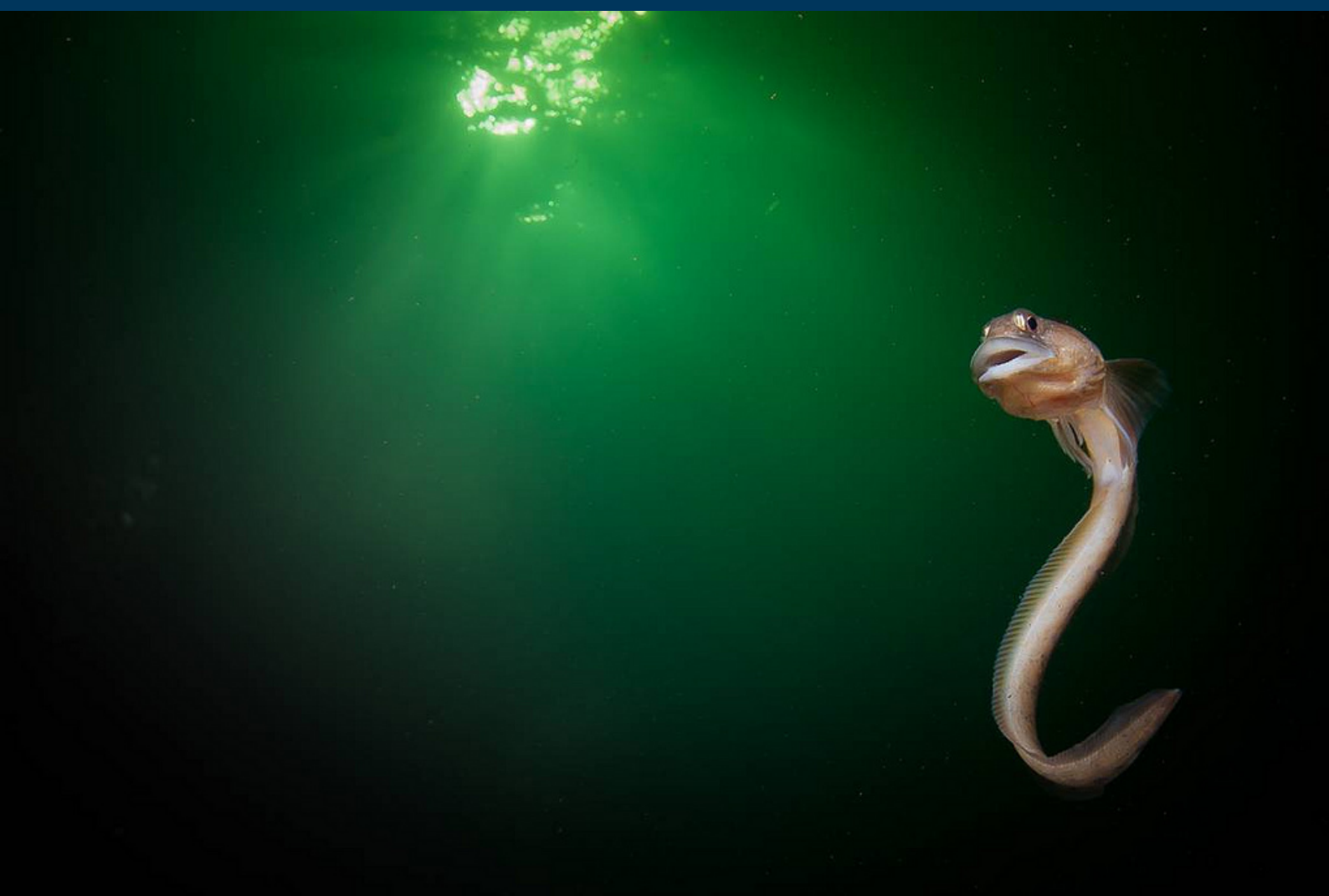


Overview of the status of the network of Baltic Sea marine protected areas



HELCOM

Baltic Marine Environment Protection Commission

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This is the Overview of the status of the network of Baltic Sea marine protected areas, compiled by the HELCOM PROTECT project. It was approved for publishing by HELCOM HOD 42/2013 (Minutes § 2.34 LD 35).

Published by:

Helsinki Commission

Katajanokanlaituri 6 B

FI-00160 Helsinki

Finland

<http://www.helcom.fi>

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For bibliographic purposes this document should be cited as:

HELCOM 2013. HELCOM PROTECT- Overview of the status of the network of Baltic Sea marine protected areas. 31 pp.

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Page 5: Christof Hermann, page 6: Jannica Haldin, page 8: OCEANA Carlos Minguell, page 9-10: OCEANA Carlos Suarez, page 11: Christof Hermann, page 12: OCEANA Carlos Suarez, page 14: Metsähallitus Natural Heritage Services/ Ulrika Björkman, page 15: Christof Hermann (above) and Metsähallitus Natural Heritage Services/ Mats Westerbom (below), page 16: Janica Borg, page 17: Christof Hermann, page 19: OCEANA Carlos Minguell, page 21: Metsähallitus Natural Heritage Services/ Julia Nyström, page 22: Metsähallitus Natural Heritage Services/ Mats Westerbom, page 24-25: OCEANA Carlos Minguell, page 26: Christof Hermann, page 27-28: OCEANA Carlos Minguell, page 29: Christof Hermann

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Executive summary

In the past ten years good progress has been made in enlarging the network of protected areas: between 2004 and 2013 the protected marine area has increased from 3.9 to 11.7%. The network of Baltic Sea marine protected areas continued its growth also between 2010 and 2013. Five new areas were established as Baltic Sea Protected Areas (BSPAs) since 2010: three in Latvia and two in Lithuania. For some areas the borders were redefined, resulting in a change of coverage area. The network of BSPAs currently covers 11.7% of the total marine area of the Baltic Sea. The 10% target of the UN CBD for the whole Baltic was attained already in 2010.

The HELCOM 2010 Ministerial Meeting set a 10% target for each sub-basin, when scientifically justified. This target has now also been reached in all other sub-basins except the Baltic Proper and the Gulf of Bothnia. In the Baltic Proper 8.7% of the total area was covered by BSPAs and in the Gulf of Bothnia 4.8%. The Contracting Parties ought to consider strengthening the network also in these two sub-basins.

The HELCOM 2010 target to include more off-shore areas under the protection regime by the end of 2011 had not been reached between 2010 and 2013. Despite the overall increase in protected areas the fraction of protected areas in the Exclusive Economic Zone (EEZ) had not increased. The only new protection of the Exclusive Economic Zone resulted from an expansion of a Latvian BSPA, which now also encompasses 156 km² of EEZ. In comparison, the increase of protected Territorial Waters since 2010 was 5 421 km².

The Baltic Sea Action Plan published in 2007 encouraged those Contracting Parties that are also EU Member States to designate Natura 2000 areas as BSPAs. According to the 2011 data on Natura 2000 areas and the 2013 data on BSPAs, 64% of Natura 2000 sites had been nominated also as BSPAs. This implies a decline from 83% reported in 2010. By 2013, the total area of Natura 2000 sites had increased by 23 864 km², while the total area of BSPAs had increased only by 4 858 km², resulting in the decline of the fraction.



Photo: Christof Hermann

Biological and marine values as well as ecologically significant habitats were most often reported as reasons for selecting an area as a BSPA in 2013, and there was no major change in these reasons since 2010. One of the HELCOM 2010 aims for the network of protected areas was to protect threatened and/or declining species and habitats by the end of 2011. Threatened and declining species and habitats ranked only 13th and 15th of reasons for selecting an area as BSPA, indicating that the Contracting Parties had not placed much emphasis to this target when selecting the sites. With the new HELCOM Red Lists of Baltic Sea species and habitats, a more thorough evaluation of this aspect should be carried out in the future, and the Contracting Parties should continue their efforts to improve the protection for these species and habitats.

This time it was not possible to evaluate the ecological coherence of the network, but it can be presumed that the addition of the few areas has not strengthened the network to the extent that ecological coherence would have been reached. HELCOM ought to compile relevant data for species and biotopes as well as human pressures and threats, and carry out such an analysis in 2014.

The most frequently reported *existing* threats in the protected areas were eutrophication, general pollution and commercial fishing. The most frequently

reported potential *future* threats were oil spills, alien species and pollution from shipping. Dumping was considered to be most prevalent *past* threat that still has an impact on the area. Compared to the information from 2010, commercial fishing was considered a more serious present threat in 2013. The order of the other threats had remained the same. Although climate change was not included in the categories available in the questionnaire, it is an increasing threat to the biodiversity, for example through causing changes in the distribution ranges of species in the Baltic Sea. It might be required to make adjustments to the network of marine protected areas in order to take this into account in the future.

Shipping and navigation, harvesting, fishing and land-based activities topped the list of activities still not being regulated in the protected areas. There was no major change since 2010, but the discrepancy between the threats and regulated activities grew between 2010 and 2013. Commercial fishing was reported a more prevalent threat in 2013, but still there was no major change in the fraction of BSPAs where fishing is regulated. Nonetheless, there were a few sites where fishing had been reported as forbidden in 2013, while there were none in 2010.

Management plans for protected areas have increased in number since 2010: 70 new management plans have been developed and implemented and the share of sites with a management plan in force increased from 40 to 65% between 2010 and 2013. Today, 106 BSPAs (65% of the total) have a management plan in force and in 42 (26%) sites a plan is in preparation. Of all 163 BSPAs 15 still lack a management plan. The Ministerial meeting in 2010 set a target to have a management plan in place for all the old sites by 2015. The current trend in establishing management plans is promising, but nevertheless, HELCOM should by the end of 2015 evaluate whether this target has been reached. As the next step, HELCOM ought to initiate an activity where the contents and implementation of the management plans will be jointly scrutinized.



Photo: Jannica Haldin

1. Introduction

1.1 The purpose of this overview

This overview of the status of the network of Baltic Sea marine protected areas was produced to enable the HELCOM 2013 Ministerial Meeting to evaluate whether the objectives set for the protected areas in the Baltic Sea Action Plan (BSAP) and by the HELCOM 2010 Ministerial Meeting have been reached.

1.2 The concept of Baltic Sea Protected Areas (BSPAs)

The main goal of the HELCOM Baltic Sea Protected Areas (BSPAs) is to protect valuable marine and coastal habitats in the Baltic Sea. This is done by designating suitable areas which have particular nature values as protected areas and by managing human activities within those areas (HELCOM 2003b).

The first BSPAs were established in 1994, following the adoption of the 1992 Helsinki Convention, specifically its Article 15 on Nature conservation and biodiversity. Article 15 of the Helsinki Convention requires the Contracting Parties to take all appropriate measures to conserve natural habitats and biological diversity in the Baltic Sea (HELCOM 1992). To further implement Article 15, HELCOM Recommendation 15/5 System of coastal and marine Baltic Sea protected areas (BSPA) was issued in 1994. In Recommendation 15/5, HELCOM agreed on guidelines and criteria for BSPAs as presented in Box 1. At a later stage, the Baltic Sea Action Plan (HELCOM 2007a) and HELCOM 2010 Ministerial Meeting agreed on objectives for the network of protected areas, encouraging the Contracting Parties to nominate new areas.

Initially, 62 sites from all nine riparian states were nominated as first BSPAs (HELCOM 1996). Today the number of established areas is 163. The BSPAs cover both marine and coastal areas, including islands. The status of the BSPAs network has been reviewed at many occasions (HELCOM 2006b, Al-Hamdani & Reker 2007, Andersson et al. 2007, HELCOM 2007b, Piekäinen & Korpinen 2008, HELCOM 2009 and 2010), and this publication is the latest overview of the status of the network.

BOX 1. HELCOM objectives and criteria for the BSPA network ¹

1. A BSPA should give particular protection to the species, natural habitats and nature types in order to conserve biological and genetic diversity.
2. It should protect ecological processes and ensure ecological function.
3. It should enable the natural habitat types and the habitats of the species to be maintained at, or where appropriate, restored to a favourable conservation status in their natural range.
4. The minimum marine size of a BSPA should preferably be 30 km² for marine/lagoon parts.
5. The system should be enlarged stepwise by additional areas, preferably purely marine areas.
6. The network should protect areas with:
 - threatened and/or declining species and habitats,
 - important species and habitats,
 - high natural biodiversity,
 - rare, unique, or representative geological or geomorphological structures or processes,
 - high sensitivity,
 - ecological significance:
 - a high proportion of habitats of migratory species,
 - important feeding, breeding, moulting, wintering or resting sites,
 - important nursery, juvenile or spawning areas,
 - a high natural biological productivity of the species or features being represented.

1) The objectives and criteria are based on the Joint HELCOM/ OSPAR Work Programme on Marine Protected Areas (Bremen 2003), HELCOM Recommendation 15/5 on the System of Coastal and Marine Baltic Sea Protected Areas and on the Minutes of the Eight Meeting of Nature Protection and Biodiversity Group (HELCOM HABITAT 8/2006).

1.3 Other networks of protected areas in the HELCOM area

Many BSPAs overlap with sites established under other frameworks, foremost those established under EU nature legislation such as the Natura 2000 network. The Natura 2000 network aims to support the EU member states in achieving or maintaining favourable conservation status for European biodiversity features in both terrestrial and marine habitats (see also Box 2). The Natura 2000 network is based on the Birds Directive adopted in 1979 (Anonymous 1979, 2009) and the Habitats Directive adopted in 1992 (Anonymous 1992) and it provides legal protection to the sites. Most of the Natura 2000 sites in the Baltic Sea area have also been designated as BSPAs, and some smaller sites have been merged together under one large BSPA. BSPAs and Natura 2000 sites which overlap can have different shapes, for example because Natura 2000 areas may cover also inland areas, while BSPAs are restricted to the coastal zone and marine area. Natura 2000 network protects certain natural habitats and species at EU level, whereas the BSPAs network aims to protect marine and coastal habitats and species specific for the Baltic Sea.



Photo: OCEANA Carlos Minguell

OSPAR (Convention for the Protection of the marine Environment of the North-East Atlantic) is a regional seas convention for protecting and conserving the North-East Atlantic and its resources. HELCOM and OSPAR areas overlap in Kattegat, and protected sites in this area are protected by both regional seas conventions at the same time. The OSPAR network of MPAs aims for an ecologically coherent network of well-managed protected areas, much in the same way as the BSPAs network. A joint target and work programme for these two networks was agreed on at the HELCOM/OSPAR Bremen Ministerial Meeting in 2003.

Ramsar Convention is an international agreement for the conservation and sustainable use of wetlands. The convention was adopted on 2 February 1971 and came into force on 21 December 1975. Today Ramsar sites are found all over the globe, including the Baltic Sea.

BOX 2. SPAs and SCIs in the Natura 2000 network

The overall objective of the Natura 2000 network is to achieve or maintain favourable conservation status for European biodiversity features. To meet this objective, each EU Member State must establish Special Protection Areas (SPAs) for birds and Sites of Community Importance (SCIs) for non-bird species and habitats listed in the annexes to the directives, and manage these protected areas appropriately.

SPAs may cover marine areas, but they are included in the protection mainly as e.g. feeding grounds for marine birds. The marine habitats of SPAs have not been classified and are not directly protected within the SPA. Therefore, it is important to note that a BSPA may protect a wider range of marine species, habitats, biotopes and natural processes than an overlapping Natura 2000 site (HELCOM 2007b).



Photo: OCEANA Carlos Suarez

1.4 Linkages with European and global initiatives concerning marine protected areas

Marine protected areas (MPAs) around the globe all strive to protect the marine environment. In 2010, the Parties of the UN Convention on Biological Diversity (CBD) agreed on Aichi targets for conservation of biodiversity. Of these targets, especially target 11 “to protect at least 10% of coastal and marine area” was set to promote the global network of MPAs.

The Parties of CBD also agreed to establish Ecologically and Biologically Significant Areas (EBSAs). This process identifies areas with protective value, and encourages national protection of these areas (CBD COP11/7).

One of the pioneers of MPAs is Australia with its Commonwealth Marine Reserves covering 3.1 million km², which is more than a third of the Australian marine waters. All Australian MPAs will have a management plan by July 2014, and the maximum life span of a management plan is 10 years (Anonymous 2013).

In the North-East Atlantic, the Contracting Parties of OSPAR have reached the goal of protecting 10% of the Greater North Sea, and are expanding their MPAs network to cover also areas outside the exclusive economic zone. OSPAR and HELCOM work under the joint work programme for an ecologically coherent network of MPAs in the OSPAR and HELCOM areas (HELCOM/OSPAR 2003).

In the Arctic, the Arctic Council Working Group for Protection of the Arctic Marine Environment (PAME) has been established for the protection and sustainable use of the arctic marine environment. It plans to establish a network of MPAs in the Arctic.

From a HELCOM point of view, it is important to streamline the HELCOM BSPA activities with European and international initiatives. For example the criteria for HELCOM BSPAs should be in line with the criteria for CBDs EBSAs. There is a need for consensus in terminology and reporting activities to ensure efficient communication and to avoid multiplying the work load of nations which have MPAs in many networks.

1.5 Data reporting for HELCOM Contracting Parties which are also EU Member States

Eight of the nine riparian states of the Baltic Sea are also EU members, and therefore they are bound by various directives to report data. This report on the state of the BSPAs together with the 2013 data update in the BSPAs database can assist these Contracting Parties to meet these requirements.

Since the adoption of the Birds Directive and Habitats Directive, EU Member States have been obliged to report all relevant information concerning the Baltic Sea, at regular intervals. The Inspire Directive for establishing an Infrastructure for Spatial Information in the European Community also encourages data reporting (Anonymous 2007). The Marine Strategy Framework Directive from 2008 states in article 13 that “*by 2013 at the latest, Member States shall make publicly available, in respect of each marine region or sub-region, relevant information on the areas referred to in paragraphs 4 and 5*”, which includes all marine protected areas (Anonymous 2008). Furthermore, the EU Biodiversity strategy to 2020 emphasizes the importance of having environmental information available in map format (Anonymous 2011), and the Maritime Knowledge 2020 Green paper (Anonymous 2012) encourages an open-access policy for environmental data.

1.6 IUCN classes of the BSPAs

In order to compare the level of legal protection in protected areas on a global level, the International Union for Conservation of Nature (IUCN) has created categories for different types of protected areas. Many BSPAs have also been categorized according to the IUCN classes.

IUCN defines a protected area as “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. The definition has been expanded by the six management categories described below. The choice of category should be based around the primary management objective(s), which should apply to at least 75% of the protected area (Day et al 2012).

Ia Strict nature reserve: Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values.

Ib Wilderness area: Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition.

II National park: Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.

III Natural monument or feature: Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove.

IV Habitat/species management area: Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category.

V Protected landscape or seascape: Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

VI Protected areas with sustainable use of natural resources: Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims.



Photo: OCEANA Carlos Suarez

2. Target: An ecologically coherent network of well-managed protected areas

The joint HELCOM/OSPAR Ministerial Meeting in 2003 set the target for an ecologically coherent network of marine protected areas in the HELCOM and OSPAR areas by 2010. This was the first step towards creating a network which would be ecologically coherent also on a larger scale than the Baltic Sea. The Joint Work Programme for the OSPAR and HELCOM areas adopted at the meeting also aimed at developing HELCOM guidelines for management of the BSPAs, providing basic guidance for establishing a dialogue between the stakeholders and identifying and filling gaps in the BSPAs network in order to achieve an ecologically coherent network.

With the publication of the Baltic Sea Action Plan in 2007 (HELCOM 2007a), concrete deadlines were set for designating BSPAs and for developing their management plans and measures. These included designating Natura 2000 and Emerald sites as BSPAs, where appropriate, by 2009, designating additional BSPAs especially in the offshore areas in the EEZ by 2010, and improving protection efficacy of the network by 2010 by finalizing and implementing management plans or measures and by assessing ecological coherence of the BSPAs, Natura 2000 sites and Emerald sites. The targets set by the Baltic Sea Action Plan were to have an ecologically coherent network of BSPAs, Natura 2000 sites and Emerald sites by 2010, and to have 'natural' and near-natural marine landscapes adequately protected and to restore degraded areas by 2021.

The previous report on the status of the BSPA network (HELCOM 2010) included an assessment on the ecological coherence of the network. It concluded that despite positive development in previous years the ecological coherence of the network had not been reached and still needed to be improved. The main problems were a lack of connectivity between different BSPAs and uneven distribution of the protected areas, in particular a lack of protected areas in the EEZ. Stemming from this, the HELCOM 2010 Ministerial Meeting agreed:

- to secure the establishment of a network of BSPAs that fulfils the criteria of ecological coherence (representativeness, replication, adequacy and connectivity) and thereby contributes to the protection of the entire ecosystem;
- that additional BSPAs would be nominated by the end of 2011, especially with the following purposes:
 - to protect threatened and/or declining species and habitats
 - to include off-shore areas also in the Exclusive Economic Zone
 - that the BSPAs not only cover a total of at least 10% of the Baltic Sea Area as a whole, but also, when scientifically justified, cover at least 10% of all its sub-basins.
- to develop and apply by 2015, management plans and/or measures for already existing BSPAs.
- that every new BSPA designation should within five years be followed by the establishment of a management plan and/or measures.



Photo: Christof Hermann

3. Current status: How far are we from reaching the targets?

3.1 Overview of BSPAs

Today there are in total 163 established BSPAs (status in June 2013). They cover a total of 53 642 km², of which 90% (48 392 km²) is marine area (**Table 1**). The marine area refers to the actual water surface area of the BSPAs, excluding the coastal areas and islands. The marine area of all BSPAs equals 11.7% of the total surface area of the Baltic Sea (**Table 1, Figures 1 and 2**).

This report presents the situation of the BSPAs in end of June 2013. The situation is constantly improving and some Contracting Parties already have new BSPA designations on their way.



Photo: OCEANA Carlos Suárez

Table 1. Total area of the 163 BSPAs in the Baltic Sea is 53 642 km², of which 90% is exclusively marine area. The total area equals the whole area of the BSPAs, including terrestrial coastal areas and islands, while the marine area excludes these areas. The data is from June 2013.

Country and number of BSPAs	Total area of BSPAs km ²	Marine fraction of BSPAs km ² (%)	Total marine area per country			Protected marine area as area (km ²) and fraction (%) of the national territorial waters (TW), exclusive economic zone (EEZ) and total area			
			TW km ²	EEZ km ²	Total km ²	TW km ² (%)	EEZ km ² (%)	Total km ² (%)	
Denmark 66	11 181	10 411 (93%)	32 280	13 098	45 378	9 328 (29%)	1 083 (8%)	10 411 (23%)	
Estonia 7	7 192	6 050 (84%)	24 728	11 593	36 320	5 969 (24%)	81 (1%)	6 050 (17%)	
Finland 22	5 798	5 324 (92%)	51 809	28 962	80 771	5 324 (10%)	0 (0%)	5 324 (7%)	
Germany 12	5 840	5 526 (95%)	10 806	4 529	15 335	3 056 (28%)	2 470 (55%)	5 526 (36%)	
Latvia 7	4 364	4 364 (100%)	12 625	16 126	28 751	4 198 (33%)	166 (1%)	4 364 (15%)	
Lithuania 6	1 393	1 005 (72%)	2 274	4 238	6 512	1 005 (44%)	0 (0%)	1 005 (15%)	
Poland 9	8 052	7 361 (91%)	10 076	19 494	29 570	5 711 (57%)	1 650 (8%)	7 361 (25%)	
Russia 6	1 435	977 (68%)	16 533	7 369	23 902	977 (6%)	0 (0%)	977 (4%)	
Sweden 28	8 387	7 375 (88%)	76 055	71 352	147 407	4 626 (6%)	2 749 (4%)	7 375 (5%)	
Total 163	53 642	48 392 (90%)	237 186	176 761	413 946	40 200 (17%)	8 200 (4.6%)	48 392 (11.7%)	

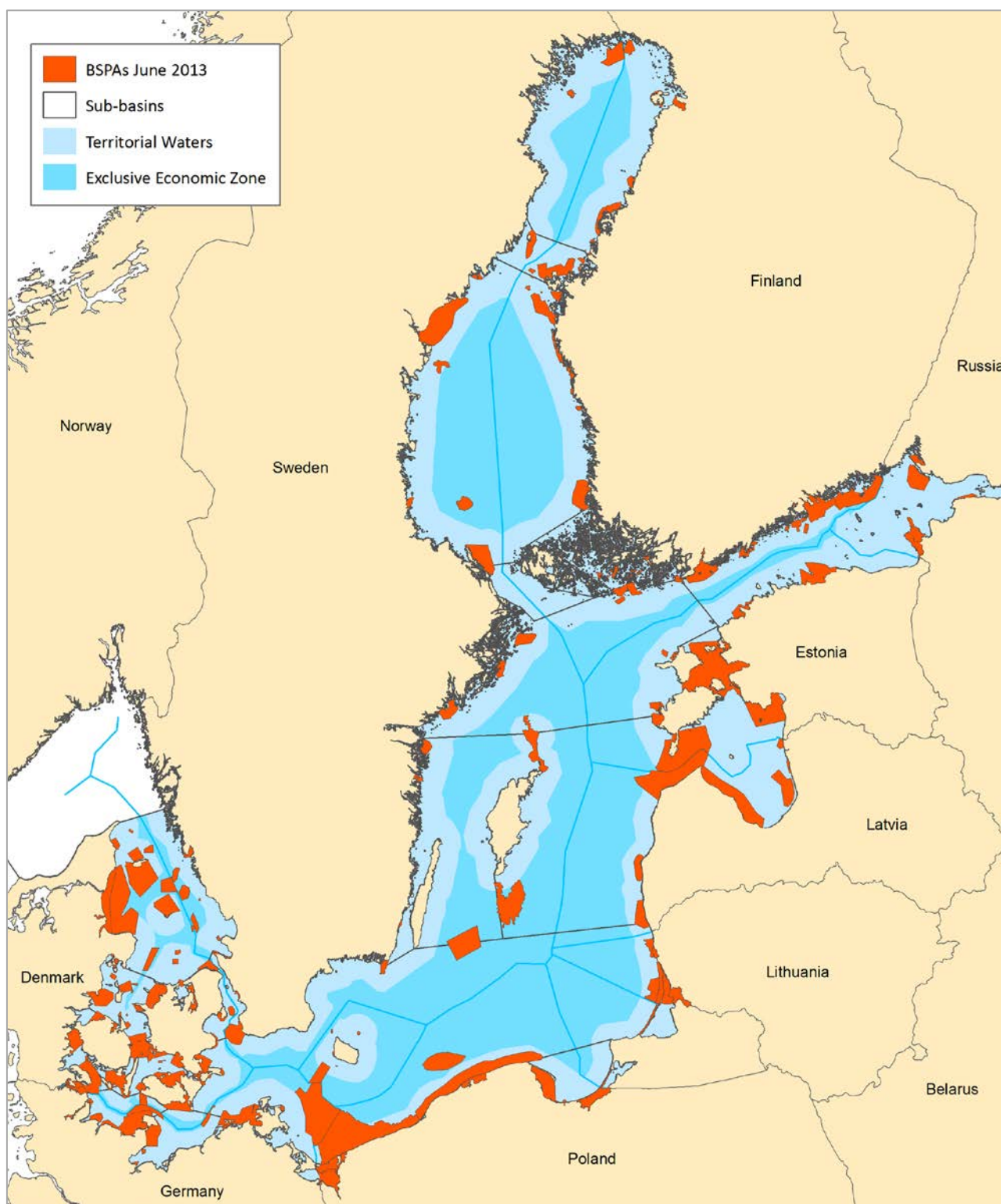


Figure 1. Large fractions of the German, Polish, Danish and Estonian marine areas have been designated as BSPAs by end of June 2013.

Denmark has the highest number of BSPAs (66 areas) and they also cover the largest area: 11 181 km² of which 93% (10 411 km²) is marine area. The twelve German BSPAs cover in total 5 840 km², which is over a third of the German Baltic Sea area. 95% of all German BSPAs is marine area (**Table 1, Figures 1 and 2**).



Most BSPAs (139 of 163) are found in territorial waters (TW), while 9 are located in the exclusive economic zone (EEZ). There are 18 BSPAs at the borders of the TW and the EEZ, and these cover areas on both sides of the border. Of the marine area of all BSPAs, 83% is located in the TW and 17% in the EEZ. Of all TW in the Baltic Sea, 16.9% is protected by BSPAs, while only 4.6% of the EEZ is protected (**Table 1**).

Denmark has the largest coverage (9 328 km²) of BSPAs in the TW, while Sweden and Germany have the largest coverage (2 749 km² and 2 470 km² respectively) of BSPAs in the EEZ (**Figure 3**). Poland has one large BSPA (3 092 km²) which covers areas in both TW and EEZ.

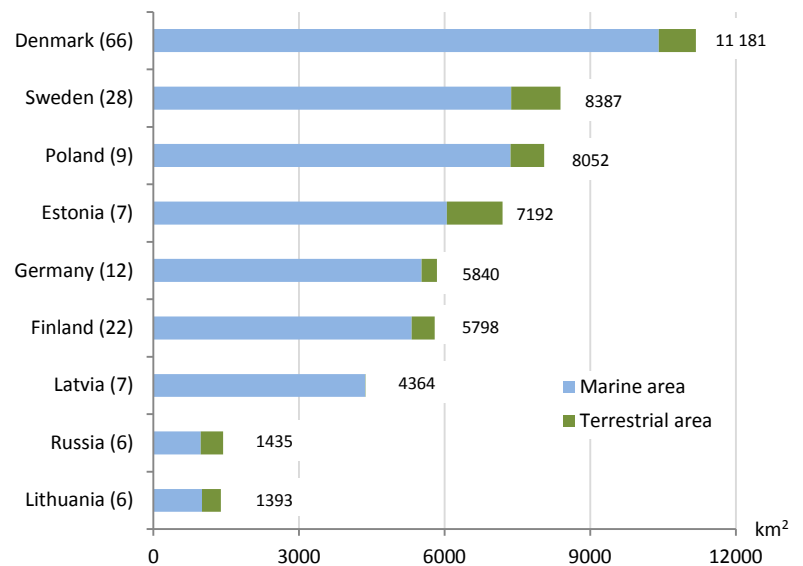


Figure 2. Denmark has the largest total area of BSPAs, followed by Sweden and Poland. The total area (km²) is given beside each bar, and the number of BSPAs is given in brackets after the country name.

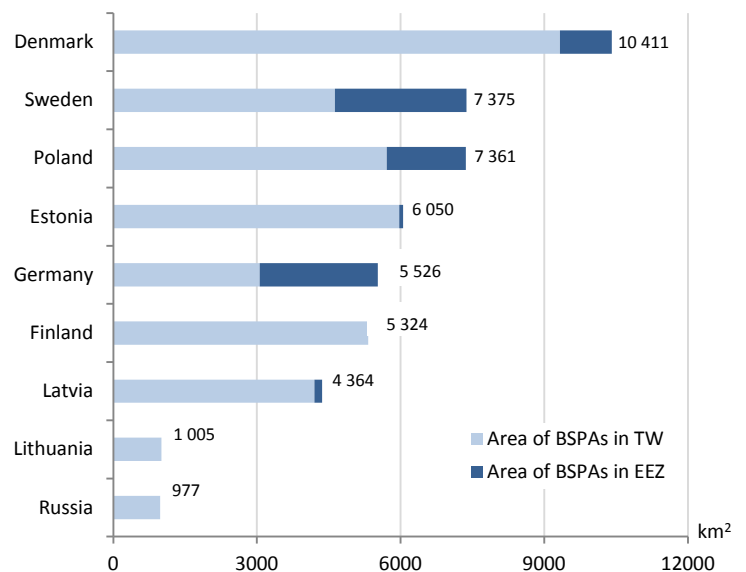


Figure 3. The Danish BSPAs cover the largest area in territorial waters (TW), while the Swedish BSPAs cover the largest area in the exclusive economic zone (EEZ). The total marine area (km²) covered by BSPAs per each country is given after the column.

3.2 Reasons for designating BSPAs and threats to the areas

The most common reasons for designating an area as a BSPA are biological values (85% of the sites), marine values (84%) and ecologically significant habitats (78%). Also terrestrial values, important migration route and resting area, important feeding area, area with high natural biodiversity, representative area and important breeding area were common reasons for designation of a BSPA. These were reported for more than half of all BSPAs (**Figure 4**). The Contracting Parties reported the reasons for designation from a predefined list.

One of the previously set goals for the BSPAs network is to protect threatened and/or declining species and habitats by the end of 2011. Threatened and declining species and habitats were ranked only as 13th and 15th most often mentioned reasons for selecting an area as BSPA, indicating that the Contracting Parties have not placed much emphasis to this target when selecting the sites. With the new HELCOM Red Lists of Baltic Sea species and habitats a more thorough evaluation of this aspect should be carried out in the future.



Photo: Christof Hermann

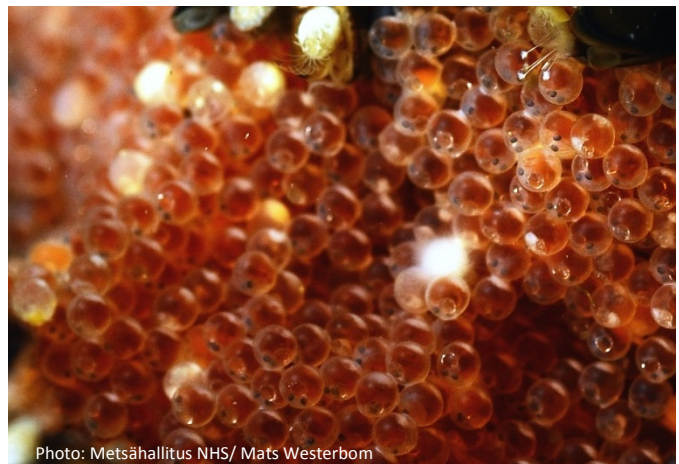


Photo: Metsähallitus NHS/ Mats Westerborn

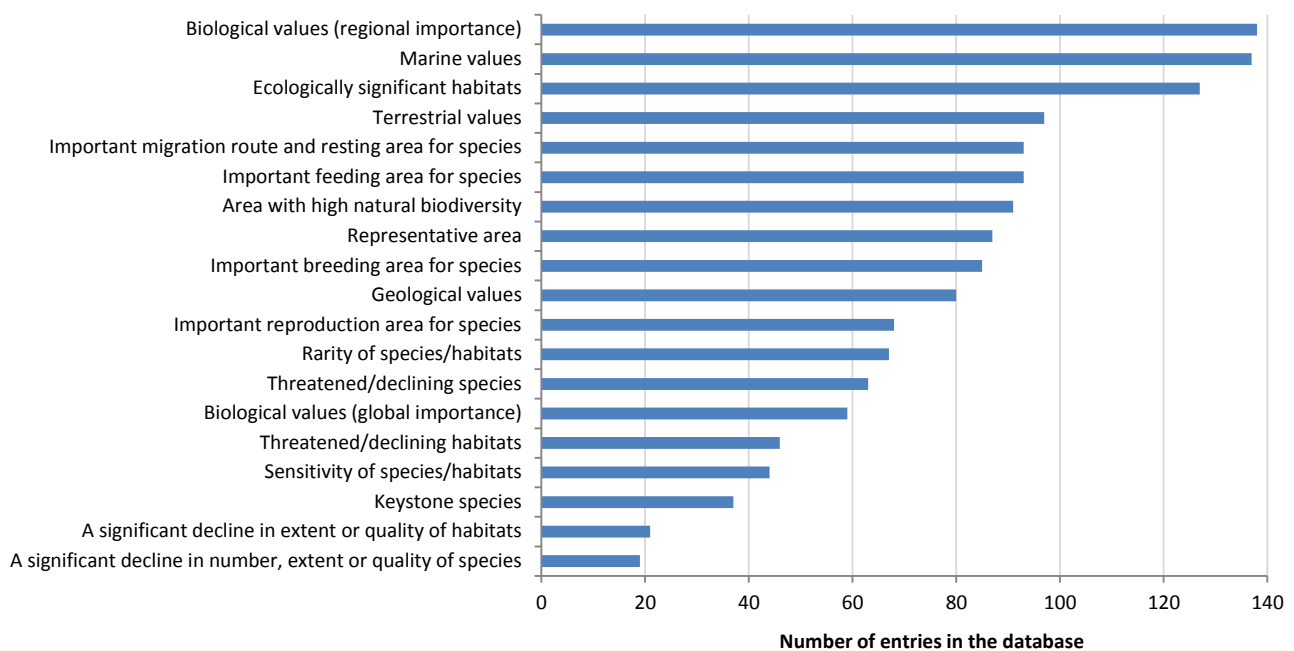


Figure 4. Biological and marine values as well as ecologically significant habitats were the most often mentioned reasons for selecting an area as a BSPA in June 2013. The bars present the number of BSPAs for which the selection criteria was chosen.

For this overview, the Contracting Parties were requested to enter information on threats against the BSPAs into the BSPAs database. The predefined threat categories can be seen in figure 5. These were the same categories which were used in the 2010 overview, and for example climate change was not included. Each threat category could be rated as a *past*, *present*, *partial* and *potential future* threat to the BSPA.

The most frequently reported *existing* threat was eutrophication, followed by general pollution and commercial fishing (Figure 5). The most frequently reported potential *future* threats were oil spills, alien species and pollution from shipping. Dumping was considered to be most prevalent *past* threat that still has an impact on the area.



Photo: Janica Borg

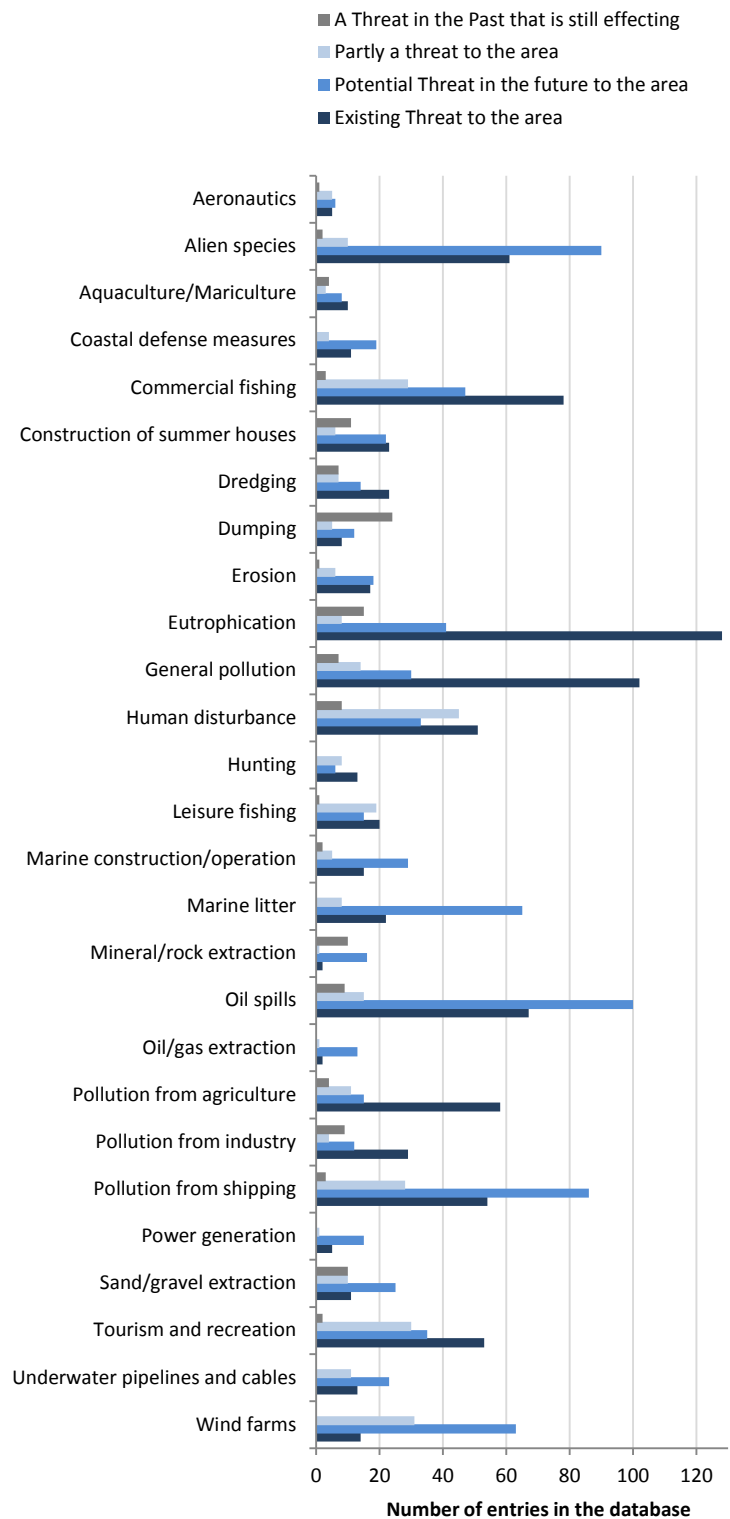


Figure 5. Most commonly reported *existing* threats for BSPAS were eutrophication, general pollution and commercial fishing, while oil pollution, alien species and pollution from shipping were most often reported potential *future* threats. Dumping was the most often mentioned *past* threat still affecting the area. The unit on the x-axis is number of entries in the database.

3.3 Overview of management plans and measures

Of the 163 BSPAs 106 (65%) have a management plan in force. 42 BSPAs (26%) have a management plan in preparation, and 15 BSPAs (9%) have no management plan at all. Most areas with no plan or a plan in preparation are located in the eastern or southern Baltic Sea (**Figure 7**). Many of the Latvian and Lithuanian BSPAs that do not yet have a plan have been established only after 2010. HELCOM 2010 Ministerial Meeting agreed that by 2015 Contracting Parties should develop and apply management plans and/or measures for already existing BSPAs and that every new BSPA designation should within five years be followed by the establishment of a management plan and/or measures.

According to the HELCOM guidelines for management, management plans of BSPAs are developed inter alia to prevent conflicts of interest and to ensure that specific nature conservation goals are reached. The guidelines further specify that the following options exist to regulate or compensate harmful human activities:

- a. Restriction of activities in extent;
- b. Restriction of activities in space (including zoning);
- c. Restriction of activities in time (ban of certain activities for a specific period, e.g. during breeding seasons or spawning periods);
- d. Maintenance of sustainable and traditional use when appropriate;
- e. Alteration of procedures (e.g. reintroduction of traditional land and sea use practices);
- f. Substitution of materials or substances (e.g. to avoid contamination);
- g. Total ban of activities or demolition of construction (e.g. demolition of dykes); and
- h. Restoration, reintroduction.

A common problem with older management plans is that they mostly cover land-based activities, while the activities in marine areas remain largely unmanaged. Of the 106 BSPAs with a management plan in force, 72 cover both marine and terrestrial area, while 30 are targeted for marine areas. The number of BSPAs with management plans in force, as well as the coverage of the management plans varies between Contracting Parties. Denmark has the highest number of management plans in force (in total 62), and 21 of them are targeted for marine areas (**Figure 6**).

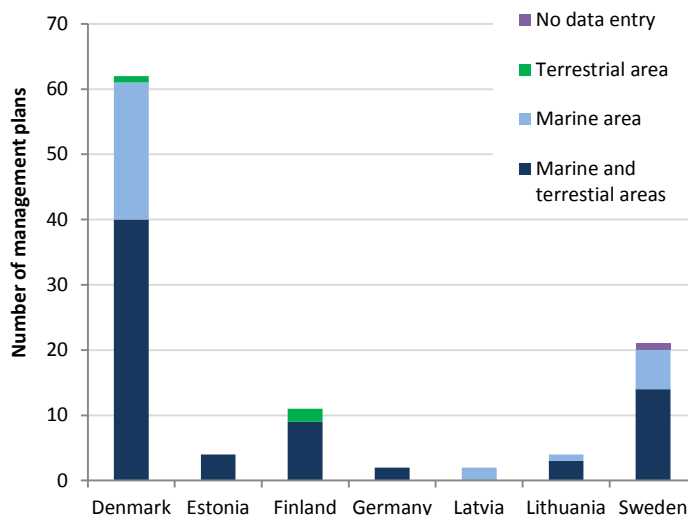


Figure 6. Denmark has the highest number of management plans in force (62), and 21 of them are targeted for marine areas. The bars represent the management plans which are in force, coloured according to the areas they cover.

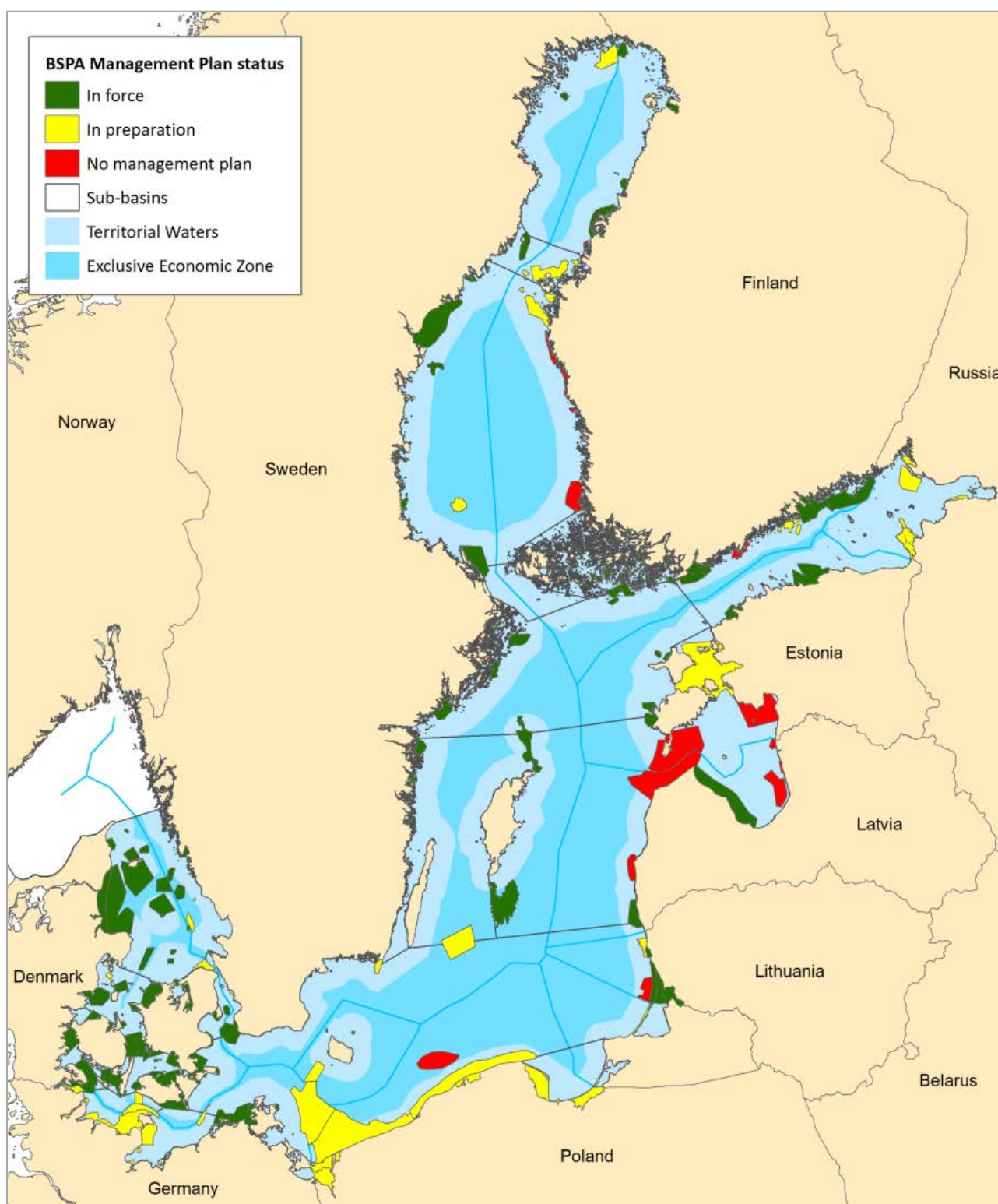


Figure 7. Management plans for BSPAs are in place in most Danish and Swedish areas, while in the Baltic countries especially new BSPAs are still lacking plans (status in June 2013).

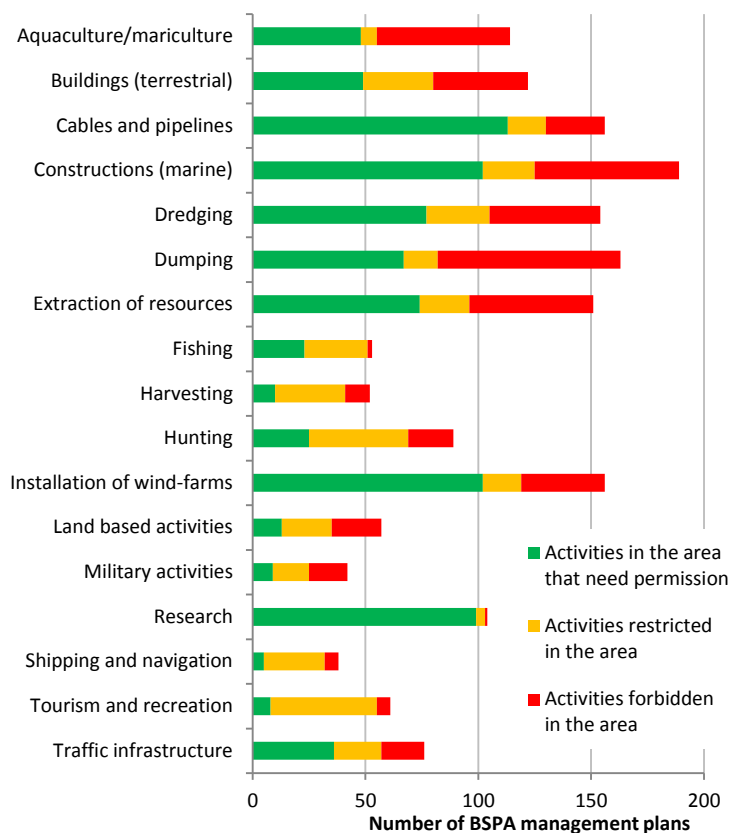


Figure 8. Construction, dumping and installations of wind farms are activities which are most commonly forbidden, restricted or require permission in the BSPAs. The data is given as number of entries in the database (max 163 per category and activity).

The regulation of human activities varies between the BSPAs. The most commonly forbidden activities are dumping, marine constructions and aquaculture. Commonly restricted activities are tourism, hunting and terrestrial building, and activities that need permission are laying cables and pipelines, marine construction and installation of wind-farms (Figure 8)

The most commonly reported *existing* threats for BSPAs were eutrophication, general pollution and commercial fishing, while oil pollution, alien species and pollution from shipping were the most often reported potential *future* threats (Figure 5). Although these categories were commonly reported as threats for the BSPAs, they were among the least regulated activities in the management plans (e.g. shipping, land-based activities or fishing).

Commercial fishing was reported as an *existing* threat for 78 of 163 BSPAs and a *possible* threat for 47 of 163 BSPAs, and yet only 53 of 163 BSPAs report any actions concerning fishing in their management plans. Of these management plans 23 require a permit for fishing, while 28 restrict fishing and only 2 forbid fishing in the BSPA.

Pollution from shipping was reported as an existing threat for 54 of 163 BSPAs, and a possible future threat for 86 of 163 BSPAs, and yet shipping and navigation is restricted in only 27 of 163 BSPAs, and forbidden in only 6 BSPAs. A total of 5 BSPAs report that shipping requires permission, and the rest, 125 of 163 BSPAs, report no activities regulating shipping in the management plans. Shipping is also connected to oil spills and introduction of alien species, which both rank among the top four threats for the BSPAs.



Photo: OCEANA Carlos Minguell

3.4 Development since the previous assessment of the BSPAs network in 2010

Since February 2010 when the last overview on the status of BSPAs was compiled (HELCOM 2010) five new BSPAs have been established; three in Latvia and two in Lithuania (**Figure 9**). In addition Latvia has redefined borders of four BSPAs, so that the Latvian BSPAs now cover a marine area of 4 364 km² (15% of Latvian marine area). This is a fivefold increase compared to the situation in 2010, when only 3% of the Latvian marine was protected by BSPAs. Denmark has also redefined borders of some BSPAs, and in this process one BSPA expanded and two areas were merged into one larger area. Therefore Denmark has one less BSPA compared to 2010, but the total marine area of the Danish BSPAs has increased from 10 008 km² to 10 411 km².

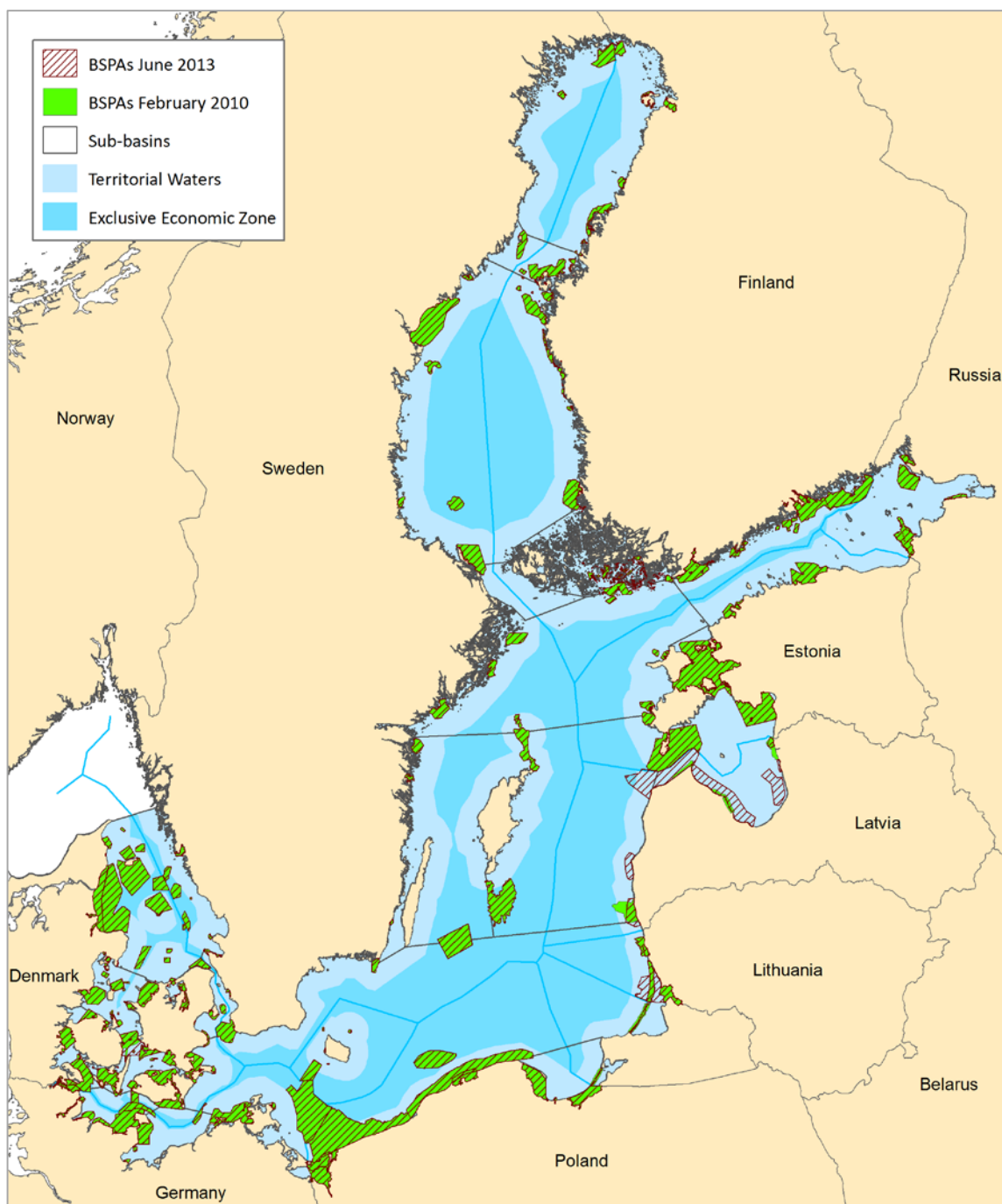


Figure 9. Three new BSPAs have been designated in Latvia and two in Lithuania, and borders of BSPAs have been redefined especially in Denmark since February 2010.

Currently 11.7% of the marine area of the Baltic Sea is protected under the BSPAs, which is an improvement of 1.4 %-units from 2010, when 10.3% was protected (**Figure 10**). The goal of protecting 10% of regional seas, based on the UN CBD COP7 decision, was reached for the Baltic Sea already in 2010. In the past ten years good progress has been made in enlarging the network of protected areas as the protected fraction of all marine areas has increased from 3.9 to 11.7% between 2004 and 2013.

In the HELCOM 2010 Ministerial Declaration a further goal of protecting also 10% of each sub-basin, when scientifically justified, was set in accordance with the CBD COP 7 10%-decisions. This goal has been reached in Kattegat, the Sound, the Belt Sea, Gulf of Riga and Gulf of Finland (**Table 2**). The goal is yet to be reached in the Baltic Proper, where 8.7% of the total area is covered by BSPAs, and the Gulf of Bothnia, where the corresponding number is 4.8%. The protection of the Baltic Proper has improved substantially in the past three years, as in 2010 only 4.1% of its area was protected by BSPAs (**Table 2**).

Another goal set by the 2010 Ministerial Declaration was to even out protection between the coastal zone and open sea areas. By June 2013 16.9% of the territorial waters (TW) and 4.6% of the exclusive economic zone (EEZ) was protected. The corresponding numbers in 2010 were 14.7% (TW) and 4.6% (EEZ), which unfortunately means that the fraction of the protected EEZ has not increased despite an increase in overall protected areas (**Table 1**). The only new protection of the EEZ resulted from an expansion of a Latvian BSPA, which now also encompasses 156 km² of EEZ. In comparison, the increase of protected TW since 2010 was 5 421 km².

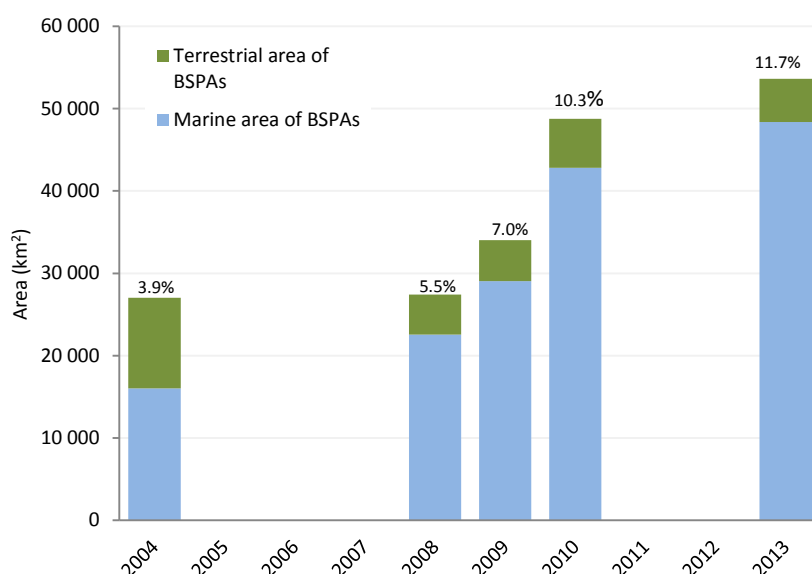


Figure 10. The marine area covered by the BSPAs has increased from 3.9% to 11.7% between 2004 and 2013. The per cent figures above the columns do not include terrestrial coastal areas and islands.

Table 2. Of all Baltic Sea sub-basins Gulf of Riga has the highest per cent of BSPA coverage (41.1%) and Gulf of Bothnia has the lowest (4.8%). The increase since 2010 has been greatest in Gulf of Riga, Belt Sea and Kattegat. The reported areas are marine areas, excluding coastal areas and islands. Due to the use of different data sources the values may differ slightly from true values.

Baltic Sea sub-basin	BSPAs marine area June 2009		BSPAs marine area June 2013	
	km ²	(%)	km ²	(%)
Baltic Proper	8 554	(4.1%)	18 055	(8.7%)
Belt Sea	2 929	(15.8%)	6 198	(33.5%)
Gulf of Bothnia	5 086	(4.4%)	5 537	(4.8%)
Gulf of Finland	2 627	(8.9%)	3 634	(12.3%)
Gulf of Riga	2 604	(13.9%)	7 718	(41.1%)
Kattegat	1 845	(7.9%)	5 502	(23.7%)
The Sound	319	(14.0%)	480	(21.0%)
Baltic Sea, total	23 967	(5.8%)	47 124	(11.7%)



Photo: Metsähallitus NHS/ Julla Nyström

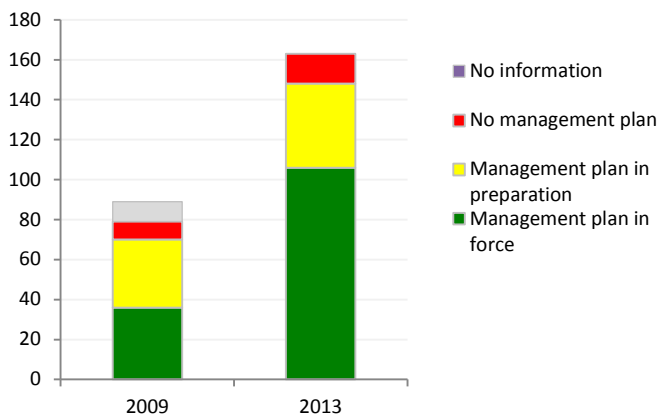


Figure 11. The number of management plans in force has increased from 36 to 106 between July 2009 and June 2013. The total number of reported BSPAs was 89 in June 2009 and 163 in June 2013.

The previous review of the BSPAs management plans and measures was done in July 2009. Since then, 70 new management plans have been developed and implemented (**Figure 11**). By June 2013, 106 (65%) of all BSPAs were managed, which is a clear improvement from 2009 when only 36 (40%) of the BSPAs were managed. A further 42 of the BSPAs have a management plan in preparation, and 15 have no management plan at all, not even under preparation. If such preparations were to be started for the remaining 15 areas, Contracting Parties would be well on their way toward reaching the goal set by the 2010 Ministerial Declaration that all BSPAs should have a management plan by 2015.

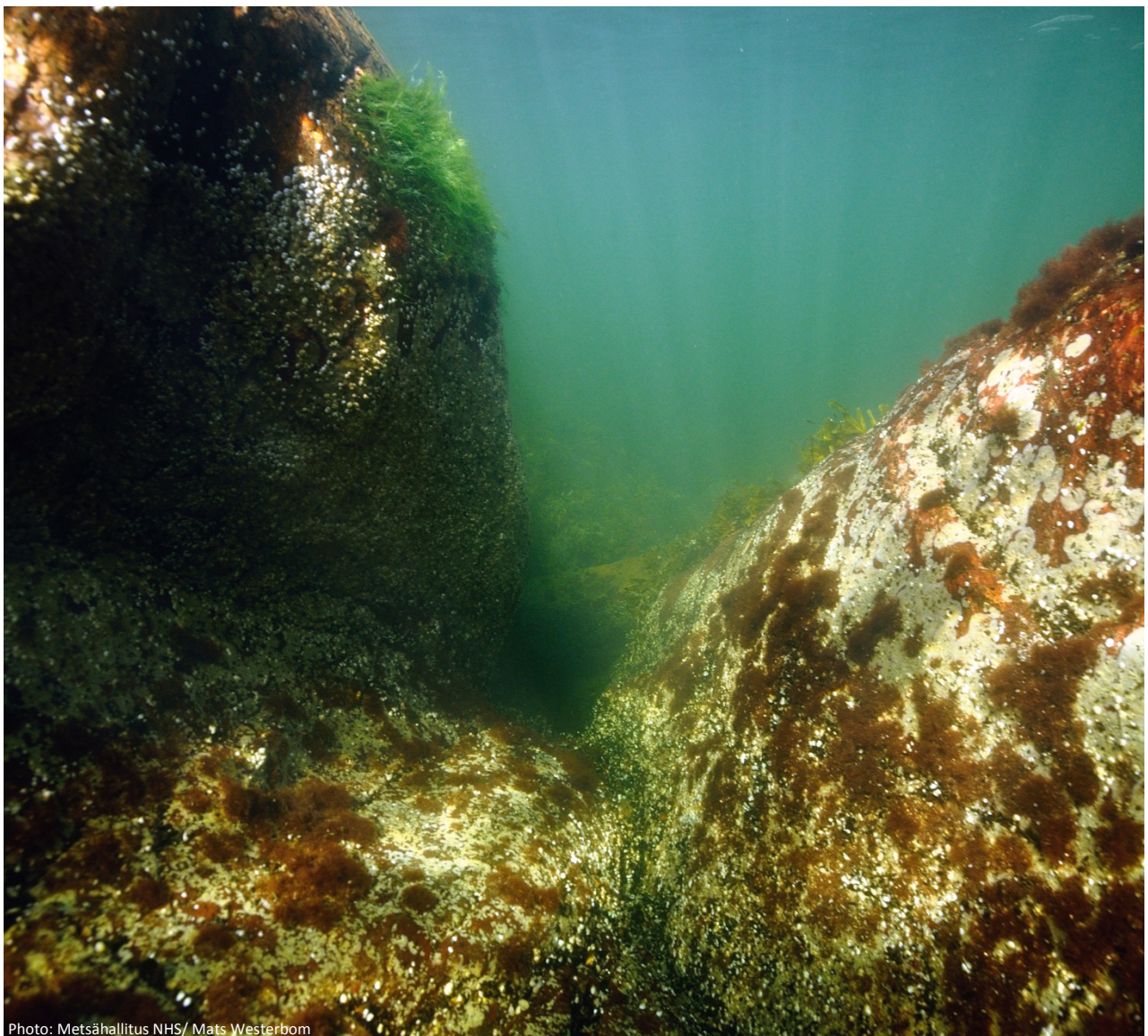


Photo: Metsähallitus NHS/ Mats Westerborn

3.5 Overlap of Natura 2000 areas and BSPAs

The Baltic Sea Action Plan published in 2007 encouraged those Contracting Parties that are also EU members to designate Natura 2000 areas as BSPAs. According to the information reported on BSPAs in 2013 and on Natura 2000 areas in 2011, the BSPAs cover 64% of the Natura 2000 areas (Figure 12). Since 2010, the total area of Natura 2000 sites has increased by 23 864 km², while the total area of BSPAs has increased only by 4 858 km². This has resulted in a decline in the fraction of Natura 2000 areas covered by BSPAs from 83% in 2010 to 64% in 2013.

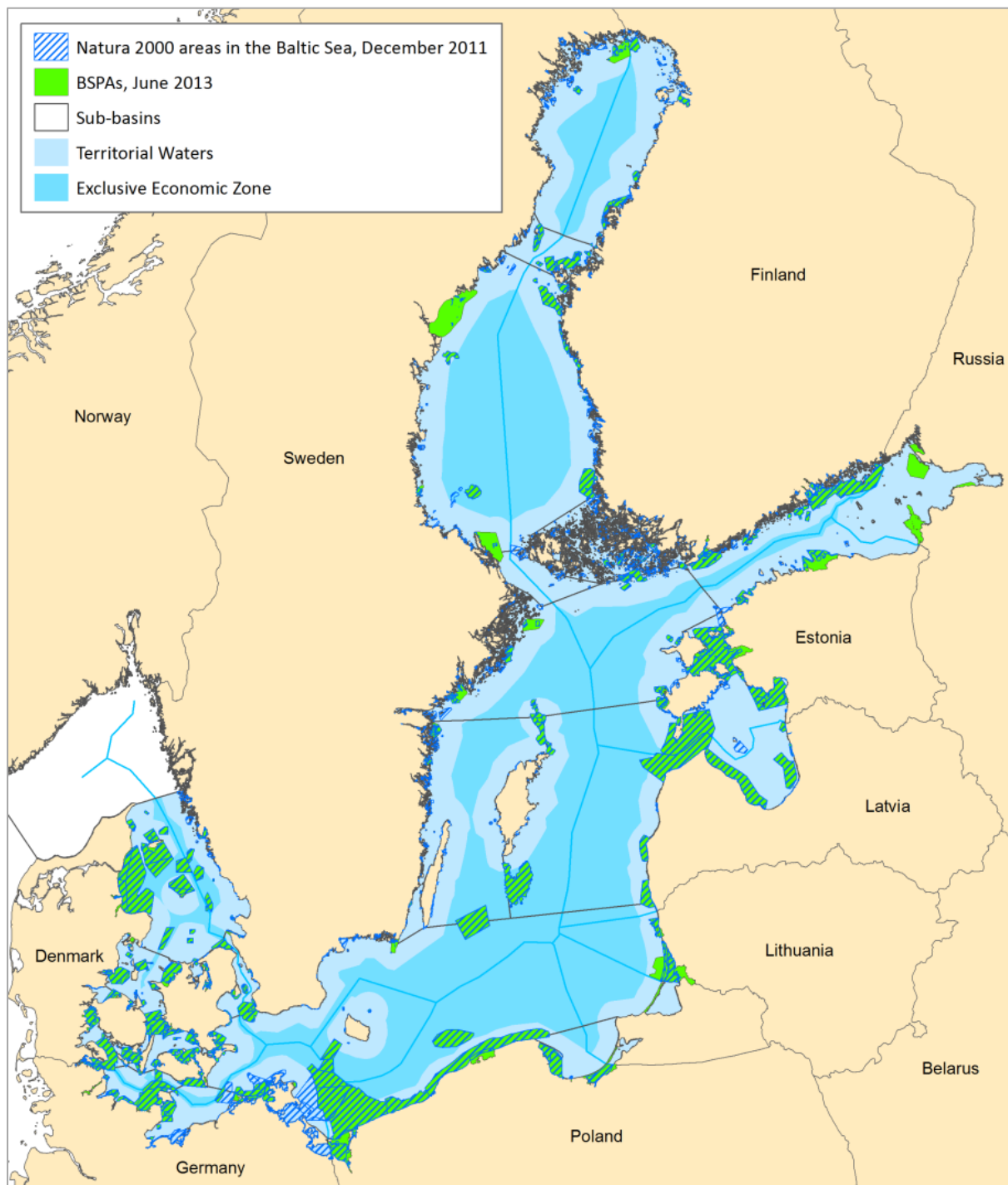


Figure 12. The BSPAs cover 64% of the Natura 2000 areas in the Baltic Sea. BSPA data is from June 2013 and Natura 2000 data is from December 2011.

3.6 Legal protection of BSPAs and their IUCN categories

The BSPA status as such does not provide legal protection to the designated areas. Nevertheless, many BSPAs are protected under national or international legal regimes, which are reported in the BSPA database. The most common types of *national* protection reported for the BSPAs were Special Nature Protected Area (67 BSPAs), Nature Reserves (40 BSPAs) and Wildlife Reserves (22 BSPAs). In total 57 BSPAs were reported to be under no national legal protection. One BSPA could be reported under many different categories. There were in total 19 different categories for reporting national legal protection, and they can be seen in the database (<http://bspa.helcom.fi>).

The most common type of *international* protection reported was Natura 2000 Habitats Directive (148 BSPAs), followed by Natura 2000 Birds Directive (96 BSPAs) and Ramsar sites (42 BSPAs). In total, 13 BSPAs were reported to be under no international protection frameworks.

For 120 out of 163 BSPAs, at least a certain fraction of the area (ranging from 0.1 to 97.5%) was categorized under the IUCN classes. The most commonly reported category was IV (Habitat/species management area) which was chosen for 88 of 163 BSPAs (Table 3). The surface coverage per BSPA for this category was very low, on average only 2%. The IUCN category V (Protected landscape of seascape) was reported for 28

of 163 BSPAs, and these areas covered on average 13% of the BSPAs. The IUCN category VI (Protected areas with sustainable use of natural resources) covered the largest average area (63%) of the BSPAs, although it was only reported for 10 BSPAs.

Table 3. The IUCN category IV was reported for 88 BSPAs, although it on average covered only 2% of the total BSPAs' area. IUCN category VI covered on average 63% of the BSPAs' area but was reported only for 10 BSPAs.

IUCN category		Number of BSPAs reported	Mean coverage per BSPA
Ia	Strict nature reserve	15	6%
Ib	Wilderness area	15	17%
II	National park	14	23%
III	Natural monument or feature	5	4%
IV	Habitat/species management area	88	2%
V	Protected landscape or seascape	28	13%
VI	Protected areas with sustainable use of natural resources	10	63%



Photo: OCEANA Carlos Minguell

4. Trends and future needs

4.1 Needs stemming from global frameworks and the EU

The Parties of the UN Convention on Biological Diversity (CBD) agreed on the development of Ecologically and Biologically Significant Areas in marine areas (CBD EBSA, COP 10 Decision, 2012). Further, CBD COP 10 also agreed on the Aichi targets which apply both to marine and terrestrial environments. Development of the BSPAs network has potential to contribute to the following Aichi targets:

- target 5 (to half the loss of natural habitats),
- target 6 (to avoid overfishing),
- target 11 (to protect at least 10% of coastal and marine area)
- target 12 (to prevent extinction of known threatened species),
- target 13 (to maintain genetic diversity),
- target 14 (to restore ecosystem services),
- target 15 (to restore at least 15% of degraded ecosystems), and
- target 19 (to improve sharing of knowledge).

The results of this report show that target 11 has already been reached. In fact, the UN CBD goal of protection at least 10% of the regional seas was reached for the Baltic Sea in 2010. Stemming from this, the 2010 HELCOM Ministerial Meeting set up a further goal of protecting also 10% of each sub-basin, when scientifically justified (HELCOM 2010). Also this goal has been reached for all Baltic Sea sub-basins except the Baltic Proper and the Gulf of Bothnia.

In 2011 the European Union agreed on the EU Biodiversity strategy for 2020 (EU 2011/2307(INI)). Action 1 under target 1, “to complete the establishment of the Natura 2000 network and ensure good management”, is in line with the aims of HELCOM and its Contracting Parties to prioritize the establishment of management plans or measures for protected areas. (CBD, COP 7 Decision).

HELCOM BSPAs have a role in contributing to fulfil the above mentioned targets. They can for example help in halving the loss of habitats, serve as refugees for overfished species and prevent extinction of threatened species.



Photo: OCEANA Carlos Minguell

4.2 Impact of climate change on protected areas

The future impacts of climate change on the Baltic Sea have been predicted with the help of mathematical models, and in general, the results of these models point to a number of main outcomes. Firstly, as a result of the rising global temperature, the summer surface temperature of the Baltic Sea is projected to rise by 2–4°C by the end of this century. This will favour warm water species on the expense of arctic species (HELCOM 2013). The rise in water temperature will lead to a rise in sea surface levels, which for the Baltic Sea is projected to be 70 ± 30 cm by the end of this century. In the northern Baltic Sea this will to some extent be counteracted by the uplift of the Scandinavian plate, but it will nevertheless affect the coastal areas and the communities inhabiting them (Schmidt J & Zeller M 2012, HELCOM 2013). The rising water temperature will also lead to a decrease in the oxygen content of the water which will be harmful especially for stationary and bottom dwelling species. This can have particularly devastating effects in the already oxygen depleted areas of the Baltic Sea (HELCOM 2013).



Photo: Christof Hermann

Secondly, some models predict that as unstable winters become more common the inflow of freshwater will increase in the northern parts of the Baltic Sea and decrease in the Baltic Proper. This would emphasize the already marked salinity gradient in the Baltic Sea, which in turn would affect the distribution of species. The effect on the distribution of different species will depend on whether they are of marine or freshwater origin (Graham et al. 2000).

Thirdly, the rising atmospheric CO₂ concentrations resulting from carbon dioxide emissions are projected to increase ocean acidification through lowering the waters' pH. For the Baltic Sea, the models predict a decrease in pH by 0.4 units in the worst-case scenarios and by 0.26 units in the best-case scenarios by the end of this century. The projected changes in pH will affect the biogeochemistry of the Baltic Sea and may especially affect the calcifying organisms such as bivalves (HELCOM 2013).

A probable outcome of the predicted changes in sea level, oxygen content, salinity and pH is a change in the distribution range of the species in the Baltic Sea. On a global level climate change causes a general trend of species moving pole ward (Kujala 2012). In the Baltic Sea models predict distributional changes in all species, but these changes will depend on the species in question as well as the subarea of the Baltic Sea (HELCOM 2013). As all protected area networks are geographically fixed, climate change may drive protected species out of these areas, decreasing the benefit already achieved by the protective efforts. It is therefore crucial to establish ongoing monitoring of the state and efficiency of the protected areas and to consider redefining the boundaries of the protected areas if needed (Kujala 2012, HELCOM 2013).

5. Next steps towards reaching the targets for the network of marine protected areas

5.1 Needs for the review of HELCOM Recommendation 15/5 on BSPAs

HELCOM Recommendation 15/5 on the establishment of a network of coastal and marine Baltic Sea Protected Areas (BSPAs) was adopted in 1994. In the light of global, EU and regional developments, the Recommendation is in need of a review. For example Ecologically and Biologically Significant marine Areas (EBSAs) under the UN CBD provides a global approach to protected areas, and HELCOM's BSPAs could rather easily fit into the EBSA process. Furthermore, the need for the EU Member States to make available information on marine protected areas by 2013 under the Marine Strategy Framework Directive, as well as the EU Biodiversity Strategy to 2020, would benefit from a revision of Recommendation 15/5. The revised Recommendation should consist of e.g. technical updates, reviewed definition of criteria of the BSPA selection, as well as assessment criteria for ecological coherence and management aspects.

Furthermore, Lead Party Finland proposes the HELCOM BSPAs to be renamed as HELCOM marine protected areas (MPAs). The name BSPA was adopted in 1992, at a time when MPA was not as well established a term as it is today. In the past 20 years, the HELCOM BSPAs have still not been sufficiently branded globally and the acronym frequently needs to be explained as HELCOM's MPAs.

HABITAT 15/2013 agreed to initiate the review of Recommendation 15/5. The Lead Party is Finland, assisted by the Secretariat, and the renewal of the Recommendation will be linked to and make use of the results of the HELCOM PROTECT project. The revision of the Recommendation is planned to be ready by the 35th Meeting of the Commission (HELCOM 35/2014).

5.2 Modernisation of the HELCOM BSPAs database

The HELCOM BSPA online database at (<http://bspa.helcom.fi>) was created in 2004 to serve as an information bank for the BSPAs, as well as a tool for the Baltic Sea countries to upload and update information on their own BSPAs. As the current structure of the database is outdated and too rigid for the complex multitude of information connected to the BSPAs, a restructuring of the database is scheduled for 2014. The aim is to create a functioning connection to the HELCOM Map and Data Service and enable the Contracting Parties to easily upload data, and for any user to view, download and analyze the geographically referenced data in the system. The restructured database will also include the option to enter several management plans for one BSPA and to link them to GIS data layers, as user experience shows that many BSPAs have separate management plans for different parts of the protected area.

One aim of the database restructuring is to streamline the reporting on BSPAs with other reporting activities for the Baltic Sea, for example on Natura 2000 sites and implementation of the Habitats directive, in order to avoid multiplying the work of the HELCOM Contracting Parties. The restructuring should also be in line with EMODnet (European Marine Observation and Data Network), so that data can be used both on European and national level as outlined in the Marine Knowledge 2020 green paper (Anonymous 2012).

The structure, management plans and information on the BSPAs varies between countries, and it is challenging to build a system which meets these different needs. Therefore feedback from the users, i.e. the Contracting Parties, is the most valuable asset when planning the structure of the new database.



Photo: OCEANA Carlos Minguell

The information in relevant sections of the database, not including information on protected species and habitats, was updated for each BSPA in June 2013, and currently all relevant information concerning the BSPAs and their management plans can be found in the database. This can be used by HELCOM Contracting Parties which are also EU Member States in the implementation of Article 13 (6) of the Marine Strategy Framework Directive “By 2013 at the latest, Member States shall make publicly available, in respect of each marine region or subregion, relevant information on the [marine protected] areas referred to in paragraphs 4 and 5”.



Photo: OCEANA Carlos Minguell

5.3 Next steps for the protected areas in the Baltic Sea

This overview of the status of the network of Baltic Sea marine protected areas shows that CBDs’ 10% target for areal coverage of the Baltic Sea-wide network in the marine area has been reached. Importantly, the 10% target has also been reached for all separate Baltic Sea sub-basins except the Baltic Proper and Gulf of Bothnia. It will be important to continue the work to enlarge the network in those two sub-basins.

The target agreed by HELCOM 2010 Ministerial Meeting to include more off-shore areas under the protection regime by the end of 2011 has not been fully reached. Even though one new BSPA was established in the Exclusive Economic Zone (EEZ), a larger area of BSPAs was established in Territorial Waters, which means that the share of off-shore areas among all BSPAs did not improve between 2010 and 2013.



Photo: OCEANA Carlos Minguell

Since 2003 and 2010 HELCOM Ministerial Meetings, the goal has been to secure the establishment of a network of BSPAs that fulfils the criteria of ecological coherence (representativeness, replication, adequacy and connectivity). The assessment of the network of protected areas made in 2010 concluded that despite the positive developments, the network still could not be considered ecologically coherent (HELCOM 2010). The conclusions were that the network was by far most adequate in terms of the size of the sites. Connectivity was good for species but dissatisfactory for landscapes. Lack of data on protected species and habitats hampered the assessment in 2010.

This report did not address ecological coherence at all. In the near future HELCOM should make an effort to compile coherent data on species and habitats, with an extra focus on threatened species and habitats identified in the new HELCOM Red Lists, and carry out a new analysis of ecological coherence. In order to ensure that the assessment of representativity and replication can be included into the future assessment, a reporting round to complete the data on species and habitats should be carried out. In this exercise the Contracting Parties could be requested to prioritise provision of the information on certain, pre-selected indicator species and habitats. Overall, as was proposed already in 2010, criteria and strategies for the assessment of ecological coherence should be developed and

jointly agreed on before the assessment. HELCOM HABITAT 15/2013 proposed the following activities to be carried out in spring 2014 to complete an assessment:

- modernisation and restructuring of the BSPA database to revive it, *inter alia* to better link it to GIS-facilities, enable retrieval/insertion of Natura2000 site information based on countries' reporting and to make the interface more user friendly, this activity being subject to receiving additional funding from Nordic Council of Ministers,
- Contracting Parties to report or update the remaining information on BSPAs (e.g. data on species and habitats being protected) and possibly also on other types of MPAs in a coordinated manner to the restructured database,
- HELCOM PROTECT project to collaborate with the Contracting Parties to update the ecological coherence analysis and site selection analysis by 2014.

A recent report published by OCEANA gives a proposal to establish twelve new MPAs in the Baltic Sea (OCEANA 2013). HELCOM should further examine these proposals and carry out a careful site selection analysis to consider where potential new sites could be located in order to complete an ecologically coherent network.



Photo: Christof Hermann

Management of the protected areas has improved between 2010 and 2013 as the share of sites with management plans in force increased from 40 to 65% during this time. This is good progress in establishing the management plans, however, the content of the management plans and their implementation will need to be scrutinised in the future. Such an assessment should include a spatial GIS-based analysis on how the protected nature values are located in relation to both threats and mitigation measures in the protected areas. In order to accomplish this, Contracting Parties ought to publicly make available GIS information on the means of legal protection and the status of the management plans, as well as the location of inventory and monitoring points and distribution of species and habitats. Especially the underwater habitats are still poorly known in many areas, and these areas need to be mapped in order to produce the needed data.

There is also still a need to strengthen the legal basis of protection of many areas. According to the data compiled for this overview, in total 57 BSPAs are under no national legal protection.

When established and managed properly, the protected areas are a valuable asset. They can be used as reference areas for research and monitoring, and they can have a positive spill-over effect of fish and other natural resources which are economically exploited. Protected areas in the Baltic Sea have recreational value for humans, and they can provide ecosystem services as well as jobs in areas that frequently suffer from job-loss. The ambition of HELCOM Contracting parties should be to make the HELCOM network of protected areas in the Baltic Sea an outstanding example of a well-managed network of marine protected areas in a regional sea.

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