



NEA-PANACEA: From Assessment to Action

A workshop to share experiences of GES assessment and efforts to restore and maintain marine birds across Europe's Regional Seas- and to map future collaboration

Aberdeen (UK), 17-19 May 2022

Workshop Report

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Summary

The workshop “NEA-PANACEA: From Assessment to Action” was an opportunity for experts from different *Regional Seas Conventions* to meet and share approaches to on how Good Environmental Status for marine birds is assessed in the four European regions, to identify regional synergies and differences, and to create links for future collaboration.

The workshop was held in Aberdeen (UK) in May 2022 and included attendees from OSPAR, HELCOM, and UNEP-MAP conventions which joined in person and/or online.

During the 3 days of the workshop, the following themes were discussed:

- Approaches to GES
- interpreting and communicating assessments
- policy responses
- ways forward

The outputs of the workshop are summarised in this report. They will be used as a basis for further discussion on the development of an Action Plan detailing priorities for future co-working and establishing best practice for assessing GES in marine birds across the four regions



Figure 1. Workshop attendees during a field trip to the Fowlsheugh RSPB Nature Reserve, the largest mainland seabird breeding colony in the UK.

Introduction

Workshop Background

The NEA PANACEA project

The workshop “NEA-PANACEA: From Assessment to Action” was one of the tasks planned for Activity 4 (*An assessment of marine birds in the Northeast Atlantic*) of the project NEA-PANACEA (*North East Atlantic project on biodiversity and eutrophication assessment integration and creation of effective measures*).

[NEA PANACEA](#) is an EU-funded project in which 8 partners from 5 OSPAR Contracting Parties (Germany, France, the United Kingdom, Spain and the Netherlands) collaborate to deliver biodiversity assessments for OSPAR’s Quality Status Report (QSR) 2023.

The project focus lies specifically on pelagic habitats, benthic habitats, food webs and marine birds’ assessments. These assessments can be used by EU member states in the North East Atlantic region to inform their reporting to the EU for the Marine Strategy Framework Directive (MSFD).

The project supported the development of new biodiversity indicators as well as on the improvement of existing ones, for example in terms of data flow, indicator operability, expansion of geographical coverage or the development of threshold values. In addition, the project explored what the best ways are to integrate multiple indicators to deliver a single integrated assessment of a specific ecosystem component (e.g. marine birds).

NEA PANACEA also aims to have value for those members of the OSPAR family that are not directly involved. For this reason, one task of the project concerned the organisation of a workshop dedicated to the exchange of experience and information about marine birds between the 4 European regional sea conventions.

Costs for workshop organisation and attendees’ Travel and Subsistence were entirely funded by the NEA PANACEA project

Workshop Details

The aims of the workshop were to share approaches to GES assessments of marine birds within the different *Regional Seas* within Europe to identify regional synergies and differences and to define an action plan detailing priorities for future co-working and establishing best practice for assessment.

There are four [Regional Sea Conventions](#) (RSCs) in Europe comprising national governments as contracting parties, the European Commission being also a contracting party to all bar to the Bucharest convention:

- The Convention for the Protection of the Marine Environment in the North-East Atlantic of 1992 – [the OSPAR Convention \(OSPAR\)](#)
- The Convention on the Protection of the Marine Environment in the Baltic Sea Area of 1992 – [the Helsinki Convention \(HELCOM\)](#)
- The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean of 1995 – [the Barcelona Convention \(UNEP-MAP\)](#)
- The Convention for the Protection of the Black Sea of 1992 – [the Bucharest Convention \(Black Sea Commission\)](#)

All four RSCs in Europe support their contracting parties in the implementation of the Marine Strategy Framework Directive (MSFD) through their regional monitoring and assessment programmes.

To achieve the workshop aims, experts involved in the four RSCs were invited by the organisers. The workshop was originally planned to be fully face-to face; however, given that several experts could not join in person for various reasons (including e.g. difficulties in obtaining VISA permits within the timeframe provided), it was decided to opt for a hybrid approach and to give the opportunity to join online each session in order to increase the participation to the discussions.

This workshop took place in a period of increasing international tensions in Europe following the Russian invasion of Ukraine. This meant the following:

- Unfortunately, none of the invited experts from the Black Sea involved in the Bucharest Convention could attend the workshop. However, they provided some information on assessment approaches in the Black Sea ahead of the workshop which were made available to workshop attendees.
- In line with the EU policy at the time of the workshop in relation to international engagement with the Russian Federation, it was not possible to host experts from the Russian Academy of Sciences, despite their interest in attending.

The workshop and online attendees hosted 24 experts on marine birds from various European and African countries of the North-East Atlantic Ocean, the Baltic Sea and the Mediterranean Sea regions.

The full list of the workshop attendees is available in Appendix 1

The workshop covered four main themes which were discussed through a series of presentations, followed by discussion sections with breakout groups and plenary (see detailed Agenda in Appendix 2) within four sessions:

1. Approaches to GES in the 4 regions
2. Interpreting and communicating assessments
3. From Assessment to Action; policy responses to marine bird declines
4. Recap, Conclusions and Way Forward

Session 1: Approaches to assessing the achievement of GES in the four European *Regional Seas*

In this session attendees were asked to describe the approaches used across the four European *Regional Seas* to assessing the achievement of Good Environmental Status (GES) for marine birds. During a series of presentations indicators of marine bird status were discussed, how they relate to MSFD criteria (see **Table 1**) and if they can be effectively assessed in each region. Integration approaches (e.g., combining information from several criteria and/or species) were also discussed. This first section allowed participants to build knowledge on assessments methods and to identify synergies (and differences) between the regions and between countries.

Table 1 MSFD Article 8 Biodiversity Criteria for Marine Birds (Descriptor 1)

Criteria	Description
D1C1 (bycatch)	The number of birds bycaught in fisheries does / does not allow to recover or maintain the population size.
D1C2 (abundance)	The population size is decreasing / stable / increasing.
D1C3 (demography)	The reproductive success does / does not allow to recover or maintain the population size.
D1C4 (distribution)	The distributional range is decreasing / stable / increasing / changing.
D1C5 (habitat for the species)	Bird habitat is lost /disturbed due to human activities.

North-East Atlantic Ocean

Presented by Matt Parsons

This section presented the approach underpinning the status assessment of Marine Birds that will be part of the OSPAR Quality Status Reports 2023 (QSR 2023)

Status assessments of marine birds contributing to QSR 2023 build on the monitoring of different aspects of marine birds and their ecological condition, called “criteria” in the Marine Strategy Framework Directive (MSFD). Assessments are done on the level of both species (“element” in MSFD) and functional groups of species (“features” in MSFD).

The functional groups considered in OSPAR are:

- Surface feeders
- Water Column feeders
- Benthic feeders
- Wading feeders
- Grazing feeders

For each species, assessments are conducted separately for breeding and non-breeding populations. The indicators used in OSPAR to assess the status of Marine Birds and their coverage in the five Regions of the OSPAR Maritime Area are outlined in **Table 2**. No indicators are currently available for D1C4 (distribution); insufficient data were available to assess marine birds status in OSPAR Region V (Wider Atlantic) – other than for the D1C1 candidate indicator.

Table 2 Indicators used in QSR 2023 for assessing the state of marine birds per OSPAR Region. Entries indicate whether breeding populations (B) and/or non-breeding populations (NB) were assessed. "***" denotes pilot assessments, which did not contribute to the integrated assessment.

MSFD Criterion	Indicator	Status	OSPAR Region				
			I	II	III	IV	V
D1C1	B5 Marine bird bycatch*	candidate	NB	B	B	B	B
D1C2	B1 Marine bird abundance	common	B/NB	B/NB	B/NB	B	
D1C2	B1 Marine bird abundance (offshore)*	pilot		NB			
D1C3	B3 Marine bird productivity	common	B	B	B	B	
D1C5	B7 Marine bird habitat quality*	pilot		NB			

The status of a marine bird species (element) is derived from the integration of the outcomes of different indicators. For the QSR 2023, only common indicators B1 and B3 are considered for the integration. Information from candidate and pilot assessments is provided as descriptive text in the Marine Birds Thematic assessment but outputs are not included in the integration method.

The status of a species group can be found by the integration of the status of the associated species. The approach for integration is based on two steps:

- 1) from criteria results to individual species (element) status.
This integration level is based on conditional rules described in Dierschke et al. 2021 (adopted in the GES Guidance in MSFD, European Commission 2022). As the integration is only applied to two common indicators for the QSR 2023, the conditional rules are *de-facto* a “One-Out-All-Out” approach for elements which are assessed in terms of abundance (indicator B1, criterion D1C2) and breeding productivity (B3, D1C3).
- 2) from individual species status to species group (feature) status.
This integration level is based on a proportional rule: when at least five elements (species or populations) of a species group can be assessed and if 75 % of all elements (including those not assessed¹) are in good status, then the species group is considered to be in good status. If fewer than five elements are assessed in a species group, then One-Out-All-Out is applied

A schematic of the integration approach adopted in OSPAR is provided in **Figure 2**. Such an approach for OSPAR QSR corresponds to the procedure used in the MSFD, in line with the Article 8 MSFD Assessment Guidance (European Commission 2022).

¹ Such recommendation could not be applied to the OSPAR QSR 2023 as the Article 8 Guidance was published on a late stage of the analyses (May 2022) and especially because an agreed list of species to consider for an assessment is not currently available. For these reasons, in the QSR 2023 the 75% proportion was calculated only on the species assessed. It would be recommended for JWGBIRD to produce an agreed species list for each species group (ideally for each OSPAR Region separately) to better align future assessments with the recommendations detailed in the Article 8 Guidance

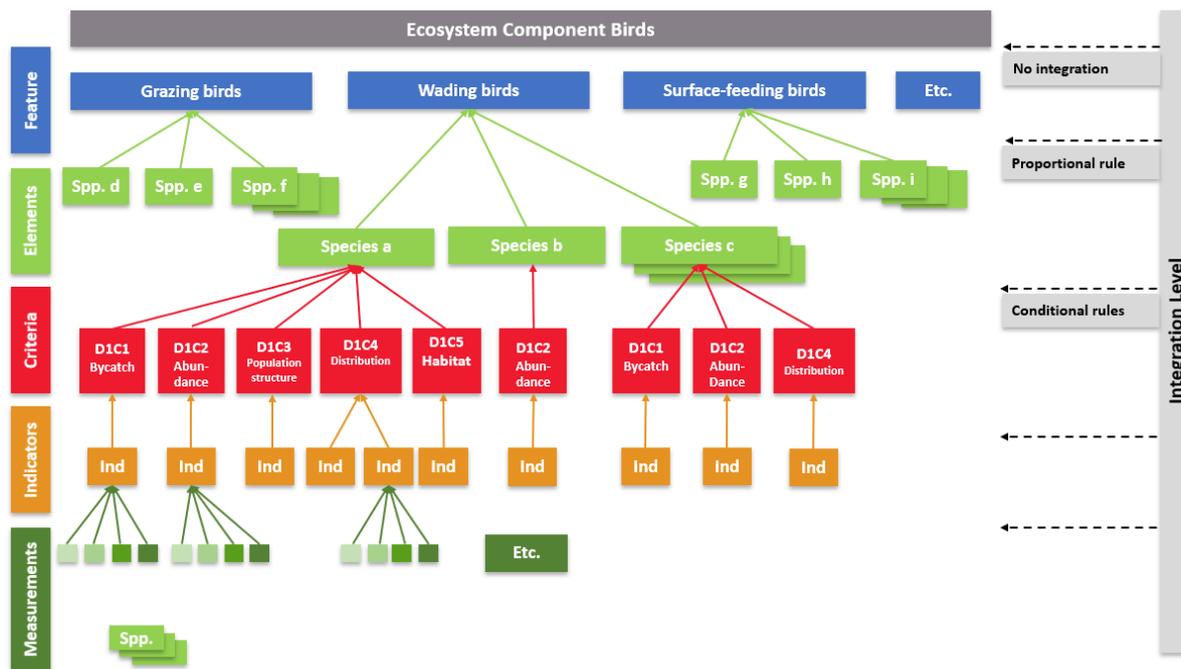


Figure 2 Levels and methods of integration for marine birds

Baltic Sea

Presented by Volker Dierschke

This item presented the approach to assess GES in the Baltic Sea as part of the HELCOM HOLAS 3 (*State of the Baltic Sea – Holistic Assessment*)

Table 3 shows the state of each HELCOM indicator for the different MSFD criteria, highlighting overlaps with OSPAR. No indicators are currently available for D1C4 (distribution)

Integrated species assessments are based on the outputs of core indicators for

- Abundance (many species, good coverage)
- breeding productivity (1 species, 1 site)
- by-catch (11 species, 4 areas)

Assessments are conducted separately for breeding and wintering populations at species level and integrated at species group level using the same approach adopted by OSPAR (**Table 3** Fout! Verwijzingsbron niet gevonden.). The species groups are the same as in the North East Atlantic, although but their composition differs in terms of species. Abundance and bycatch assessments are done on the geographic scale of subdivisions (aggregations of up to four of HELCOM's 17 subbasins) and for the entire Baltic Sea.

The pilot assessment of waterbirds habitat quality is not included in the integration but considered in the HOLAS 3 report as textual information

Table 3 status of marine birds indicators in the Baltic Sea

MSFD criterion	HELCOM indicator	Status
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D1C1 (bycatch)	Number of drowned mammals and waterbirds in fishing gear <i>(core indicator)</i>	<ul style="list-style-type: none"> development following recommendations of OSPAR-HELCOM workshop (2019, Copenhagen), partly done in HELCOM BLUES project, same approach as OSPAR (B5) few data (fishing effort, bycatch rates) Pilot assessment for some species (PL, DK, DE, LT) in HELCOM BLUES project
D1C2 (abundance)	Abundance of waterbirds in the breeding season <i>(core indicator)</i>	<ul style="list-style-type: none"> unchanged compared to HOLAS II, same approach as OSPAR (B1)
	Abundance of waterbirds in the wintering season <i>(core indicator)</i>	<ul style="list-style-type: none"> coastal birds: unchanged compared to HOLAS II offshore: pilot assessment same approach as OSPAR (B1)
D1C3 (demography)	Waterbird breeding success <i>(candidate indicator)</i>	<ul style="list-style-type: none"> same approach as OSPAR (B3) pilot assessment for Gotland common guillemots
D1C4 (distribution)		
D1C5 (habitat for the species)	Waterbird habitat quality <i>(new indicator, not adopted by HELCOM State & Conservation)</i>	<ul style="list-style-type: none"> same approach as OSPAR (B7) pilot assessment conducted for German Baltic Sea (2 species) textual information for HOLAS III

Black Sea

No experts from the Black Sea could attend the workshop. Ahead of the workshop, Dr Nika Paposhvili from Ilia State University (Georgia) provided information on the Black Sea integrated monitoring and assessment programme and on population trends, threats and conservation recommendations for the sole breeding population of Velvet Scoter in the Caucasus (**Figure 3**).

**BLACK SEA INTEGRATED MONITORING AND ASSESSMENT PROGRAM
for years 2017-2022 (BSIMAP 2017-2022)**

EcoQO 2 Conservation of Black Sea Biodiversity and Habitats
EcoQO 2a Reduce the risk of extinction of threatened species
Target:

- Stabilized or increasing trends of the populations of the threatened species.

Preparatory actions:

- Assess and determine the Good Environmental Status (GES) of threatened species
- Harmonize the IUCN status of species
- Agree on Black Sea Red Data Book list
- Update general CheckLists of Black Sea species

Additional monitoring:

- Threatened species temporal and spatial dynamics
- Habitat mapping for threatened species
- Pressures

EcoQO 4 Ensure good water quality for human health, recreational use and aquatic biota
EcoQO 4a Reduce pollutants originating from land based sources, including atmospheric emissions
Ultimate target:

- Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, **marine birds**, fish

Figure 3 Black Sea Integrated monitoring and Assessment programme

Mediterranean Sea

Presented by Aida Abdennadher and Nicola Baccetti

The Specially Protected Areas Regional Activity Centre (SPA/RAC) was established by the Contracting Parties to the Barcelona Convention (Figure 4) to assist the Mediterranean countries in implementing the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol). Tunisia has been hosting the Centre since its establishment in 1985. The Centre works under the auspices of the UN Environment Programme / Mediterranean Action Plan (UNEP/MAP) - Barcelona Convention Secretariat, based in Athens, Greece.



Figure 4 The Barcelona Convention System

Under the Barcelona Convention, there are 11 Ecological Objectives (EOs) covering all the main aspects of the marine and coastal environment.

For Marine Birds, the Ecological Objective 1 (Biodiversity) is assessed using three common indicators as part of the Integrated Monitoring and Assessment Programme (IMAP) (**Table 4**)

- Common Indicator 3 Species distributional range (D1C4)
- Common Indicator 4 Population abundance of selected species (D1C2)
- Common Indicator 5 Population demographic characteristics (D1C1)

The assessments of these indicators will feed in to the 2023 Mediterranean Quality Status Report

No integration methods are available for the above-mentioned indicators

Table 4 Indicators applied by IMAP

Descriptor /Ecological Objective	MSFD	IMAP
	Criteria (<i>primary and secondary</i>)	Relevant common indicators
D1/EO1 Marine Birds	D1C1 Mortality rate from incidental by-catch	CI12 Bycatch of vulnerable and non-targeted species (E03) CI5 Population demographic characteristics (E01)
	D1C2 Population abundance	CI4 Population abundance of selected species (E01)
	D1C3 Population demographic characteristics	CI5 Population demographic characteristics (E01)
	D1C4 Population distributional range and pattern	CI3 Species distributional range (E01)
	D1C5 Habitat for the species	This is not a specific indicator under IMAP, but partly addressed by CI 1 and 2. CI1 Habitat distributional range (E01) CI2 Condition of the habitat's typical species and communities (E01)

Assessments are done by species groups, which are slightly different from those considered by the MSFD. Not all MSFD species groups have equivalent IMAP categories (e.g. wading feeders) (**Table 5**)

Table 5 Species groups considered for IMAP in relation to MSFD

Ecosystem component (MSFD)/ Species class (IMAP)	Species groups (MSFD)	Species groups (IMAP)	
Birds	Grazing birds	Coastal top predators	
	Wading birds		
	Surface-feeding birds		Inshore surface feeders
			Offshore surface feeders
	Pelagic-feeding birds		Inshore pelagic feeders
			Offshore pelagic feeders
Benthic-feeding birds		Intertidal benthic feeders	
		Inshore benthic feeders	

During this session, the following points were highlighted for the Mediterranean Sea:

- So far there has been little communication and coordination among contracting parties involved in seabird monitoring. To address this gap, RAC/SPA is developing a common initiative on seabird monitoring
- This also meant that there are strong differences in the monitoring data available in each country, which in turn means that there is variation among Mediterranean countries in what indicators are used for reporting
- There are only a few species within each species group that breed in the Mediterranean, so assessments of species groups are less informative than in the Baltic and Northeast Atlantic, where any more species are present.
- Funding sources for reporting are very variable between different countries and there is no overall coordination mechanism within the Mediterranean - e.g. in Italy funds for official reporting come from the Government, whilst for Spain and Croatia information is derived by specific projects. It would be useful to increase coordination among constituent countries in the future.

Key Messages

In conclusion of Session 1, attendees addressed a series of questions designed to identify gaps and opportunities for improvement on reporting approaches. This section was originally planned as a breakout group exercise but was discussed in plenary in the interest of time.

Detailed responses to the questions posed are available in **Appendix 3**

In summary:

- there are obviously differences among RSCs (and among CPs within individual RSCs) on the data available and indicators used for assessing GES.
- Whilst there is good overlap between HELCOM and OSPAR in terms of species groups assessed, indicators applied and integration methodologies, the picture in the Barcelona Convention is more heterogeneous and strongly driven by the various national approaches. There would be benefit in an increased coordination among CPs of the Barcelona Convention to identify which species are useful to be monitored in the Mediterranean, reach agreement on thresholds to apply, and secure funding for reporting

Session 2: Interpreting and communicating assessments

In this session attendees were asked to share their experiences of communicating and interpreting information, exploring heuristic frameworks such as DAPSIR (Driver, Activities, Pressures, State, Impact, Response) and others across the regions to identify best practice and provide recommendations for future enhancements. Topics explored included:

- communicating the “health” of marine birds and seas
- exploring frameworks such as DAPSIR (Driver, Activities, Pressures, State, Impact, Response) and others across the regions
- identifying challenges & best practice and provide recommendations for future enhancements

2.1 OSPAR’s QSR23 Thematic Assessments

Presented by Matt Parsons

Matt Parsons presented a summary of OSPAR’s Thematic Assessment for birds (with co-authors Volker Dierschke and Stefano Marra), which will be part of OSPAR’s Quality Status

Report 2023, due to be published Summer 2023. The Thematic Assessment was in progress at the time of the workshop but in this report are included for completeness some key outcomes showing that marine birds are generally in a “not good” state in the North East Atlantic

This session asked participants to consider the individual indicators of state discussed in Session 1 in the wider context; especially the questions around what are the drivers, activities and pressures that influence the indicators and what management responses have been undertaken to mitigate them? Can we distinguish natural from anthropogenic changes, not least with climate change effects as overarching background noise?

The workshop also considered in a broader sense how we can communicate the results of the indicator assessments to various audiences –which ultimately is one of the main aims of assessments such as OSPAR’s QSR. Figure 5 **Figure 5** explains the structure of the QSR in the shape of a pyramid, where we move from the very specific at its base to the very general and overarching at the top. Its base is formed by the datasets themselves (for example datasets on bird abundance and productivity which we explored in the Session 1), moving up toward the indicators, then to what we call Thematic Assessments (TA) and eventually to a synthesis report at the top.

We also saw how the audiences might change as one moves from the bottom - which can be seen as the realm of experts and scientists - towards products that are more widely understood by general audiences at the top of the pyramid. The Thematic Assessment sits somewhere in the middle, as it bridges the highly scientific with more pragmatic questions of what activities (especially human) are causing the changes and what can be done to mitigate them.

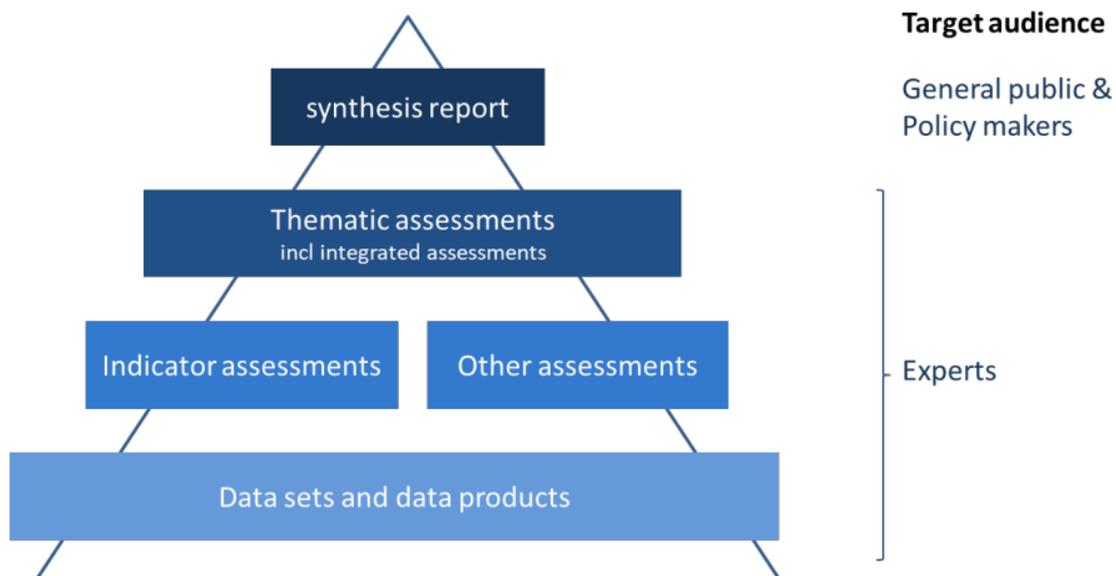


Figure 5 Broad structure of OSPAR’s Quality Status Report 2023

The main aim of OSPAR’s Thematic Assessments is to address the following questions (which are sections at the start of the TA):

1. What are the problems? Are they the same in all OSPAR regions?
2. What has been done? Programmes and measures in place, under the OSPAR Convention or otherwise.

3. Did it work?
4. Role (of marine birds) on the overall state of the marine environment;
5. What do we do next?

The Thematic Assessment is constructed around an approach called DAPSIR (Judd & Lonsdale, 2021)

The components of DAPSIR (**Figure 6**) are:

(D)rivers of change (economic or social), e.g. the need for energy is a social driver

(A)ctivities –continuing the theme from before, offshore windfarms are an example of an activity that flows from the driver

(P)ressures: the mechanisms of change in the State of the natural system, of which in our example regarding offshore wind there would be a number, collision with turbines is one; displacement is another

(S)tate –here changes in seabirds as expressed by the indicators of abundance and productivity

(I)mpact on Ecosystem Services – so changes in bird populations might impact the supply of human food supply through predator-prey relationships

(R)esponse; both in terms of what has been done to mitigate adverse change, and what more is needed going forward.

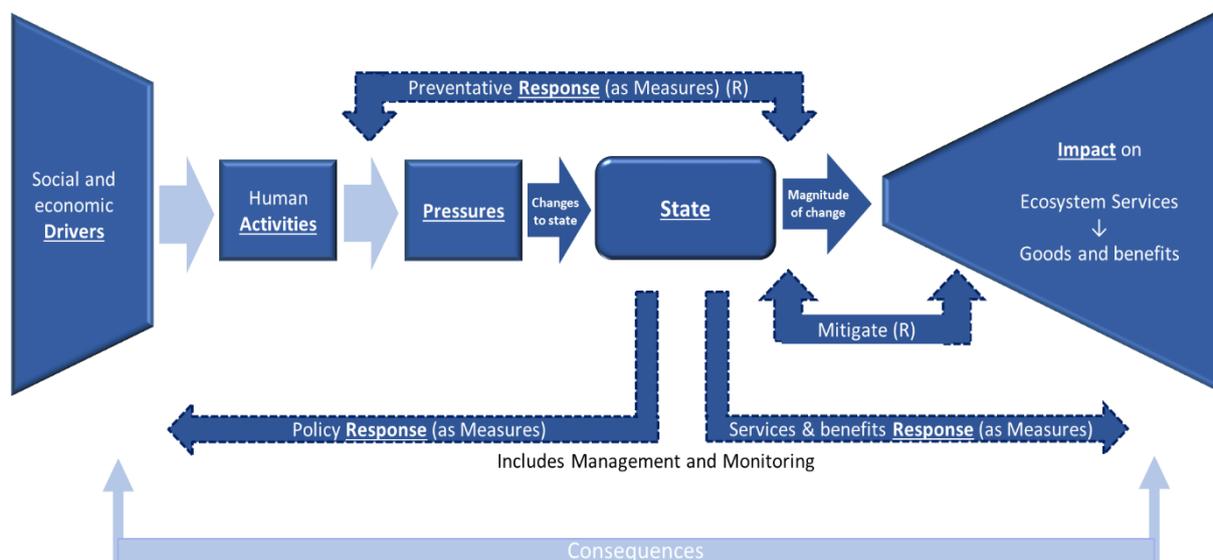


Figure 6 The DAPSIR framework for multidisciplinary projects (after Judd and Lonsdale 2021)

The linkages between the different elements in **Figure 6** are represented by arrows. Recognising linkages between the different elements is not the key challenge in this approach. What is most challenging is to try to assess their strength and relative importance.. To address this, a “weighted bow-tie analysis” exercise was undertaken of the activity-pressure-state-impact (APSI) components of DAPSIR by adapting the [Pressure Assessment | ODEMM](#) methodology, which ranks the threat associated with any particular activity/pressure combination on the basis of the exposure (comprising spatial and temporal overlap), degree of impact and persistence. The outputs of the weighted bow-tie analysis can be visualised using a Sankey Diagram (**Figure 7**) and used as an indicative assessment of cumulative effects to identify those activities and pressures of greatest concern (and

meriting priority action). At the time of the NEA-PANACEA workshop this analysis was at a very early stage, so a more recent draft is presented here.

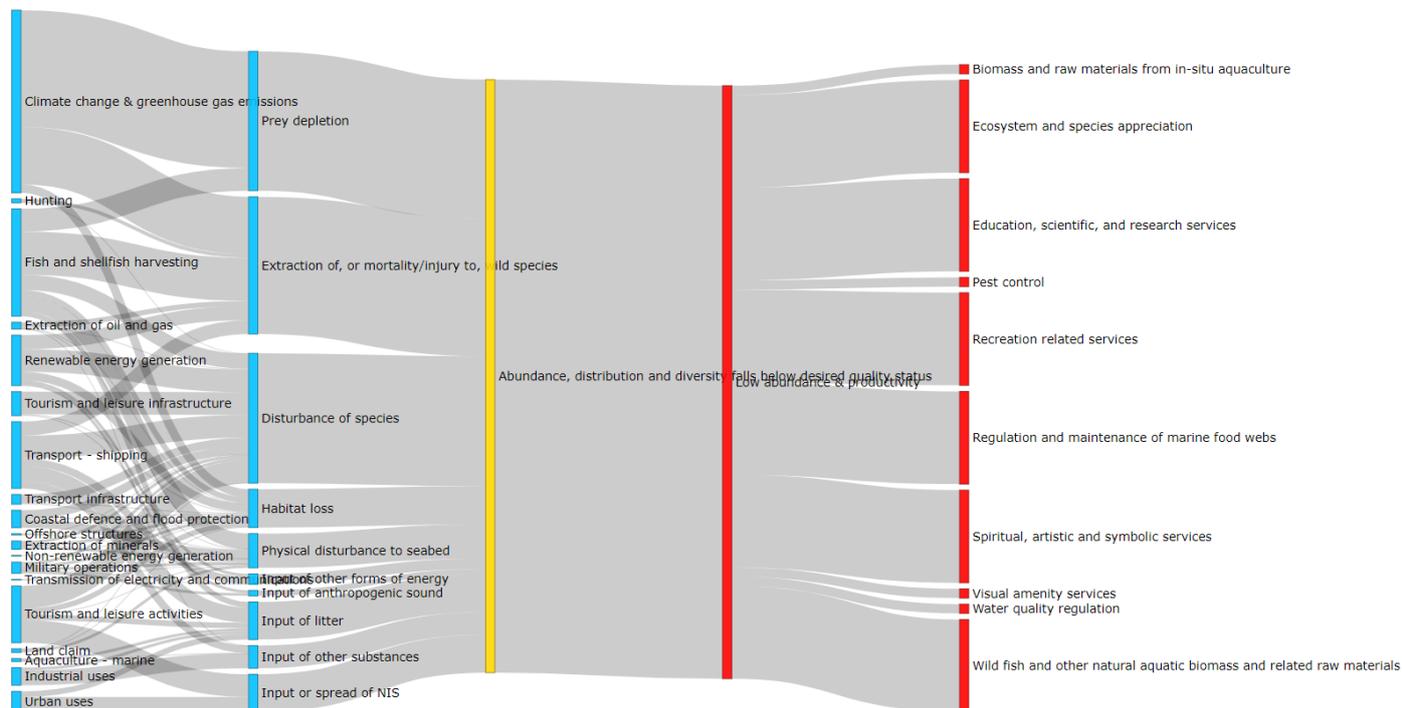


Figure 7. Weighted Bow-tie Analysis. Sankey Diagram shows Impact Potential of Marine Birds to exposure to pressures from human activities in the North-East Atlantic. Links are weighted to indicate relative contribution to impact. A wider link = greater potential for impact. Columns from left to right: Activity, Pressure, State, Environmental Impact, Ecosystem Service. Note that the Sankey Diagram will be published online as dynamic diagram that will allow the user to highlight specific links. Overlaps in the text will be fixed before publication

Integrated Assessments of State

Section 1 outlined the method of integration being applied in the Thematic Assessment. The benefit of integration for the interpretation and communication of information on state is that it simplifies and generalises. This simplification allows the identification of broad “signals” of the likely drivers of change of state. Integration of information starts at species level (e.g. combining assessment of abundance and productivity) and then proceeds to species group level (combining information across species which share similar feeding strategies). It is this second level of integration which is emphasised in the Thematic Assessment, allowing ecological interpretation of possible causes of change. **Figure 8** shows a summary of integrated state for trophic groups in each OSPAR region; the figure is an update to that shown at the workshop and incorporates improved graphical representation of information. The “take-home” message from this figure is that marine birds are in a “not-good” state in all OSPAR regions, apart from grazing feeders. This allowed the exploration of possible drivers of change across trophic groups.

Figure 8 also provides “Overall Status” assessments for marine birds in each OSPAR region, integrated across all descriptors, species and species groups. This isn’t required for MSFD assessments, though OSPAR decided to include it in QSR23. This operates on a “one out all out” basis, because if one trophic group is in “not good” status that cannot be replaced by another group in the ecosystem, so the status of the ecosystem component as a whole would be assessed as “not good”.

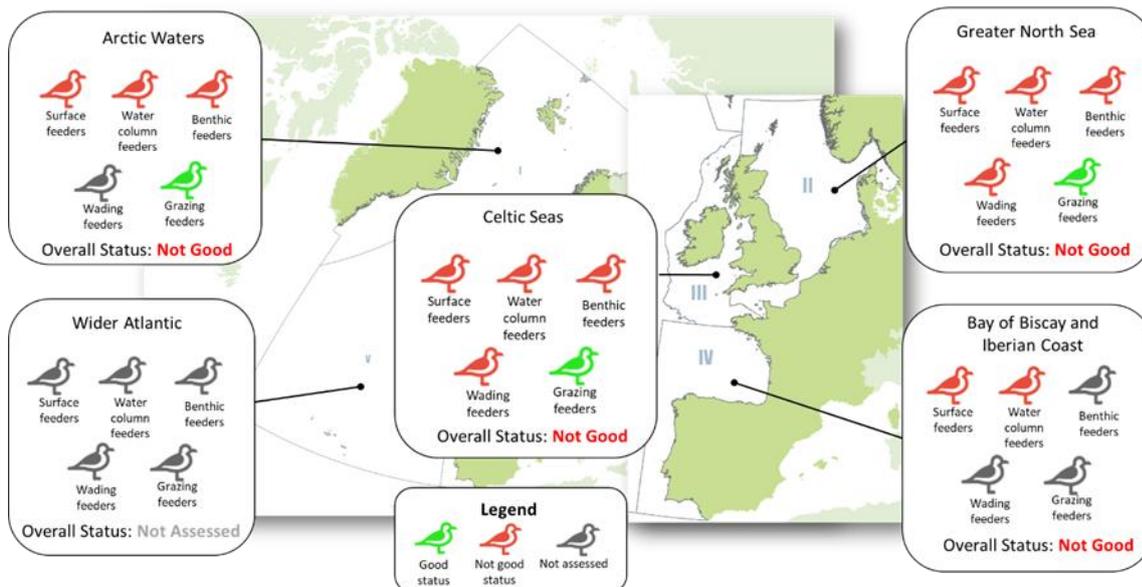


Figure 8. Integrated status of marine birds in the different regions of the OSPAR Maritime Area.

Baltic approaches

Presented by Volker Dierschke

HELCOM follows a similar approach to OSPAR to aggregate a wide range of information on the state of the Baltic Sea. In the case of marine birds, monitoring data are used to calculate indicators, which in turn feed into indicator reports. Using the “BEAT” tool (Nygård et al. 2018), indicator results are integrated to the status of birds and the biodiversity thematic assessment, eventually flowing into the holistic summary report about the status of the Baltic Sea (Figure 9, also including thematic assessments for eutrophication hazardous substances, economic and social analyses and spatial pressures and impacts). The Holistic Assessment is meant to support the Baltic Sea Action Plan, which was updated in late 2021.

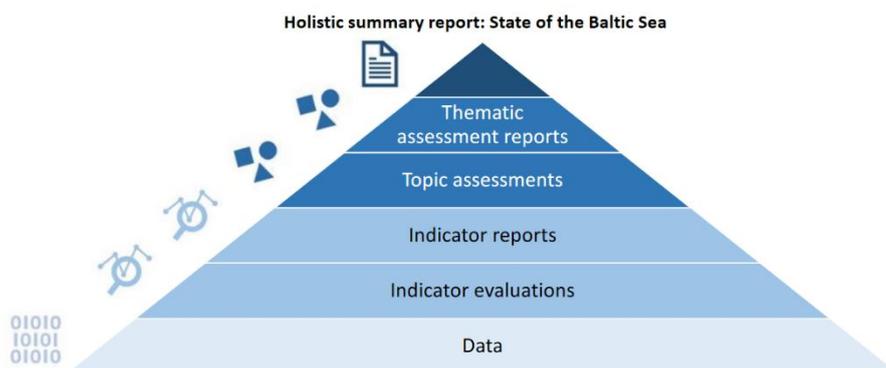


Figure 9 Broad structure of HELCOM's Holistic Assessment 3

After integration of up to three indicators per subdivision, the status for marine birds in the Baltic Sea is “not good” in all seven subdivisions assessed, but there is “good” status in some subdivisions for some species groups. The status per subdivision and species group is to be illustrated on maps (not finalised by the time of writing).

Mediterranean approaches

Presented by Nicola Baccetti

Relatively little activity has taken place in the Mediterranean regarding communicating and interpreting assessments, given the later state of development of the indicators themselves, referred to in Session 1. Nevertheless, a Mediterranean Quality Status Report (<https://www.medqsr.org/>) was completed in 2017 and another is due for delivery in 2023. QSR17 drew upon experiences from other Regional Sea programmes, such as OPSAR's QSR, and identified the following relevant key developments required for application in QSR23:

- *Special attention must also be paid to the main threats to marine birds, particularly predation by introduced mammals in the colonies and fishing bycatch at sea.*
- *Improve information on distribution, population abundance and demographic characteristics of key species (marine birds, mammals, reptiles, fish and cephalopods) and on the condition of their habitats, as well as on the pressures affecting them, leading to structured data-led assessments of environmental status of the Mediterranean's marine species.*

Identifying best practice/successes/gaps/future improvements

Key Messages

In conclusion of Session 2, attendees addressed a series of questions designed to identify gaps and opportunities for improvement on reporting approaches.

Detailed responses to the questions posed are available in **Appendix 3**

In Summary:

- it is important to consider critically the raw data at the basis of an assessment as well as the results, ideally with a peer-review approach, to avoid artifacts or misinterpretations. Results should also be interpreted in light of available information on the distribution of species as, for example, meeting or failing certain thresholds might have different ecological meaning for local species vs species with wider distribution.
- The ecosystem services approach adopted e.g. by OSPAR, has the value of presenting in a clear manner the importance of a biodiversity component. However, this approach is subject to various critiques by the scientific community, as evidenced by the declining use of this approach in some EU countries. Critiques include e.g. too much emphasis on quantifiable variables risking to downplay qualitative values that are difficult to monetise, and the risk of underestimate a particular biodiversity component without a clear and complete picture of interspecific relationships in the ecosystem.
- To properly assess effects of climate-change, indicators of distribution that could detect mesoscale geographical shifts would be beneficial. This reinforces the need for global distribution surveys (e.g. via International Waterbird Census) to be able to detect, understand -and respond to -such shifts.

Session 3: From Assessment to Action; policy responses to marine bird declines

In this session various initiatives around the *Regional Seas* were surveyed to convert assessments of state into concerted action for recovery and maintenance of marine bird populations. This included flyway-scale efforts, regional and national programmes, identification of best practice, future opportunities and potential barriers to success.

Flyway Perspective: AEWA Resolution 7.6

Presented by Matt Parsons

AEWA is a legally binding Treaty which aims to coordinate international effort for the conservation and management of migratory waterbirds (including seabirds).

The fundamental principle of AEWA is for CPs to take coordinated action to maintain favourable status of waterbirds or restore them to such status.

Most countries within the four RSCs are also AEWA contracting parties, apart from Poland, Bosnia/Herzegovina, Turkey and the Russian Federation (**Figure 10**).

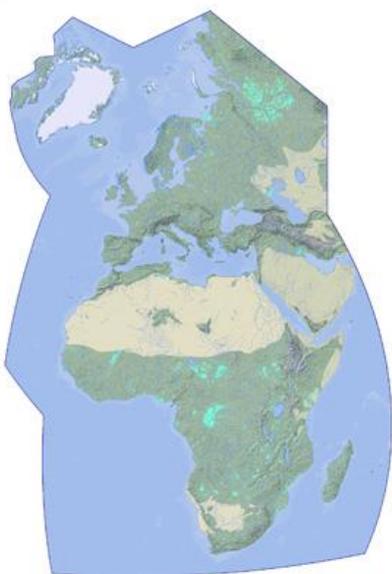


Figure 10 AEWA Agreement Area

Resolution 7.6 lists 9 priorities agreed by all AEWA contracting parties for the conservation of seabirds:

1. Address **bycatch** in fishing gear
2. Address human **impacts on prey**
3. Assess the extent and **impact of artisanal fisheries** on AEWA-listed seabirds
4. assess **hunting and egg harvesting** (both legal and illegal)
5. flyway-level assessment of the **cumulative impact of seabird mortality** (e.g. from harvesting, illegal killing and taking and bycatch) to inform national and regional decision-making on the sustainable use of seabirds
6. Address the impact of **invasive non-native** species
7. Address mortality from **oil spills and contaminants**

8. Address impacts of **offshore wind farms** on AEWA seabird species in the North Sea and Baltic Sea
9. Identify **priority sites**

It makes sense that any plans of action for seabirds in the NE Atlantic, Baltic, Mediterranean and Black Seas should reflect AEWA priorities, and indeed seek to implement them where appropriate.

OSPAR Regional Action Plan for Marine Birds

Presented by Matt Parsons

The North-East Atlantic Environment Strategy (NEAES) 2030 is the means by which OSPAR's 16 Contracting Parties will implement the OSPAR Convention until 2030. It sets out collective objectives to tackle the triple challenge facing the ocean: biodiversity loss, pollution, including marine litter, and climate change.

The Regional Action Plan for Marine Birds is mandated under this Operational Objective: S5.O4: *By 2025 at the latest OSPAR will take appropriate actions to prevent or reduce pressures to enable the recovery of marine species and benthic and pelagic habitats in order to reach and maintain good environmental status as reflected in relevant OSPAR status assessments, with action by 2023 to halt the decline of marine birds.*

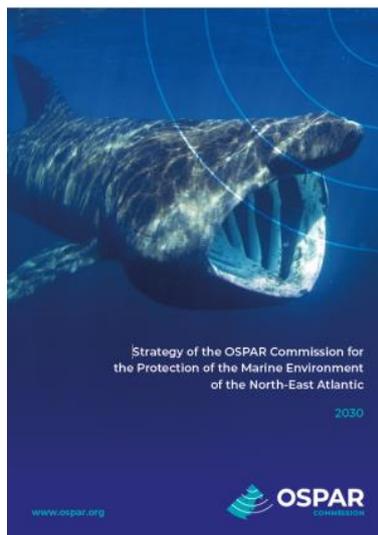


Figure 11 the OSPAR NEAES 2030

The Regional Action Plan for Marine Birds will:

- **Recommend the actions to be taken** by Contracting Parties to action by 2023 to halt the decline of marine birds in Northeast Atlantic.
- **Identify the main pressures and activities** impacting on marine birds and recommend **action to reduce these impacts** and eliminate them where possible.
- **Consolidate those already in operation** through OSPAR Recommendations for the nine Threatened and Declining bird species and through existing species action plans under the EU, CAFF and AEWA and through national strategies.

Regional Action Plan for Marine Birds to be formulated using the conclusions from the Thematic Assessment of Marine Birds in the QSR2023. The thematic assessment will identify the problems and assess what has been done and if it worked; the Recovery Action Plan will tell us what we need to do next.

Existing action plans (OSPAR, AEWA etc) are directed at individual species but the Marine Regional Action Plan for Marine Birds will identify other species that would benefit from new measures. The Plan will also identify pressures on species that are not currently being addressed and will propose measures to fill those gaps.

Timeline (amended since May 2022):

- **March 2023** – outline (“concept”) actions to be considered by EIHA
- **April 2023** -draft RAP for consideration by BDC
- **April 2024** The final Marine Bird Recovery Action Plan will be discussed and agreed at OSPAR Biodiversity Committee (BDC)
- **June 2024** OSPAR – CPs agree to adopt Regional Action Plan for Marine Birds alongside the QSR2023

Baltic Sea Action Plan

Presented by Volker Dierschke

The Baltic Sea Action Plan (BSAP), adopted by the HELCOM Contracting Parties in 2007 and updated in 2021, is HELCOM’s strategic programme of measures and actions for achieving good environmental status of the sea, ultimately leading to a Baltic Sea in a healthy state.

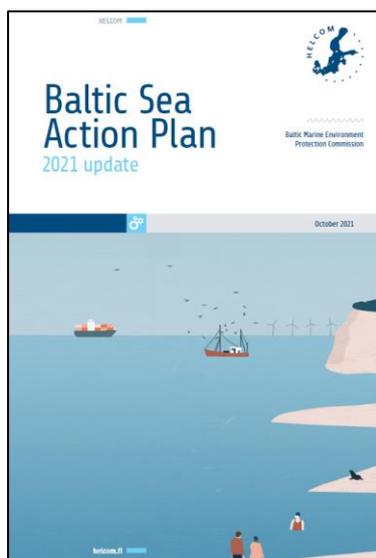


Figure 12 The Baltic Sea Action Plan

Guided by the HELCOM vision of “a healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities”, the updated BSAP is divided into four segments with specific goals:

- **Biodiversity**, with its goal of a “Baltic Sea ecosystem is healthy and resilient”,
- **Eutrophication**, with its goal of a “Baltic Sea unaffected by eutrophication”
- **Hazardous substances and litter**, with its goal of a “Baltic Sea unaffected by hazardous substances and litter”, and
- **Sea-based activities**, with its goal of “Environmentally sustainable sea-based activities”.

The Action Plan includes 35 Actions on Biodiversity covering various themes such

- Spatial Conservation Measures
- Conservation of species
- Conservation of habitats and biotopes
- Enabling ecosystem-based management

Some actions related to birds for the theme “conservation of species“ are listed in **Figure 13**

Actions on biodiversity

Conservation of species: *Conservation of birds*

Action B11: sensitivity maps (e.g., wind energy, shipping, fishing), **mapping of migration routes and staging/moulting/breeding areas**, cumulative effects.

Action B12: use the maps on sensitivity of migratory birds to protect migratory birds against potential **threats arising from new offshore wind farms**.

Action B13: incorporate the maps on sensitivity of migratory birds to threats in the work concerning **maritime spatial planning** to avoid that maritime activities impair birds and their habitats.

Actions on sea-based activities

Fisheries management: *By-catch*

Action S43: support the development of fisheries management including technical measures to minimize unwanted by-catch of fish, birds and mammals and achieve the **close to zero target for by-catch rates of relevant species by 2024**.

Action S48: Develop and implement **effective data collection on by-caught birds** and fishing effort consistent and fully in line with the data needs identified by ICES.

Figure 13 some actions related to marine birds in the Baltic Sea Action Plan

Mediterranean Sea Action Plan

Contribution from Nicola Baccetti, Francesco Pezzo, Pep Arcos

In 1995, the Contracting Parties of the Barcelona Convention adopted a new protocol concerning the Specially Protected Areas and biological diversity in the Mediterranean (SPA/BD Protocol). The IInd annex of this protocol lists the endangered or threatened species found in the Mediterranean, including 15 bird species. An “Action Plan for the conservation of bird species listed in Annex II of the Protocol on Specially Protected Areas and Biological Diversity” was elaborated for these pelagic and costal bird species and published in 2003 :

- Scopoli’s Shearwater *Calonectris diomedea*
- Mediterranean Shearwater *Puffinus yelkouan*
- European Storm-petrel *Hydrobates pelagicus melitensis*
- European Shag *Phalacrocorax aristotelis desmarestii*
- Pygmy Cormorant *Phalacrocorax pygmeus*
- White Pelican *Pelecanus onocrotalus*
- Dalmatian Pelican *Pelecanus crispus*
- Greater Flamingo *Phoenicopterus roseus*
- Osprey *Pandion haliaetus*
- Eleonora’s Falcon *Falco eleonora*
- Slender-billed Curlew *Numenius tenuirostris*

- Audouin's Gull *Larus audouinii*
- Lesser crested Tern *Sterna bengalensis emigrata*
- Sandwich Tern *Sterna sandvicensis*
- Little Tern *Sterna albifrons*

During the discussion, the following points were made

- The Action Plan's focus is on the conservation of selected species, these do not always match with priority lists of the European Commission
- Actions in Mediterranean mainly concern predator removal (which is a well developed management measure in various Mediterranean CPs and an area of best-practice)
- The Action Plan propose to develop actions to reduce mortality at sea especially from by-catch for Cory's and Mediterranean shearwater and for Audouin's Gull
- General Fisheries Commission for the Mediterranean (GFCM) is working a lot on by-catch mitigation, including training courses for observers and projects to harmonise monitoring of by-catch. Common methodology, although not binding, has been adopted by many countries in the Mediterranean
- Renewable energy development: agreement reached that offsetting and compensation are needed. The Ocean Coalition (bringing together NGOs, Industry etc..) is an opportunity to get funds for compensation measures and targeting actions.

Key Messages

In conclusion of Session 3, attendees were divided into two breakout groups and provided with a series of questions designed to identify best practice, gaps, opportunities for improvement and potential barriers to success on existing action plans. This section summarises key consideration raised during the workshop around these questions.

Detailed responses to the questions posed are available in **Appendix 3**

In Summary:

- There is a need for improved integration between *Regional Seas* in approaches being taken to recover declining marine bird populations, whilst recognising that regional differences sometimes require bespoke solutions. In addition, greater alignment between countries within *Regional Seas* would increase effectiveness and efficiency of delivery.
- Sectors where trans-regional cooperation is especially beneficial include fisheries and shipping, because here resources are shared and spatially connected.
- Greater emphasis should be placed on trans-boundary marine spatial planning (supported by sensitivity maps at similar scales).
- Effective conservation objectives for Marine Protected Areas are often lacking, risking ineffective "paper parks". But, especially in the Mediterranean, even site identification is incomplete.
- Priority action across *Regional Seas* include: fisheries bycatch, wind energy impacts (especially because capacity is planned to increase massively, to meet energy security and carbon reduction targets), invasive mammalian predators, light pollution (terrestrial and marine sources)

Session 4: Way Forward: an Action Plan for future collaboration on GES assessment & action planning in the four *Regional Seas* areas

In this last session attendees drew together what was learned at the workshop into an “action plan” for future collaboration on GES assessment in the four *Regional Seas* areas. This included identification of priorities and exploration of opportunities and potential blocks to progress to ensure the plan accommodates regional differences and can be integrated into other processes and plans.

This section was originally planned as a breakout group exercise, but it was decided to run it as a plenary to enhance sharing of ideas.

Priorities that could be addressed through increased future collaboration between RSCs

- strategic environmental assessment (noting that a pilot for Greater North Sea windfarm development is being progressed by OSPAR’s ICG-ORED in 2023)
- bycatch
- harmonisation of databases, eg helping to reveal climate-change induced distribution changes between RSCs
- Highly Pathogenic Avian Influenza (though not discussed in detail at the workshop, this is likely to become a focus of future attention)
- mammalian predators -current impact and future strategic direction
- light pollution (coastal and ship-based or based on other marine structures such as oil rigs or windfarms)

Maintaining Engagement for future Collaboration

- Attendees highlighted the importance of regular engagement to maintain momentum.
- It would be useful to set up a mailing list and a more “formal” SharePoint site that can be used by members of the group to share key documents.
- Existing fora for cross-regional working, which might be used as a possible “launch-pad” for future collaboration, include:
 - **Joint OSPAR/HELCOM/ICES Expert Group on Seabirds (JWGBIRD):** There is the possibility to invite experts from the Mediterranean and Black Sea Regions during meetings to cover specific items relating to collaboration between the four RSCs. This forum can deal with technical issues around marine birds assessments and in the past has adapted its remit according to prevailing situations. However, further feedback will be required from JWGBIRD’s “commissioning bodies” as to whether JWGBIRD can – on a more formal basis - take on such a coordination role (also bearing in mind the group already has a busy agenda which challenges CP engagement).
 - **African-Eurasian Migratory Waterbird Agreement (AEWA):** Session 3 summarised AEWA’s Resolution 7.6, which will be AEWA’s “roadmap” for seabird conservation in coming years. During 2023 the OSPAR co-chair of JWGBIRD, with other UK expert input, will be advising AEWA’s Technical Committee on further prioritisation and implementation of Resolution 7.6 (delayed from 2021-22). A significant part of AEWA’s geographical remit falls within the *Regional Seas Conventions* covering the NE Atlantic, Baltic, Mediterranean and Black Seas. Therefore, there might be a role for AEWA to “coordinate” future activity under the “action plan” that emerges from the Aberdeen workshop, as part of the “implementation” role under Resolution 7.6. AEWA’s Technical Committee is

comprised of Regional Representatives -the relevant ones for the RCS would be: Northern and Southwestern Europe, Central Europe, Eastern Europe, Northern Africa, and potentially Southwestern Asia. Therefore, there is already a mechanism for regional groupings that could be utilised, for example as a pilot “implementation project” under Resolution 7.6.

- **BirdLife international** was identified as another possible coordinator of collaboration between the RSCs.

Funding Opportunities

- European Biodiversity Partnership (Biodiversa+) was flagged as a potential funding stream for development of ‘Reinforcing transnational monitoring of biodiversity to better characterize, understand and report on biodiversity dynamics and trends’ -the recent call closed in November 2022 (some RSC Parties have applied)
- “EU Cost Action” funding source to deliver meetings/workshops
- Next generation funds – to recover from COVID, interested in issues on renewable development. Pep Arcos to provide more information on this ([The EU's 2021-2027 long-term budget and NextGenerationEU - Publications Office of the EU \(europa.eu\)](#))
- European Maritime and Fisheries Fund (EMFF)

“Nice to have” actions that the group can take

- It is recommended for all attendees to keep an eye on potential opportunities for future collaboration, especially that between the RSC - and feedback to the group.
- It would be useful to log information on funding opportunities in the group SharePoint e.g. using a live spreadsheet.
- It would be useful, in order to map what has already been done and help defining new proposals, to collate and summarise achievement of projects & monitoring funded by LIFE programme.
- It would be useful to produce a spreadsheet summarising existing initiatives and existing plans with information on their scope, strategic & operational objectives

Conclusion and Next Steps

This workshop identified a need for and a desire among participants to maintain and develop collaboration between RSCs, both for future assessment and reporting of GES but also to share best practice and collaborate on future action on seabird recovery.

Participants discussed the possible existing fora that might be used as a basis for taking forward such collaborations. The two that received most discussion were JWGBIRD and AEWA; BirdLife International was also suggested as a possibility.

It is proposed to explore in more detail the pros and cons of using either JWGBIRD or AEWA; these can be explored in parallel during a scoping exercise with each body- in 2023. Specifically: JWGBIRD co-chairs to consult with their respective Secretariats and OSPAR co-chair of JWGBIRD (also the UK’s advisor to AEWA TC on seabird conservation priorities) to take soundings within AEWA TC. To report back to workshop attendees by 15 May 2023, for possible further online discussion/email correspondence, as required.

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Appendix 1

Workshop Participants

Name	Organisation	Region	In-person or online
Aida Abdennadher	SeaConvergence	UNEP-MAP	online
Alasdair Lemon	RSPB Scotland	OSPAR	in-person/online
Antonio Vulcano	Birdlife	UNEP-MAP	online (Day 1 only)
Asma Yahyaoui	SPA/RAC	UNEP-MAP	online
Danae Portolou	Hellenic Ornithological Society	UNEP-MAP	online
Eric Stienen	Flemish Research Institute for Nature and Forest (INBO)	OSPAR	in-person
Francesco Pezzo	ISPRA	UNEP-MAP	in-person
Fredrik Haas	Swedish Agency for Marine and Water Management	OSPAR/HECLOM	in-person
Hannah Wheatley	JNCC	OSPAR	in-person
Hans Schekkerman	SOVON (Netherlands)	OSPAR	online
Khaled Ettayeb	University of Tripoli	UNEP-MAP	online
Liz Humphreys	BTO	OSPAR	in-person/ online
Matt Parsons	JNCC	OSPAR	in-person
Mehdi Aissi	SPA/RAC	UNEP-MAP	online
Morten Frederiksen	Aarhus University	OSPAR/HELCOM	in-person
Nele Markones	Federation of German Avifaunists (DDA)	OSPAR/HELCOM	in-person
Niclas Engene	Swedish Agency for Marine and Water Management	OSPAR/HELCOM	online

Nicola Baccetti	ISPRA	UNEP-MAP	in-person
Nicolas Vanermen	Flemish Research Institute for Nature and Forest (INBO)	OSPAR	in-person
Nuno Oliveira	SPEA	OSPAR	online
Pep Arcos	SeO BirdLife	OSPAR/UNEP-MAP	in-person
Stefano Marra	JNCC	OSPAR	in-person
Sven Kapelj	BIOM	UNEP-MAP	in-person
Volker Dierschke	Gavia EcoResearch	OSPAR/HELCOM	in-person

Appendix 2

Detailed Agenda

Day 1: Tuesday 17th May			
Session	Item	Format	Lead/presenter
Arrival/registration (8:45-9:30)			
Welcome and introduction (9:30-10:15)	Housekeeping/ ways of working (10m)	Presentation	Matt Parsons
	Purpose of the workshop -role of NEA PANACEA (10m)	Presentation	Stefano Marra
	Tour de table (25m)	Plenary	All
Session 1 Approaches to GES in the 4 regions (10:15-12:55)	Atlantic (25m)		Matt Parsons
	Baltic Sea (10m)		Volker Dierschke
	Black Sea (10m)		Volker Dierschke
	Mediterranean Sea (15m)		Aida Abdennadher Nicola Baccetti
	Break (30m)		
	Identifying synergies and differences + recommendation to RSCs on primary and secondary criteria (70m)	Plenary	All
Lunch			
Session 2 Interpreting and communicating assessments (14:00-17:35)	OSPAR's QSR23 Thematic Assessments (15m)	Presentation	Matt Parsons
	Baltic approaches (15m)	Presentation	Volker Dierschke
	Mediterranean approaches (15m)	Presentation	Nicola Baccetti
	Identifying best practice/successes/gaps/future improvements – <u>Part 1</u> (40m)	Breakouts	Facilitators: Hannah Wheatley & Matt Parsons
	Break (30m)		
	Identifying best practice/successes/gaps/future improvements – <u>Part 2</u> (40m)	Breakouts	Chair: Volker Dierschke & Facilitators

	Feedback from breakouts Parts 1-2/discussion (60m)	Plenary	All
Close of Day 1			
Housekeeping re dinner			
Day 2: Wednesday 18th May			
Session	Item	Format	Lead/presenter
Arrival (8:30-9:00)			
Welcome and introduction (9:00- 9:20)	Recap of Day 1	Presentation	Matt Parsons
	Housekeeping re afternoon Field Excursion	Presentation	Matt Parsons
Session 3 From Assessment to Action; policy responses to marine bird declines (9:20-12:00)	Flyway Perspective: AEWA Resolution 7.6 (15m)	Presentation	Matt Parsons
	OSPAR Regional Action Plan for Marine Birds (15m)	Presentation	Matt Parsons
	HELCOM's action plan (15m)	Presentation	Volker Dierschke
	Mediterranean (15m)	Presentation	Nicola Baccetti
	Break (20m)		
	Best practice, ways forward (50m)	Breakout	Facilitators: Volker Dierschke/Matt Parsons
	Feedback from breakouts/discussion (30m)	Plenary	Chair: Stefano Marra/Facilitators
Lunch (12:00-13:15)			
Field excursion followed by complementary evening meal in nearby coastal town (13:30-23:00 approx. arrive back in Aberdeen)			
Day 3: Wednesday 19th May			
Arrival (0830-9:00)			
Welcome and introduction (09:00-9:20)	Recap of day 2 (20m)	Presentation	Matt Parsons
Session 4 Conclusions and way forward (09:20-11:20)	An "action plan" for priorities for future collaboration on GES assessment in the 4 Regional Seas (40m)	Plenary	
	Break (20m)		
	Feedback/discussion (60m)	Plenary	
Closing remarks (1120-11:30)		Plenary	Matt Parsons
Lunch/depart (1130-			

1230)			
Close of Day 3			

Appendix 3

Detailed Responses to questions posed in each Session.

Session 1: Approaches to assessing the achievement of GES in the four European Regional Seas

Question 1. Do indicators used in the different regions cover the (MSFD) criteria bycatch (D1C1), abundance (D1C2), demography (D1C3), distribution (D1C4) and habitat (D1C5) adequately? Identify gaps.

- There are obviously differences between RSCs (and among CPs within individual RSCs) on the data available and indicators used
- Should differences in the approaches always be addressed? In some cases, there is no consensus in the scientific community around indicator methods (e.g. different views on whether colonies affected by terrestrial predators should be included in the assessment of productivity)
- Reporting in the Mediterranean Sea appears to be less coordinated than in other RSCs and very much based on individual national approaches. There are differences across CPs of the Barcelona Convention on indicators applied, species monitored and funding source available to support reporting work.
- There would be benefit in an increased coordination among CPs of the Barcelona Convention to identify which species are useful to be monitored in the Mediterranean, reach agreement on thresholds to apply, and secure funding for reporting
- As a good practice for all reporting exercises, assessments should be “weighted” according to data availability (i.e. incorporate a confidence assessment)
- As a good practice, indicators should be combined where possible instead of having multiple ones (e.g. develop productivity indicators to include abundance)

Question 2. Do indicators cover all/relevant species or species groups adequately? Identify gaps.

- Indicator outputs should be used to update the list of threatened species (e.g. abundance indicators can be used to identify species showing strong declines in 10 years/ 3 generations which should be included as listed species)
- Monitoring activities conducted in countries from different RSCs might be used as “proxies” to cover data gaps: e.g. breeding abundance monitoring data collected by Greece can potentially improve assessments in the Black Sea given that some species (e.g. shearwaters) transit through the Black Sea.
- Functional groups used in the Mediterranean do not align with those used by OSPAR or HELCOM; it would be good to harmonise definitions of species groups. Some species belong to multiple functional groups (e.g. shearwaters might be considered both divers and surface feeders). Would be useful to compare existing approaches used to group species
- Definition of what is a marine species: including/excluding species depends on the aims: are birds simply a tool to assess state or are we assessing birds themselves? It might not be feasible to have a unique guideline for all RSCs but each convention can set up a guideline for its specific region.

Question 3. *Can gaps be filled by national indicators (or other data) beyond regional indicators?*

- UK has an indicator for distribution and invasive predators on islands which OSPAR does not have
- DE offshore abundance monitoring data can be integrated with inshore abundance data currently used by existing indicators (e.g. OSPAR B1) to provide a better assessment, but a pilot assessment in QSR 2023 has already shown how offshore abundance can be used within the B1 abundance indicator in future.

Question 4. *Are indicators, baselines and thresholds appropriate and comparable between regions?*

- This is a policy question, is the EU interested in generalising outputs from different RSCs?
- Not possible to have the same threshold everywhere

Session 2: Interpreting and communicating assessments

Question 1. *Can we sense-check the outputs (e.g. of QSR) against what the scientists understand is happening to factors causing seabird population change?*

- Ensure that the raw input data (i.e. that constitute the indicators and integrated assessments) are peer-reviewed and analysed critically. If this doesn't happen then all "downstream" interpretation can become misleading or erroneous.
- Seabird counts/censuses should be considered critically, because sometimes changes in the monitoring method causes changes in the apparent count -which is an artefact of the method change.
- Pay attention to the output of the analyses to ensure confidence in the results. Ensure expert peer review and sense-checking of outputs -especially with the data-providers/species experts.
- One analytical method might not be best suited to all species/situations – consider "bespoke" analyses if required (but bear in mind these increase the time/expense of assessments).
- Offshore windfarms are considered a major activity causing significant pressures - but do we actually know enough and is the latest knowledge used in the interpretations of the indicators?
- Marine litter – we need to be careful to distinguish between *incidence* of plastic pollution (e.g. in the fulmar indicator) and the impact on survival at an individual/population level. There is a communication challenge to convey the science accurately, especially when a topic such as litter is being discussed which is high profile.
- It is often problematical to set baselines because it is uncertain what a "natural state" could be defined in practical terms. One solution might be to measure growth rate, as has been done in OSPAR's revised B3 productivity indicator. In this one doesn't need a "baseline" (in terms of a given year) but instead the "baseline" is defined as the modelled population growth rate that would trigger a particular IUCN threat category.

Question 2. *Climate change – is it being addressed sufficiently?*

- Consider climate-induced geographical shifts being seen in a number of species – a move away from a particular country/or Regional Sea might simply be a distribution shift at a meso-scale without any negative large-scale, population-scale impact. This identifies a need for cross-Regional Sea monitoring and assessment.
- The above phenomenon reinforces the need for global distribution surveys (e.g. via International Waterbird Census) to be able to detect, understand -and respond to - such shifts.
- Climate-change induced shifts in birds' fish prey needs to be considered – e.g. a decrease of pelagic (or surface?) feeders should trigger further research on what is causing such decline.
- Long term oceanographic data can be linked to observed patterns of bird occurrence/distributions, which might reveal causative mechanisms. Good idea for a large scale research project (in fact already being tackled through the “LiACAT” model planned in NEAPANACEA Activity 2 - linking eutrophication and climate scenarios to biodiversity and food web indicators) (for further details see <https://www.ospar.org/about/projects/nea-panacea>)

Question 3. *Impacts on ecosystem services –too human-focused?*

- There is a danger that the OSPAR ecosystem services analysis becomes “reductive” – we need to better understand the system as a whole and the interlinkages between species change and ecosystem services, not view each link as self-contained phenomenon with a single “action-reaction” component. This topic is very challenging to communicate and risks misinterpretation.
- The ecosystem services approach has limitations, not everything can be monetised easily; Instead, we should emphasise intrinsic value of biodiversity.
- In some countries the focus on ecosystem services as an approach is already declining (e.g. DK).
- Important not to translate effects on ecosystem services only in terms of monetary values.
- The concept is useful if the costs are properly assessed.

Question 4. *Are there any other issues?*

- Bycatch thresholds would need to take account of different species distribution in each assessment unit (e.g. 1% of annual adult mortality threshold as proposed in OSPAR pilot assessment, might have different ecological meaning if a population has a wider distribution versus very local ones). Also note that the 1% threshold is not based on biological considerations, but is an approximation of “zero bycatch” proposed because of the practical difficulty of demonstrating elimination of all bycatch (derived from EU concept of “small numbers” applied in hunting contexts).
- It is particularly difficult to assess bycatch of mixed populations that come from different areas -which is why the pilot assessment of common guillemot in Region III in OSPAR QSR couldn't be assessed using Population Viability Analysis.

- Impact of offshore windfarm (particularly in North Sea) - considering the projected development of this sector in the area (10 times increase in wind turbines) a strategic environmental impact assessment of the entire North Sea is needed =an opportunity for funding. Same should be done for the Baltic Sea. Possibility for a project.
- EU funding opportunity is being opened in Autumn 2022 (BIODIVERSA) – strengthening of transboundary monitoring -would help deliver MSFD commitments. UK can be involved only as a sub-contractor. To discuss at JWGBIRD.

Session 3: From Assessment to Action; policy responses to marine bird declines

Question 1. How are national programmes embedded into regional programmes?

- Not always good coordination or integration between regional programmes and national actions. In some countries data are collected by separate bodies with little communication (e.g. by-catch data).
- There are strong variations among countries in measures adopted for MSFD, Birds Directive, OSPAR or other conventions. Each country has its own programme. Would be beneficial to have more harmonisation between countries to improve effectiveness.

Question 2. Is there an overarching approach or are various programmes running in parallel? If the latter, how can initiatives be bundled and work together?

- Sometimes measures are common across programmes (e.g. in Croatia seabirds actions listed for MSFD feed into the Birds Directive), some are country specific.
- Ideally there should be a cascade from global to regional to national programs, both in timing as in criteria/actions; however, in practice this is far from reality, as drivers on a national level may be different from wider commitments, there is need to look for a more pragmatic way.
- Action Plans at Regional level can be more generic whilst plans at national level should be more specific to avoid contradictions between levels.
- Actions related to transboundary activities (shipping, fishery) should be defined at regional level.

Question 4. Identify main actions to conserve marine birds in European marine regions - especially where concerted action would be of benefit.

- Marine spatial planning should take birds into account and should happen across borders.
- (Transboundary) Sensitivity maps would be an important tool to provide a regional overview regarding offshore industries – noting that such maps may put certain countries in an unhappy position and block the process.
- Need to identify specific priority regions/areas important for conservation of seabirds.
- Often designated conservation areas don't result in effective conservation (so-called "paper parks"). Measures of effectiveness should be pressure-dependent – e.g. to measure the effectiveness of fishery closures on seabird bycatch data and other relevant parameters should be collected
- Need to combine data from multiple sources including seabirds at sea, tracking data etc.
- It is important to identify species-specific pressures and threats at sea. Not well-captured by existing mechanisms.

- Key actions would be needed to address impacts from bycatch, wind energy industry, mammalian predators, light pollution (important for shearwaters in the Mediterranean).
- Main actions to take will vary across regions depending on existing pressures. In the Mediterranean there is a strong need to establish baseline data and identify Important Bird and Biodiversity Areas (IBAs) or Special Protection Areas (SPAs); in other regions site identification is already progressed.
- Strategic plans at regional level have generally a long-term focus, for this reason might not be the best tool to tackle more imminent impacts, e.g. deriving from the planned increase in offshore wind farms. Project-based shortcut would be needed in these cases.

Question 5. *What is better to drive-forward change: general objectives or concrete measures with key delivery bodies?*

- Make broad objectives first, then come to more specific concrete actions -these can be identified and actions in a sequential way.

Question 6. *Which bodies are best suited to formulate and enforce seabird action plans: Regional Sea Conventions? NGOs? All together?*

- AEWA is a good forum for coordination between countries and is legally binding, but because of this it takes a long time to formulate, agree and adopt Action Plans under this treaty (although all multilateral agreements, including OSPAR etc are similar in that respect).
- AEWA has agreed seabird priorities and asked for advice on implementation of actions (under Resolution 7.6) -to be taken forward by its Technical Committee in 2023.
- ICES can be a good forum (better than OSPAR?) to put forward actions related to fishery management.
- BirdLife International has an established track-record in international collaboration, which we might ask to consider take a coordinating role.
- Some threats may be best addressed through industry-sectoral mechanisms not specific to birds, e.g. wind energy developments.

Question 7. *What are the main actions to increase coordination within and between Regional Seas Conventions?*

- All topics relating to migratory birds are relevant, because they cross national boundaries and require coordinated action.
- It would be very useful to have regular meetings involving experts from multiple conventions and across *Regional Seas* (not project-specific) to increase collaboration.
- Maybe organise a brand new NGO: "Seabird International"?!