria mollissima**	Common eider; eider; eider duck	VU	A2abe
CR	C1	*Calidris temminckii*	Temminck's stint	NT	A2a-c
CR	A2ace	*Limosa limosa*	Black-tailed godwit	NT	A2ac
EN	D1	*Rissa tridactyla**	Black-legged kittiwake; kittiwake; kittiwake gull	EN	D1
EN	D1	*Larus melanocephalus*	Mediterranean gull	EN	D1
EN	C1; D1	*Aythya marila**	Greater scaup; scaup	VU	A2bcd
EN	A2b	*Arenaria interpres*	Ruddy turnstone; turnstone	VU	A2abce + 3ce + 4abce
EN	A2a	*Larus fuscus fuscus*	Lesser black-backed gull	VU	A2abce
VU	A2b	*Melanitta fusca**	Velvet scoter; white-winged scoter	VU	A2b
VU	A2a	*Actitis hypoleucos*	Common sandpiper	NT	A2ab
VU	A4	*Vanellus vanellus*	Lapwing; northern lapwing	NT	A2bc
VU	A2b	*Aythya fuligula**	Tufted duck	NT	A2ab
VU	A2b	*Larus canus**	Common gull; mew gull	LC	
VU	A2a	*Larus marinus**	Great black-backed gull; greater black-backed gull	LC	
NT	D	*Hydroprogne caspia*	Caspian tern	VU	C1
NT	D1	*Podiceps auritus**	Horned grebe; Slavonian grebe	VU	A2abce
NT		*Tringa totanus**	Common redshank; redshank	NT	A2ac
NT	A2b	*Mergus serrator**	Red-breasted merganser	LC	
NT		*Riparia riparia*	Sand martin	LC	
NT		*Sterna sandvicensis*	Sandwich tern	LC	
NT	D1	*Sternula albifrons*	Little tern	LC	
NT	A2acde	*Larus argentatus**	European herring gull; herring gull	LC	
NT	A2b	*Tadorna tadorna*	Common shelduck; shelduck	LC	

DD		*Anas acuta**	Northern pintail; pintail	NA	
DD		*Anas crecca**	Teal	NA	
DD		*Anas penelope**	Eurasian Wigeon; wigeon	NA	
LC		*Charadrius hiaticula*	plover	NT	
LC		*Cepphus grylle**	Black guillemot	NT	A2a-c
LC		*Phalacrocorax carbo**	Great reed wabler	LC	
LC		*Podiceps cristatus**	Great crested grebe; great-crested grebe	LC	
LC		*Recurvirostra avosetta*	Avocet; Eurasian avocet; pied avocet	LC	
LC		*Haematopus ostralegus*	oystercatcher	LC	
LC		*Larus ridibundus**	Black-headed gull; common black-headed gull	LC	
LC		*Haliaeetus albicilla**	White-tailed eagle	LC	
LC		*Anas platyrhynchos**	Mallard	LC	
LC		*Anas strepera**	Gadwall	LC	
LC		*Anser anser*	Greylag goose	LC	
LC		*Anthus petrosus**	Eurasian rock pipit; rock pipit	LC	
LC		*Anthus pratensis*	Meadow pipit	LC	
LC		*Branta leucopsis**	Barnacle goose	LC	
LC		*Bucephala clangula*	Common goldeneye; goldeneye	LC	
LC		*Cygnus olor**	Mute swan	LC	
LC		*Larus fuscus intermedius*	Lesser Black-backed Gull (intermedius)	LC	
LC		*Mergus merganser**	Common merganser; goosander	LC	
LC		*Motacilla alba*	Pied wagtail; white wagtail	LC	
LC		*Pandion haliaetus*	Osprey; western osprey	LC	
LC		*Stercorarius parasiticus*	Arctic skua; parasitic jaeger	LC	
LC		*Sterna hirundo*	Common tern	LC	
LC		*Sterna paradisaea*	Arctic tern; Artic tern	LC	
LC		*Hydrocoloeus minutus**	Little gull	NA	
LC		*Fulica atra*	Eurasian coot; coot; common coot	NA	
LC		*Cygnus cygnus**	Whooper swan	NA	

Wintering birds

*28 bird species assessed both as breeding and wintering

Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	A2b	*Polysticta stelleri*	Steller's eider	EN	A1a, B2ab(ii,iv,v), C1,2a
EN	A2abce	*Somateria mollissima**	Common eider; eider; eider duck	EN	A2b

EN	A2bd	*Aythya ferina*	Common pochard; pochard	LC	
EN	A2b	*Fulica atra*	Eurasian coot; coot; common coot	LC	
VU	A2b	*Clangula Hyemalis*	Long-tailed duck; oldsquaw	EN	A2b
VU	A2b	*Aythya fuligula**	Tufted duck	LC	
VU	A2acde	*Larus argentatus**	European herring gull; herring gull	LC	
NT	A3e	*Gavia stellata*	Red-throated diver; red-throated loon	CR	A2b
NT	A2b	*Gavia arctica*	Black-throated diver; black-throated loon	CR	A2b
NT	A2b	*Mergus serrator**	Red-breasted merganser	VU	A2b
NT	A2b	*Anas platyrhynchos**	Mallard	LC	
NT	A2ab	*Larus marinus**	Great black-backed gull; greater black-backed gull	LC	
NT	A4	*Aythya marila**	Greater scaup; scaup	LC	
DD		*Rissa tridactyla**	Black-legged kittiwake; kittiwake; kittiwake gull	VU	D2
DD		*Hydrocoloeus minutus**	Little gull	NT	D2
DD		*Alca torda torda*	Razorbill	LC	
DD		*Anthus petrosus**	Eurasian rock pipit; rock pipit	LC	
LC		*Podiceps grisegena*	Red-necked grebe	EN	A2b, C1
LC		*Melanitta nigra*	Common scoter; black scoter	EN	A2b
LC		*Melanitta fusca**	Velvet scoter; white-winged scoter	EN	A2b
LC		*Cepphus grylle**	Black guillemot	VU	
LC		*Branta bernicla hrota*	Brant	NT	B1ab(iii), D2
LC		*Podiceps auritus**	Horned grebe; Slavonian grebe	NT	D2
LC		*Tringa totanus**	Common redshank; redshank	NT	A2ac
LC		*Larus ridibundus**	Black-headed gull; common black-headed gull	LC	
LC		*Anas crecca**	Teal	LC	
LC		*Anas penelope**	Eurasian Wigeon; wigeon	LC	
LC		*Cygnus cygnus**	Whooper swan	LC	
LC		*Cygnus olor**	Mute swan	LC	
LC		*Larus canus**	Common gull; mew gull	LC	
LC		*Mergus merganser**	Common merganser; goosander	LC	
LC		*Anas acuta**	Northern pintail; pintail	LC	
LC		*Anas strepera**	Gadwall	LC	
LC		*Branta leucopsis**	Barnacle goose	LC	
LC		*Calidris maritima*	Purple sandpiper	LC	
LC		*Haliaeetus albicilla**	White-tailed eagle	LC	
LC		*Mergellus albellus*	Smew	LC	

LC	*Phalacrocorax carbo**	Great reed wabler	LC
LC	*Podiceps cristatus**	Great crested grebe; great-crested grebe	LC
LC	*Bucephala clangula*	Common goldeneye; goldeneye	LC
LC	*Alca torda islandica*	Razorbill	NE
LC	*Calidris alpina*	Dunlin	NA
LC	*Plectrophenax nivalis*	Snow bunting	NA

Annex 5 Marine mammal threat categories 2024

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Red List II 2024	Criteria 2024	Scientific Name	Common name	Red List 2013	Criteria 2013
CR	C2a(ii)	*Phocoena phocoena* (Baltic Proper)	Harbour porpoise	CR	C1,2a(ii)
EN	A2ad	*Phocoena phocoena* (Belt Sea)	Harbour porpoise	VU	A2a
EN	C1	*Pusa hispida botnica* (Southern Management Units)	Ringed Seal	VU	A3c
VU	A3c	*Pusa hispida botnica* (Gulf of Bothnia)	Ringed Seal		
NT	D1	*Phoca vitulina* (Kalmarsund)	Harbour Seal	VU	D1
LC		*Halichoerus grypus*	Grey Seal	LC	
LC		*Phoca vitulina* (Kattegat/Southwestern Baltic)	Harbour Seal	LC	
LC		*Lutra lutra*	Otter	NT	D1

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