



8th SESSION OF THE MEETING OF THE PARTIES

5 - 9 October, Budapest, Hungary

AEWA'S CONTRIBUTION TO THE AICHI TARGETS 2011-2020

Background

The objectives of the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020, and its 20 Aichi Targets, overlap with those of AEWA as expressed both by its legal text and Strategic Plan.

This is a retrospective analysis of the contributions that AEWA implementation will have made to the delivery of the Aichi Targets since 2011. The approach to the assessment section outlines the approach and some of the issues.

The mandate for this assessment derives from MOP5 which requested the Technical and Standing Committees to work together to assess progress on issues relevant to the Aichi Targets, and that they should present triennial assessments of AEWA's contribution to each of the relevant Aichi Targets, elaborating further needs as necessary and appropriate, as an agenda item for each future MOP through to 2020 (*i.e.* anticipated MOP8). This was further reiterated by MOP7 (Resolution 7.2) asking to bring to MOP8 a final assessment of AEWA's contributions to the Strategic Plan for Biodiversity 2011-2020. The present paper represents the final such assessment.

A separate, forward looking paper explores AEWA's scope to contribute to the Post-2020 Global Biodiversity Framework (document AEWA/MOP 8.36).

This is a joint assessment by the Technical and Standing Committees which was reviewed and approved for submission to MOP8 at their 16th meeting on the 25-29 January 2021 and 18th meeting on 28 July 2021, respectively.

Action requested from the Meeting of the Parties

The Meeting of the Parties is requested to review and adopt this final assessment AEWA's contribution to the global Strategic Plan for Biodiversity 2011-2020.

AEWA'S CONTRIBUTION TO THE AICHI TARGETS 2011-2020

Compiled by the Technical and Standing Committees

Contents

Summary.....	3
Introduction.....	4
Approach to this assessment.....	4
CBD's global assessment	5
Conclusions.....	5
Target 1: Communication, public awareness and sustainable use	7
Target 2: Biodiversity values into national accounting and plans	9
Target 3: Eliminate harmful subsidies	11
Target 4: Sustainable use of natural resources	12
Target 5: Halve rate of habitat loss and degradation	14
Target 6: Sustainable fish stocks and no fisheries impacts.....	17
Target 7: Sustainable agriculture, aquaculture and forestry.	19
Target 8: Tackle pollution.....	21
Target 9: Invasive alien species	23
Target 10: Address climate change impacts	25
Target 11: Effective protected areas: >17% land and 10% sea.....	27
Target 12: Prevent extinction and improve species conservation status.....	29
Target 13: Maintain genetic diversity	32
Target 14: Safeguard ecosystem service provision.....	33
Target 15: Carbon stocks, >15% restoration of degraded ecosystems	35
Target 16: Benefit sharing: Nagoya Protocol	37
Target 17: National biodiversity strategies	38
Target 18: Indigenous peoples and local communities.....	40
Target 19: Enhance and share knowledge and technology	41
Target 20: Mobilise financial resources.....	43
References.....	44

Summary

This review attempts to summarise the contribution that the African-Eurasian Waterbird Agreement (AEWA) has made to the implementation, within the geographic range of its Contracting Parties, of the Convention on Biological Diversity's *Strategic Plan for Biodiversity 2011-2020* and its associated 20 Aichi Targets.

The review draws not only from national reports of AEWA Parties (summarised for each triennial Meeting of Parties) but also from multiple other published assessments on the state of the environment, both at global and regional scales. These include assessments by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); the Ramsar Convention on wetlands; the Convention on Biodiversity; Convention to Combat Desertification; the Mediterranean Wetlands Initiative; and the European Union.

Whilst activities to implement obligations under AEWA have made a valuable contribution to the *Strategic Plan for Biodiversity 2011-2020*, it is difficult to assess AEWA's precise contribution to the 20 Aichi Targets since the Targets mix multiple elements and have limited precision in their formulation. However, the broad themes covered by the *Strategic Plan for Biodiversity 2011-2020* (such as the need for enhanced scope of protected areas, the need to prevent extinctions, and the need to address invasive alien species) are all issues highlighted within both the Agreement itself as well as in AEWA's *Strategic Plan 2009-2018*. This results in an overall commonality of purpose and broad objectives.

Yet both the failure to fully achieve the Aichi Targets globally and in most countries, and the unsuccessful fulfilment of AEWA's own *Strategic Plan 2009-2018* (with the achievement of its overall goal described as highly insufficient), indicates that the scale and scope of conservation actions for waterbirds has so far been inadequate overall.

Despite this, there have been numerous successful initiatives by Parties, supporting non-government organisations and stakeholders, across all relevant Aichi Targets which indicates the significant actual and potential scope for positive contributions from AEWA implementation.

These examples show that sustained, well-resourced, and politically supported initiatives can not only give good outcomes for migratory waterbirds, but also for local communities who are equally dependent on healthy wetlands.

Introduction

In 2010, the Convention on Biological Diversity (CBD) establishing a Strategic Plan for Biodiversity 2011-2020 which “*represents a useful flexible framework that is relevant to all biodiversity-related conventions*”, and which includes 20 ‘Aichi’ Targets, which are addressed to all relevant intergovernmental organisations and other processes related to biodiversity operating at a range of scales.

Through its Resolutions 5.23, 6.15 and 7.2, AEWA’s Meeting of Parties (MOP) has recognised the relevance of CBD’s Strategic Plan and made preliminary assessments of the actual and potential contribution to each of the Targets made through the implementation of the Agreement.

MOP 5 also requested the Technical and Standing Committees to work together to assess progress on issues relevant to the Aichi Targets, and that they should present triennial assessments of AEWA’s contribution to each of the relevant Aichi Targets, elaborating further needs as necessary and appropriate, as an agenda item for each future MOP through to 2020 (*i.e.* anticipated MOP 8). The present paper represents the final such assessment.

Approach to this assessment

Assessing AEWA’s contribution is problematic since it has established no direct reporting mechanism against the 20 Targets. However, contributions derived from AEWA-related activities can be derived or inferred from a number of sources:

- progress on the issues in Resolutions 5.23, 6.15 and 7.2 identified by Parties to be relevant to each of the 20 Aichi Targets;
- relevant information drawn from national reporting, through the syntheses produced for MOPs 5-8¹;
- summary assessments made of progress against relevant targets in AEWA’s Strategic Plan (as they relate to the same issues) produced for MOPs 5-8²;
- relevant information drawn from the European Union’s (EU) 2020 *State of Nature* assessment based on Birds and Habitats Directive reporting for the period 2013-2018;
- relevant information drawn from CBD’s *Global Biodiversity Outlook 5* in 2020;
- relevant information drawn from the Convention to Combat Desertification’s *Global Land Outlook* (2017);
- relevant information for wetlands from Ramsar’s *Global Wetlands Outlook* (2018) and the *Mediterranean Wetland Outlook 2* (2018); and
- relevant regional information drawn from the global assessments made by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) on
 - global assessment on Biodiversity and Ecosystem Services (2019);
 - the regional assessments for Africa (IPBES 2018a), and
 - for Europe and Central Asia (IPBES 2018b); and
 - the global assessment on Land Degradation and Restoration (IPBES 2018c).

The AEWA assessments that follow in Table 2, for each of the 20 Targets, are structured so as to outline:

- the relevance of the target for AEWA (following Resolutions 5.23, 6.15 and 7.2);
- a summary of relevant global or regional assessments on the subject of the Target; and
- activity by AEWA in the period 2011-2020 that is relevant to the Target.

Future AEWA activities that may be relevant, for example in the context of AEWA’s Strategic Plan 2019-2027, is not addressed in this document but considered in Doc. AEWA/MOP 8.36 which addresses AEWA’s potential future contributions of the proposed Post-2020 Global Biodiversity Framework.

¹ [UNEP/AEWA/MOP 5.12](#); [UNEP/AEWA/MOP 6.13](#); [UNEP/AEWA/MOP 7.12](#) and UNEP/AEWA/MOP 8.13

² [UNEP/AEWA/MOP5.11](#); [UNEP/AEWA/MOP6.12](#); [UNEP/AEWA/MOP7.10](#) and UNEP/AEWA/MOP 8.11

CBD's global assessment

CBD published its assessment of the delivery of the Aichi Targets in August 2020 within its *Global Biodiversity Assessment 5* (CBD 2020). These progress assessments are summarised in Table 1.

None of the 20 Targets were fully achieved.

Conclusions

Activities to implement obligations under AEWA have also made a valuable contribution to the *Strategic Plan for Biodiversity 2011-2020*, although it is difficult to assess AEWA's contribution to the Aichi Targets since the targets themselves mix multiple elements and have limited precision. However, the broad themes covered by the *Strategic Plan for Biodiversity 2011-2020* (such as the need for protected areas and to address invasive alien species) are issues highlighted by both the Agreement itself as well as in AEWA's *Strategic Plan 2009-2018* thus resulting in a commonality of purpose.

However, both the failure to fully achieve the Aichi Targets either globally, or in most countries, and the unsuccessful fulfilment of AEWA's *Strategic Plan 2009-2018* (with the achievement of its overall goal described as highly insufficient) indicate that the scale and scope of conservation actions for waterbirds have been inadequate overall.

Despite this, there have been numerous successful initiatives by Parties, supporting non-government organisations and stakeholders, across all relevant Aichi Targets which indicates the potential scope for positive contributions that AEWA implementation.

These examples show that sustained, well-resourced, and politically supported initiatives can not only give good outcomes for migratory waterbirds, but also for local communities who are equally dependent on healthy wetlands.

Table 1. Summary of CBD’s assessment of global progress towards the 20 Aichi Targets (CBD 2020).

Aichi Targets	Global assessment (CBD 2020)
1. Communication, public awareness and sustainable use	Target not achieved (low confidence)
2. Biodiversity values into national accounting and plans	Target not achieved (medium confidence)
3. Eliminate harmful subsidies	Target not achieved (medium confidence)
4. Sustainable use of natural resources	Target not achieved (high confidence)
5. Halve rate of habitat loss and degradation	Target not achieved (high confidence)
6. Sustainable fish stocks and no fisheries impacts	Target not achieved (high confidence)
7. Sustainable agriculture, aquaculture and forestry	Target not achieved (high confidence)
8. Tackle pollution	Target not achieved (medium confidence)
9. Invasive alien species	Target partially achieved (medium confidence)
10. Address climate change impacts	The target missed by stated date of 2015, and has not been achieved by 2020 (high confidence)
11. Effective protected areas: >17% land and 10% sea	Target partially achieved (high confidence)
12. Prevent extinction and improve species conservation status	Target not achieved (high confidence)
13. Maintain genetic diversity	Target not achieved (medium confidence)
14. Safeguard ecosystem service provision	Target not achieved (medium confidence)
15. Carbon stocks, >15% restoration of degraded ecosystems	Target not achieved (medium confidence)
16. Benefit sharing: Nagoya Protocol	Target partially achieved (high confidence)
17. National biodiversity strategies	Target partially achieved (high confidence)
18. Indigenous peoples and local communities	Target not achieved (low confidence)
19. Enhance and share knowledge and technology	Target partially achieved (medium confidence)
20. Mobilise financial resources	Target partially achieved (high confidence)

Table 2. Assessment of the extent to which AEWA implementation has assisted delivery of Aichi Targets³.

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1: Communication, public awareness and sustainable use. “By 2020, at the latest, people are aware of the values of biodiversity (1) and the steps they can take to conserve and use it sustainably (2).”

Highly relevant to AEWA as reflected in the emphasis placed by the Agreement on communications, education and public awareness through Objective 4⁴ of AEWA’s *Strategic Plan 2009-2018*. Waterbird migratory movements and the international context provided by flyway systems inherently engage public interest and give major opportunities for communicating wider biodiversity conservation issues at multiple scales. With respect to sustainable use, this is addressed in Objective 2⁵ of AEWA’s *Strategic Plan 2009-2018*.

Status assessments

Globally, CBD noted that “*Understanding of biodiversity appears to be increasing more rapidly among younger people. A recent survey suggested that more than one third of people in the most biodiverse countries have high awareness both of the values of biodiversity and the steps required for its conservation and sustainable use.*”

In the Mediterranean, the *Mediterranean Wetland Outlook 2* concluded that: “*Increasing numbers of people are using and valuing wetlands for education and tourism*”, and that “*recreational and education impacts on visitors [are] directly linked to the efforts made by site managers.*” The latter finding reinforces the role of site managers as crucial within awareness-raising programmes.

Relevant progress by AEWA

Element 1: AEWA has given emphasis to the development of a Communications Strategy adopted by MOP 5 and the Secretariat continues to co-organise World Migratory Bird Day. In 2020, 30 Parties organised 73 events.

This Aichi Target is related to Target 4.3 of AEWA’s *Strategic Plan 2009-2018* which encouraged Parties to implement programmes for raising awareness and understanding of waterbird conservation. National Reports for MOP 8 indicated that 24 Parties (45% of Responding Parties⁶ (RP), 30% of all Contracting Parties⁷ (CP)) had programmes in place which were being implemented, an increase from MOP 6, to which 20 Parties reported they had programmes in place. Progress in some other Parties, however, has been hampered by resource and capacity constraints. In many cases, education and outreach for waterbirds and wetlands are undertaken as part of wider awareness raising for either all migratory species, or biodiversity generally. The extent to which such programmes influence and ultimately change public behaviour with respect to choices about the environment is not known.

Element 2: With respect to sustainable use/harvesting, the past absence of an AEWA process to collate national bag records internationally has made it difficult to assess whether waterbird harvests are sustainable (although this should be possible from MOP 8 national reports). The adoption of substantive revised guidelines on waterbird sustainable harvesting by MOP 6 was notable ([Conservation Guidelines No. 5](#)), but these now need implementation. Within Europe, the recent development of several formal adaptive harvest management schemes to ensure sustainable harvesting has been an important development.

³ All Aichi Targets contain multiple elements which were subject to separate assessment by CBD. To make these clearer, they are indicated by numbers, following CBD 2020.

⁴ To improve Communication, Education and Public Awareness (CEPA) about migratory waterbird species, their flyways, their role in alleviating poverty, threats to them and the measures needed to conserve them and their habitats.

⁵ To ensure that any use of waterbirds in the Agreement area is sustainable.

⁶ The proportion of those Parties that submitted a National Report to MOP 8

⁷ The proportion of all Parties, including those that chose not to submit a National Report to MOP 8

Case study: AEWA International Single Species Action Plan workshop engages with local community

An international workshop to develop the AEWA [Single Species Action Plan for Greenland White-fronted Geese](#) *Anser albifrons flavirostris* was held on the Scottish island of Islay in February 2009. Capitalizing on the presence of experts from across all four Range States (UK, Ireland, Iceland and Greenland), and with expert input also from Denmark and Canada, a series of events was held to engage fully with the local community, who each year are host to about four thousand Greenland Whitefronts on their farms.

Community representatives were invited to participate in the workshop, whilst the session discussing interactions between geese and agriculture – and issue of concern to many Islay farmers owing to economic impacts – was held in public in the main island hall. Lively questions and answers followed presentations giving good opportunities to explore the various problems and solutions, further discussion of which subsequently helped shape the content of the Action Plan.

A subsequent whole evening session was held in the hall at which speakers from each of the four Range States presented a year-round perspective on the life cycle of the geese, an event attended by large numbers of public including children.

During the workshop eight attendees in four teams of two, visited the four junior schools on the island and gave engaging presentations explaining goose migration. All children on the island were given a specially commissioned tee-shirt outlining the annual cycle of the geese in the style of an international pop group tour.



The poster features a green background with a white outline of a globe showing the migration path of geese from the North Pole to the British Isles and back. Below the globe, the text lists the tour dates for each month. At the bottom, there are logos for Scottish Natural Heritage, speciesaction FRAMEWORK, and Greenland White-fronted Goose Study, along with a circular logo depicting a goose.

Greenland White-fronted Geese 2009

Tour Dates

- January - Loch Gorm, Islay, Scotland
- February - Loch Gorm, Islay, Scotland
- March - Feur Lochain, Islay, Scotland
- April - Borgatún, Þykkvibær, Rangárvallasýsla, South Iceland
- May - Sanningasoq, Kangerlussuaq, West Greenland
- June - Issungua, Kangerlussuaq, West Greenland
- July - Issungua, Kangerlussuaq, West Greenland
- August - Issungua, Kangerlussuaq, West Greenland
- September - Borgatún, Þykkvibær, Rangárvallasýsla, South Iceland
- October - Borgatún, Þykkvibær, Rangárvallasýsla, South Iceland
- November - Gruinart, Islay, Scotland
- December - Loch Gorm, Islay, Scotland

Scottish Natural Heritage
All protected by law in Scotland

speciesaction
FRAMEWORK

Greenland White-fronted Goose Study

Target 2: Biodiversity values into national accounting and plans. “By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty-reduction strategies (1) and planning processes (2) and are being incorporated into national accounting (3), as appropriate, and reporting systems (4).”

Highly relevant to AEWA in the context of the socio-economic values of migratory waterbirds, their consumptive and non-consumptive uses, and the benefits that also derive from the conservation of their wetland habitats. It is particularly but not exclusively relevant in Africa in the context of integration of migratory waterbird conservation within poverty reduction strategies.

Status assessments

Globally, CBD noted that: “*There has been a steady upward trend of countries incorporating biodiversity values into national accounting and reporting systems. At the same time, there is less evidence that biodiversity has been truly integrated into development and poverty reduction planning as required by the target.*”

Regionally, in the Mediterranean, the *Mediterranean Wetland Outlook 2* concluded that: “*An increasing number of countries have wetland management policies, but fewer are now implementing these policies than in 2010*”. Reasons for this were given as institutional and political instability and decreasing Environment Ministry budgets owing to the financial crisis. The low political influence and hence effectiveness, of many national Ramsar representatives was also cited as a major impediment to mainstreaming.

With respect to the Sustainable Development Goals (SDGs), *Mediterranean Wetland Outlook 2* concluded that whilst “*the sustainable management of wetlands can contribute to the achievement of SDGs; this potential is currently underexploited*” and that “*Trends concerning the status of wetlands indicate that achieving the SDGs is not yet within reach in the Mediterranean Basin.*”

For EU28, the European ecosystem assessment of Maes *et al.* 2020 directly links poor status of wetlands (see Aichi Target 5 below) to inadequate inclusion within policy instruments:

“The degraded condition of wetlands in Europe is influenced by several factors related mainly to the lack of a European policy that considers wetland ecosystems, wetlands definition and their change in use and socio-cultural values in a comprehensive way.

“This patchy treatment of wetland habitats and their underlying biodiversity by legislative and regulatory tools is reflected by a heterogeneous condition reported for different wetland habitats. Whereas rivers and lakes, fully covered by the Water Framework Directive but also by other ones (Nitrates, Bathing Water, Urban Waste Water treatment Directives) show a better condition status or somehow certain signs of improvement [...], habitats such as intertidal flats, open mires, rice fields, riparian forests and wet grasslands, which, beside the Habitats Directive, are not specific targets of European policies, show a much worse status that is also deteriorating in time.”

... “Fortunately, the upcoming strategies being set for Europe are carefully considering the inclusion of targeted strategic plans for wetland conservation and restoration. Such a strategic approach to wetland governance, supported by on-going European policies, aims at laying out a foundation for a very much needed different future for wetlands in its broadest sense, where full/integrated management, enhanced conservation and targeted restoration can halt and reverse degradation and ensure that European wetlands play a key role in European Green Deal and the EU Biodiversity Strategy to 2030.”

Relevant progress by AEWA

Element 1: With respect to poverty reduction, National Reports to MOP8 indicated that 31 Parties (58% of Reporting Parties; 39% of all Contracting Parties) reported having promoted the relevance of AEWA implementation in the context of Sustainable Development Goal delivery to their government’s development agency or other appropriate governmental body (as requested by Resolution 6.15). There is no information on the success of these approaches.

Element 2: Previous assessment (Resolution 7.2) noted the importance to address Aichi Target 2 issues within National Biodiversity Strategies and Action Plans (NBSAPs). National Reports asked Parties “*Are the AEWA priorities incorporated into your country’s National Biodiversity Strategies and Action Plan (NBSAP) and other strategic planning processes? (Resolution 6.3)*”. For MOP 8, overall, 43 Parties (81% of Reporting Parties; 54% of all Contracting Parties) confirmed having incorporated AEWA priorities into either their NBSAP only (13 Parties, 25% of RP; 16% of all CP), or other strategic plans and policies only (5 Parties, 9% of RP; 6% of all CP) or both (25 Parties, 47% of RP; 32% of all CP).

Case study: Sustaining environmental flows for the Inner Niger Delta, Mali

Nearly two million people directly depend on the waters of the Upper Niger River and seasonal wetlands in Mali’s Inner Niger Delta. This inland delta of rivers and marshes supports people directly with freshwater, fish, pasture, and fertile land for rice paddies and is one of the largest seasonal floodplain wetlands in the world, running along the edge of the Sahara Desert. These wetlands are also of critical importance for multiple waterbird species including very many breeding in Europe.

The flow of water into the Inner Niger Delta has decreased 50% since the 1980s, due in part to man-made upstream dams and irrigation, while upstream rainfall has decreased by 30%. A warmer climate with longer and more frequent droughts is increasing the competition for natural resources in northern Mali and contributing to conflict. Local people have demonstrated remarkable resilience to droughts and desertification but are increasingly at risk.

Wetlands International, IUCN and others have years of experience working with local communities and at the highest level of government. Results of their research include the publication ‘[The Niger, A Lifeline](#)’ which presents a decision-support system for effective river management in the Upper Niger, in which ecological and socio-economic impacts and benefits of dams and irrigation systems can be analysed in relation to different water management scenarios. This has provided a strong knowledge base to contribute to decisions affecting the Inner Niger Delta so important to both waterbirds and people.

Further information: <https://www.wetlands.org/blog/an-environmental-flow-for-the-inner-niger-delta/>

Case study: Seabird tourism brings local economic benefits

Seabird ecotourism (especially in relation to African Penguins *Spheniscus demersus*) is a growing field. Populations of the species have decreased dramatically over the past century, due in part to competition for food with commercial fisheries, and the species is now endangered as a result. Economic arguments have been used to favour fisheries over the needs of penguins, but penguins have direct value to the South African economy thanks to penguin-based tourism at several breeding colonies.

Boulder’s Beach, an easily accessible mainland penguin colony close to Cape Town, South Africa, saw an increase in visitors from 580,000 in 2006 to 930,000 in 2017. Gate revenues here in 2009/2010 alone were R14.5 million (US\$2 million). A zonal travel-cost analysis revealed an average consumer surplus among Cape Town residents of some R20 per visit.

Penguin-based tourism thus forms an integral part of the R25 billion Western Cape tourism sector benefiting local people as well as giving evidence to justify precautionary decision making in determining fisheries policies.

Further information: <https://www.tandfonline.com/doi/abs/10.2989/1814232X.2012.716008>.

Target 3: Eliminate harmful subsidies. “By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed, in order to minimise or avoid negative impacts (1), and positive incentives for the conservation and sustainable use of biodiversity are developed and applied (2), consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.”

Highly relevant to AEWA. Sectoral policies for agriculture and fisheries with associated provision of incentives have been directly linked to decline of many AEWA-listed species and are the main frameworks providing subsidies harmful to habitats (for example inappropriate and/or intensive management of wet grasslands), or directly harmful to species (for example through by-catch).

Status assessments

Globally, CBD noted that: “Overall, little progress has been made over the past decade in eliminating, phasing out or reforming subsidies and other incentives potentially harmful to biodiversity, and in developing positive incentives for biodiversity conservation and sustainable use. Relatively few countries have taken steps even to identify incentives that harm biodiversity, and harmful subsidies far outweigh positive incentives in areas such as fisheries and the control of deforestation.”

Relevant progress by AEWA

Element 1: There remain agricultural and other incentivised land-uses some of which are damaging to breeding migratory waterbirds. The global CBD assessment above is valid for the Agreement area too.

Element 2: There are numerous examples of positive incentives for good land-management within the Contracting Parties, but typically these are not at a sufficient scale (either financially or geographically) to offset the wider-scale impacts of the negative incentives for intensive agriculture in particular, driving declines of multiple breeding waterbirds.

Case study: Recovering the Corncrake in Scotland

At the end of the 19th century, Corncrakes *Crex crex* bred in every region of the UK. By the mid-1980s, they were restricted to the far north and western fringe of Scotland, with the population numbering less than 500 calling males. The primary drivers of this massive decline and range reduction were the loss of hay meadows, and increasingly early grassland harvest dates, which reduced the birds’ breeding success. Alternative, Corncrake-friendly yet agriculturally viable management and harvesting techniques were developed, refined and demonstrated on nature reserves, and the Scottish Corncrake conservation programme began in 1991. Initially, this involved approaching farmers with Corncrakes on their land and offering conservation fund incentives for delaying harvesting, and mowing grass fields from the inside out to reduce chick mortality. The best Corncrake areas were designated under EU nature law.

A partnership between agricultural communities, conservationists, government and their agencies devised simple Corncrake management prescriptions to halt the decline and incorporated these into standard agri-environment schemes. Dedicated advisory support and outreach work from nature reserves helped farmers access the payments. By 1998, the majority of grassland managed for Corncrakes in Scotland was being funded by EU-sourced agri-environment schemes, and the proportion continued to rise under successive schemes.

The result is a spectacular reversal in the UK Corncrake population. Numbers have trebled since the early 1990s. Corncrake payments now form a significant part of agricultural incomes in the High Nature Value extensive cattle areas of the Scottish Highlands and Islands, and the species is a national flagship for successful partnerships and the conservation of farmland wildlife.

Further information: [Seeds of success. How agri-environment can yield results for nature and farming](#) (BirdLife International); (Green 2020)

Target 4: Sustainable use of natural resources. “By 2020, at the latest, governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption (1) and have kept the impacts of use of natural resources well within safe ecological limits (2).”

Highly relevant to AEWA. The issue of ensuring the sustainable use/harvest of waterbirds is central to AEWA’s objectives (and is addressed under Aichi Target 1 above). Ensuring that land-uses are fully compatible with sustaining migratory waterbird populations is critical to delivering Article III of the Agreement.

Status assessments

Globally, CBD noted that: “*While an increasing number of governments and businesses are developing plans for more sustainable production and consumption, these are not being implemented on a scale that eliminates the negative impact of unsustainable human activities on biodiversity. While natural resources are being used more efficiently, the aggregated demand for resources continues to increase, and therefore the impacts of their use remain well above safe ecological limits.*”

IPBES assessments (IPBES 2018a, b, c; 2019) and assessments specific to wetlands (Ramsar Convention 2018 and *Mediterranean Wetlands Outlook 2*) document a wide range of unsustainable environmental uses and their consequences. Among these are over-abstraction of water; unsustainable fisheries; over-intensive harvesting of wood and other products; peat extraction; sand and gravel harvesting; and disruption of river flows through construction of dams with downstream hydrological consequences.

Relevant progress by AEWA

Element 2: Unsustainable resource use has been addressed in three contexts:

- **Waterbirds.** The harvesting of waterbirds has the potential to be highly unsustainable, and to prevent this was one of the motivations for the Agreement (see case study below). Objective 2 of AEWA’s *Strategic Plan 2009-2018* was “To ensure that any use of waterbirds in the Agreement area is sustainable” and there were five targets to that end. However, in the absence of a mechanism to internationally collate national hunting bag statistics, it has not been possible to assess hunting sustainability. However, the inclusion of national bag totals within the national report format for MOP 8 means that in future such assessments may be possible.
- **Wetlands.** There is widespread unsustainable use of wetlands throughout the Agreement area which has negative consequences for waterbirds. For Europe, the [State of Nature](#) assessment (EEA 2020) and the EU28 ecosystem assessment (Maes *et al.* 2020) outline some of the multiple unsustainable uses of wetlands important for waterbirds including peatlands, coastal areas, estuaries, and different types of freshwater wetland.
- **Extractive industries.** The specific impacts of extractive industries (for example mining of peatlands) on wetland habitats and the implications for migratory waterbirds was addressed in [Resolution 5.14](#), which *inter alia*, “Encourages Contracting Parties to also apply the guidance on Environmental Impact Assessment (EIA) ..., adapting the EIA guidance where appropriate in order to ensure that it adequately addresses direct and indirect impacts on wetlands of the exploration, development, operation, closure and post-closure phases of extractive industrial activities, and ... to ensure that in applying the EIA guidance and other necessary measures, they adequately address the impacts on wetlands important for migratory waterbirds of the full spectrum of activities associated with extractive industries.” However, there has been no AEWA assessment of the extent of impact of extractive industries on wetlands, nor relevant trends in this.

Case study: Principles of sustainable harvest management of migratory waterbirds

AEWA recognises harvesting as a legitimate form of use of migratory waterbirds. The Agreement also requires that any harvesting of waterbirds is sustainable, such that populations are maintained in a 'favourable' conservation status over their entire range.

Due to the cross-border movements of most migratory waterbirds within the AEWA region, this requires Parties to cooperate in order to ensure that their hunting legislation, regulation and practices, both individually and collectively, implement the principle of sustainable use and that any harvest of waterbirds is based on the best available knowledge of their ecology, and an adequate flyway-wide assessment of their conservation status and the socio-economic systems within which they occur.

The protection of huntable waterbirds, which was previously supported by the remoteness of breeding and/or wintering grounds, is now under increasing threat, as are their habitats, due to human development, climate change and other detrimental impacts. It is thus becoming more important than ever to address the long-standing challenge of developing internationally coordinated harvest management.

Advances in knowledge of waterbird populations, modern information and communication technologies, and the development of harvest management strategies, such as adaptive management and interlinked social-ecological frameworks, mean that such co-ordinated management is now more achievable than ever before.

The aim of AEWA's sustainable harvesting guidelines is to provide guidance on ways of ensuring and managing sustainable waterbird harvests to the benefit of waterbirds and people, whilst acknowledging the enormous diversity across the region in the modes and motivations in harvest regimes, biological knowledge, institutional frameworks and capacity.

Further information: [AEWA Guidelines on Sustainable Harvest of Migratory Waterbirds](#)

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Target 5: Halve rate of habitat loss and degradation. “By 2020, the rate of loss of all-natural habitats (1), including forests (2), is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced (3).”

Highly relevant to AEWA. The issue of habitat loss and degradation is central to delivering AEWA’s objectives. Where such information exists, the drivers of decline of most migratory waterbirds having poor or unfavourable conservation status relate to habitat loss and degradation.

Status assessments

Globally, CBD noted, *inter alia*, that: “Loss, degradation and fragmentation of habitats remains high in forest and other biomes, especially in the most biodiversity-rich ecosystems in tropical regions. Wilderness areas and global wetlands continue to decline. Fragmentation of rivers remains a critical threat to freshwater biodiversity.”

The rate of wetland loss continues to decline overall, although in some areas this has been offset by creation of artificial wetlands and/or wetland restoration. The *Global Wetland Outlook* (Ramsar Convention 2018) noted that:

“Remaining natural wetlands cover only a fraction of their original area and have been progressively declining for centuries in most of the world, through drainage and conversion. Up to 87% of the global wetland resource has been lost since 1700 CE in places where data exist (this may not represent the global total), with rates of loss increasing in the late 20th century (Davidson 2014).”

“... The UN Environment World Conservation Monitoring Centre’s ... Wetland Extent Trends (WET) Index (Dixon *et al.* 2016), ... collates over 2,000 time-series data from 1970 to 2015, subdivided by region and wetland classification. Average trends are aggregated and analysed. In 2017, the analysis extended to all Ramsar regions and shows a continuing progressive decline (UN WCMC 2017). It suggests a decline of about 35% in both marine/ coastal and inland natural wetland areas studied between 1970 and 2015, with a decline in average wetland extent in all regions.

“The average annual rate of natural wetland loss estimated by the WET Index is -0.78% a year; over three times faster than the average annual rate of loss of natural forests (-0.24% a year) between 1990 and 2015 (FAO 2016). Rates of natural wetland loss have accelerated from -0.68 to -0.69% a year between 1970 and 1980 to -0.85 to -1.60% a year since 2000. In contrast, human-made wetlands have increased since the 1970s (and earlier), sometimes from conversion of natural wetlands. Reservoirs’ extent has increased by about 30% and rice culture by about 20% (Davidson *et al.* 2018).”

Using Ramsar national reports Davidson *et al.* (2019) assessed change in ecological character of wetlands nationally, and found that “in 2017, COP13 reports indicated a continuing more widespread deterioration than improvement in the ecological character of wetlands generally, globally and for five of the six regions (the exception being for the three countries of North America), with this trend being significant globally and for Africa and Asia.”

IPBES (2019) concluded that, globally land-use change is the dominant factor affecting freshwater habitats.

“For terrestrial and freshwater ecosystems, land-use change has had the largest relative negative impact on nature since 1970, followed by the direct exploitation, in particular overexploitation, of animals, plants and other organisms, mainly via harvesting, logging, hunting and fishing. In marine ecosystems, direct exploitation of organisms (mainly fishing) has had the largest relative impact, followed by land-/sea-use change. Agricultural expansion is the most widespread form of land-use change, with over one third of the terrestrial land surface being used for cropping or animal husbandry. This expansion, alongside a doubling of urban area since 1992 and an unprecedented expansion of infrastructure linked to growing population and consumption, has come mostly at the expense of forests (largely old-growth tropical forests), wetlands and grasslands. In freshwater ecosystems, a series of combined threats that include land-use change, including water extraction, exploitation, pollution, climate change and invasive species, are prevalent.”

“The negative trends in biodiversity and ecosystem functions are projected to continue or worsen in many future scenarios in response to indirect drivers such as rapid human population growth, unsustainable production and consumption and associated technological development.”

Regionally, the EU's recent assessment (Maes *et al.* 2020) of the condition of wetlands in EU28 was that:

“European inland wetlands are still being lost showing decreasing trends in their extent between 2000 and 2018, due to land conversion to agricultural, forest and semi-natural areas. Based on the reported data of Annex 1 of the Habitat Directive, all habitats associated to inland wetlands are among the habitat types showing the worst conservation status among all European ecosystems, with 87.5% of the habitats in poor or bad conservation status: among them, only the 4% is showing improving trends.

“While for the same time period, the extent of coastal wetlands remains substantially stable, the trends in the conservation status of habitats show that the 91% of these habitats are in an unfavourable status while only less than 3% are in good conservation status. Of the habitats that are in an unfavourable status, only 15% is showing improving trends. Despite the efforts in research and conservation, there is a major degree of lack of knowledge (Unknown) about the trends of the condition of coastal wetlands in Europe.”

“Despite significant wetland restoration efforts in Europe over the last decades, which have already proved, at local scale, to effectively decrease wetland extent loss, the assessment demonstrates that tangible improvements in the condition of wetlands and the reestablishment of their functions are far from being met.”

All assessments conclude that rate of loss of natural wetlands has not been halted, and indeed trend assessments show continued declines. However, in some countries there has been an increase in artificial wetland extent.

Relevant progress by AEWA

Element 1: The Agreement's Action Plan (action 3.2.3) requires that “Parties shall endeavour to make wise and sustainable use of all of the wetlands in their territory. In particular they shall endeavour to avoid degradation and loss of habitats that support populations listed in Table 1 through the introduction of appropriate regulations or standards and control measures. ...”

Continued decline of wetlands generally, most of which sustain waterbirds, indicates however that the implantation of these requirements has been very inadequate across the Agreement area.

Element 3: There is no comprehensive assessment of the extent of wetland fragmentation at the scale of the Agreement area.

For waterbirds, long-standing research demonstrates a higher risk of disturbance effects to non-breeding waterbirds in small and/or more highly fragmented wetland habitats (Fox & Madsen 1997). No specific actions have been made by AEWA to address the issue of habitat fragmentation *per se*.

Case study: Community livelihood and capacity support improves condition of Zimbabwe's wetlands for threatened cranes

A UK Darwin Initiative project running to 2022 is developing capacity and increasing viability of sustainable livelihoods of villagers living in Driefontein Grasslands Ramsar Site, Zimbabwe - an area where poverty has been driving unsustainable use of wildlife and ecologically sensitive headwater wetland habitat. Despite their rich biodiversity, the grasslands have been under high pressure from people, including wetland degradation from unsustainable agriculture, uncontrolled fires and over-grazing – threatening the habitat of Red-listed cranes. However, adoption of alternative non-wetland dependent income generating activities is reducing both poverty and wetland habitat loss.

Through provision of training in sustainable wetland management, fire management and monitoring, the improved conditions of key wetlands are benefiting the conservation of the Endangered Grey Crowned Crane *Balearica regulorum*, the Vulnerable Wattled Crane *Grus carunculata*, and other biodiversity in Driefontein Grasslands. Fire-fighting teams have been established, with local communities equipped with necessary equipment. Key wetlands covering at least 44 ha have been restored and protected by local villagers. Three of the restored sites have been recolonised by cranes that have since bred successfully.

The project is also focussing on improving village livelihoods with new, and sustainable income generating activities created through poultry and pig production, and bee keeping, whilst the wider benefits from the project have been

promoted through meetings of the three districts sharing the Driefontein Grasslands Ramsar Site. These have influenced mainstreaming of Driefontein Environmental Management Plan into district plans.

Further information: <https://www.darwininitiative.org.uk/project/DAR26001/>

Target 6: Sustainable fish stocks and no fisheries impacts. “By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably (1), legally and applying ecosystem-based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species (2), fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems (3) and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits (4).”

Highly relevant to AEWA. The issue of eliminating negative impacts from fisheries is central to AEWA’s objectives with respect of both marine and freshwater fish-eating birds. Issues include bycatch of waterbirds, impacts on bird populations, depletion of fish stocks (including shell-fisheries), and habitat destruction or degradation arising from destructive fishing techniques such as bottom-trawling.

Status assessments

Globally, CBD noted that: “While there has been substantial progress towards this target in some countries and regions, a third of marine fish stocks are overfished, a higher proportion than ten years ago. Many fisheries are still causing unsustainable levels of bycatch of non-target species and are damaging marine habitats.”

Relevant progress by AEWA

Elements 3 & 4: The Agreement’s Action Plan (action 4.3.7) urges Parties “to take appropriate actions nationally or through the framework of Regional Fisheries Management Organisations (RFMOs) and relevant international organisations to minimise the impact of fisheries on migratory waterbirds, and where possible cooperate within these forums, in order to decrease the mortality in areas within and beyond national jurisdiction; appropriate measures shall especially address incidental killing and bycatch in fishing gear including the use of gill nets, longlines and trawling.”

Further, action 4.3.8 urges Parties also “to take appropriate actions nationally or through the framework of Regional Fisheries Management Organisations (RFMOs) and relevant international organisations to minimise the impact of fisheries on migratory waterbirds resulting in particular from unsustainable fishing that causes depletion of food resources for migratory waterbirds.”

Fisheries management needs as it impacts migratory seabird conservation has been addressed both in Resolution 6.9 [Improving the Conservation Status of African-Eurasian Seabirds](#), and Resolution 7.6 [Priorities for the Conservation of Seabirds in the African-Eurasian Flyways](#). MOP 8 national reports indicate that most applicable Parties (13, 54% of reporting applicable Parties - RAP) have undertaken steps to adopt or apply measures to reduce the incidental catch of seabirds within fisheries, and to combat Illegal, Unregulated and Unreported (IUU) fishing practices. However, only a very few Parties have assessed the impact of artisanal/recreational fisheries on either seabirds directly (four Parties - 17% of RAP) or their prey (two Parties – 8% of RAP).

Major reviews concerning the impacts of fisheries on seabirds were prepared for MOP 6, notably the [Review of the Status, Threats and Conservation Action Priorities for the Seabird Populations Covered by the Agreement](#), and the [Review of potential impacts of marine fisheries on migratory seabirds within the Afro-Tropical Region](#).

An [International Multi-species Action Plan for the Conservation of Benguela Current Upwelling System Coastal Seabirds](#) has been adopted which addresses conflicts between fisheries and seabird conservation in that region. The 1st Meeting of the AEWA Benguela Coastal Seabirds International Working Group took place in March 2021 to establish international coordination for the Plan’s implementation and to agree critical conservation priorities.

Case study: Reducing fisheries impacts on seabirds

BirdLife’s Albatross Task Force (ATF) has been successful in significantly reducing impacts of long-line fisheries on albatrosses and other seabirds in southern African waters. Whilst in 2009, it was estimated that in Namibian waters alone, 20-30,000 seabirds were killed annually due to longline and trawl fishing, Namibia has been one of the most progressive nations in tackling seabird bycatch. In November 2015, the Namibian government adopted national legislation that requires longline and trawl vessels to use bird-scaring lines to mitigate bycatch. The ATF team

supported the fishing fleet to take up mitigation measures voluntarily prior to regulations and have now confirmed bycatch reductions of over 98% compared to baseline estimates.

The Namibian government has 100% fisheries observer coverage (seabird bycatch monitoring coverage on its fishing vessels), and plans to improve the kinds of data collected, including on the effectiveness of mitigation measures and compliance with regulations. The ATF continue to support these processes, monitor progress, and assess the effectiveness of the mitigation solutions being implemented.

Progress in Europe to reduce the estimated annual bycatch of 200,000 seabirds has been slower. A seabird Plan of Action was adopted in 2012 whilst the 2013 reform of the Common Fisheries Policy included an objective for EU fisheries to be managed to minimise the impact of fisheries to the marine ecosystem (including seabirds), rather than just on fish stocks. However, neither the Plan of Action nor the CFP have achieved the expected objectives regarding bycatch.

The comprehensive 2019 EU Regulation on the conservation of fisheries resources and the protection of marine ecosystems includes the need for specific mitigation measures to reduce incidental catches of sensitive species including seabirds. These include the need to use – in sensitive areas - bird scaring lines, weighted lines and/or set longlines at night, as well as the need for governments to collect scientific data on incidental catches of sensitive species – important to monitor effectiveness of the measures.

Further information: [Regulation \(EU\) 2019/1241 on the conservation of fisheries resources and the protection of marine ecosystems](#)
[Reduction in seabird mortality in Namibian fisheries following the introduction of bycatch regulation](#)

Target 7: Sustainable agriculture, aquaculture and forestry. “By 2020 areas under agriculture (1), aquaculture (2) and forestry (3) are managed sustainably, ensuring conservation of biodiversity.”

Highly relevant to AEWA. The need to ensure that agricultural and other wider habitats (outside protected areas) are managed sustainably for waterbirds is central to AEWA’s objectives. A large number of waterbirds listed by AEWA are dependent on agricultural landscapes either for breeding (for example many wader species) or in the non-breeding season (many ducks, geese and swans). The appropriate management of these areas is critical to their continued suitability for these species.

Status assessments

Globally, CBD noted that: “*There has been a substantial expansion of efforts to promote sustainable agriculture, forestry and aquaculture over recent years, including through farmer-led agroecological approaches. The use of fertilizers and pesticides has stabilized globally, though at high levels. Despite such progress, biodiversity continues to decline in landscapes used to produce food and timber; and food and agricultural production remains among the main drivers of global biodiversity loss.*”

Relevant progress by AEWA

Element 1: Agriculture. The issue of wider land use, including in agricultural contexts has received relatively little attention from AEWA. [Resolution 7.2](#) noted that the issue “Needs significantly more attention from Parties especially with respect of the following issues:

- ensuring that agricultural and land-use policies adequately provide for the needs of migratory waterbirds (and other biodiversity) alongside the need for food production and other land-uses;
- ensuring that changes of land-use, for example from wetlands to intensive agriculture, or loss of extensive agriculture (via land abandonment), do not negatively impact on migratory waterbirds; and
- ensuring that appropriate policies (and/or the actions of decision makers) take full account of the ecological needs of migratory waterbirds thus providing benefits both to birds and people.”
- AEWA *Conservation Status Review 7* noted that “...an increasing number of mainly marine and farmland species are listed as globally threatened and Near Threatened and in significant long-term decline, which highlights the importance of sustainable management beyond protected areas.”

The extent to which agriculture is sustainable for biodiversity is strongly dependent on relevant policies and incentive regimes (see Aichi Target 3 above).

Element 2: Aquaculture. The Agreement’s Action Plan (action 4.3.11) urges Parties “to establish appropriate measures to tackle threats to migratory waterbirds from aquaculture, including environmental assessment for developments that threaten wetlands of importance for waterbirds, especially when dealing with new or enlargement of existing installations, and involving issues such as pollution (e.g. from residues of pharmaceutical treatments used in aquaculture or eutrophication), habitat loss, entanglement risks, and introduction of non-native and potentially invasive species.” Beyond this, however, AEWA has given little specific attention to aquaculture management as it relates to migratory waterbird conservation, although there are often conflicts in these areas. AEWA’s [Guidelines on reducing crop damage, damage to fisheries, bird strikes and other forms of conflict between waterbirds and human activities](#) provide means or reducing or eliminating such conflicts with fisheries, whilst the EU has published much guidance on reducing conflicts with Great Cormorants *Phalacrocorax carbo* on its [EU Cormorant Platform](#).

Case study: Conservation of Lac de Mâl, Mauritania, through sustainable fishing

For the sustainable conservation of Lac de Mâl, Nature Mauritania, the BirdLife Partner in Mauritania, is working with the lake fishermen through a community organisation known a Site Support Group. The project follows the BirdLife and Vogelbescherming Nederland *Living on the Edge* and *Conservation of Migratory Birds* projects which, since 2012, have built local capacity in natural resource management. Through these projects the lake communities,

with the support of local authorities, now implement conservation activities, especially relate to fisheries, that also contribute to the livelihood improvements whilst sustaining the lake for waterbirds.

Lac de Mâl is located in a depression in Oued Guéllouâr, 65 km east-south of Aleg city and south-east of Magta-Lahjar. The lake is a critical flyway site and identified as an Important Bird Area with at least 20,000 Garganey *Spatula querquedula* and 16,000 Pintail *Anas acuta* using it each year as a migratory stopover. The lake is permanent, fed by seasonal rainfall from many ephemeral rivers, mainly Oued Leye. It is bordered by mobile sand dunes, often stabilised by *Prosopis juliflora*, *Leptadenia pyrotechnica* and *Parkinsonia aculeata*. The vegetation around the lake is exploited by farmers as fodder for their animals.

To ensure the long-term conservation of the site, Nature Mauritanie promoted the conservation and sustainable development in Lac de Mâl. Pressures on the lake and also on migratory birds were reduced by site restoration and implementation of income generating activities so as to improve the living conditions of local people. Fishermen organised through their community association are responsible for, and practice sustainable fishing. A code of conduct for the lake was developed and is being implemented. This code details management rules and arrangements for the use of the lake's resources (with the support of the local authority). In addition, the Local Development Plan integrated the conservation of Lac de Mâl into the broader communal plan and has been adopted by the Ministry of Environment and the Sustainable Development and all stakeholders.

Further information: http://www.birdlife.org/sites/default/files/attachments/vbn_lote_11-15_eng_digitaal_def.pdf

Target 8: Tackle pollution. “By 2020, pollution (1), including from excess nutrients (2), has been brought to levels that are not detrimental to ecosystem function and biodiversity.”

Highly relevant to AEWA, in particular, the lethal and sub-lethal effects of direct and indirect pollution are a significant issue for many waterbirds. Pollution control (notably through the discharge of wastes and industrial effluents into the environment) needs attention in many developing countries, whilst the ecological effects of air-borne nutrient pollution are significant factors altering habitats across much of north-west Europe. Nutrient pollution arising from excess use of agricultural fertilizers can also have major ecological consequences for wetland habitats.

Lead shot discharged into wetlands still poisons millions of waterbirds annually within the Agreement area. Pollution from oil spills and discharges can have devastating local impacts on waterbirds and other wildlife. The need to address causes of pollution from plastic debris and micro plastics in the marine environment is being taken forward by a range of international processes.

Status assessments

Globally, CBD noted that: “*Pollution, including from excess nutrients, pesticides, plastics and other waste, continues to be a major driver of biodiversity loss. Despite increasing efforts to improve the use of fertilizers, nutrient levels continue to be detrimental to ecosystem function and biodiversity. Plastic pollution is accumulating in the oceans, with severe impacts on marine ecosystems, and in other ecosystems with still largely unknown implications. Actions taken in many countries to minimize plastic waste have not been sufficient to reduce this source of pollution.*”

Relevant progress by AEWA

Element 1: AEWA has given particular attention to four sources of pollution.

- **Oil.** Deliberate or unintended discharges of oil, especially in the marine environment can result in considerable waterbird mortality and morbidity. The Agreement’s Action Plan (action 4.3.9) requires that Parties “Parties shall establish and effectively enforce adequate statutory pollution controls in accordance with international norms and legal agreements, particularly as related to oil spills, discharge and dumping of solid wastes, for the purpose of minimizing their impacts on the populations listed in Table 1.”

Guidance on how to prevent such occurrences, and respond when they occur, was adopted in AEWA’s [Guidelines on identifying and tackling emergency situations for migratory waterbirds](#). Priorities for seabird conservation were adopted in [Resolution 7.6](#) including the need to “Address mortality from oil spills and contaminants by identifying the key coastal and at-sea areas where responses to oil spills would be most urgently required within the AEWA region in relation to the presence of AEWA-listed seabirds...” MOP 8 national reports indicate that nine Parties (37% of Applicable Parties) have identified key coastal and at-sea areas where responses to oil spills would be most urgently required in relation to the presence of AEWA-listed seabirds, and with all reporting that AEWA seabirds and seabird sites are adequately represented within existing oil spill response plans.

- **Lead gunshot.** Multiple Resolutions have been adopted and guidance documents [[here](#)] produced relating to the need to urgently eliminate the use of lead gunshot in wetlands. AEWA’s *Strategic Plan 2009-2018* had a specific Target (2.1) that “The use of lead shot for hunting in wetlands is phased out in all Contracting Parties”.

Several Parties have legislated against such use with MOP 8 national reports indicating 18 Parties (23% of all Contracting Parties) as having fully phased out the use of lead shot for hunting in wetlands (Action 2.2(d) of the AEWA Strategic Plan 2019-2027) and a further eight (10% of CP) reporting that lead shot has been partially phased out. The recent decision by the EU (see case study below) to ban the use and possession of lead gunshot in or near wetlands is a very significant advance. However, evidence from some Parties of widespread illegal use of lead gunshot in wetlands despite legislative prohibition indicates that compliance monitoring and enforcement will be required.

- **Marine plastics.** [Resolution 7.6](#) on priorities for seabird conservation recognised the threat from micro and other plastics in the marine environment and encouraged “relevant Parties ... to implement the recommendations of the [Assessment on plastics and waterbirds: incidence and impacts](#).”

- **Agrochemicals.** The Agreement’s Action Plan (action 3.2.3) requires that Parties, as part of their obligation “to make wise and sustainable use of all the wetlands in their territory, ... ensure, where practicable, that adequate statutory controls are in place, relating to the use of agricultural chemicals, pest control procedures and the disposal of waste water, which are in accordance with international norms, for the purpose of minimizing their adverse impacts on the populations listed in Table 1 ...” [Resolution 5.12](#) addressed a range of issues related to the use of agrochemicals in Africa, including the need to “regulate the use of such agrochemicals in the vicinity of nationally and internationally important sites for migratory waterbirds, particularly in wetlands, also taking into account run-offs from agriculture effecting aquatic ecosystems”. It is unclear the extent to which the proposed actions have been implemented, however.

Element 2: Pollution of wetland and other habitats resulting from deposition of nutrients from air or water is significantly influencing the ecological character of many waterbird habitats, especially, although not exclusively, in northern Europe. The [State of Nature](#) assessment by the EU (EEA 2020), identifies nutrient pollution as a key pressure on European habitats, indicating that “ agricultural pollution of surface waters or groundwaters has significant impacts on standing waters, rivers, ponds and marine habitats as well as on their species.”

Similar conclusions were reached in the EU’s first assessment of ecosystems and their services (Maes *et al.* 2020) who found that “Generally, human pressures on freshwaters due to over-exploitation (*e.g.* water abstractions) and nutrient pollution are still very high.” And that “Altered hydromorphology, together with chemical and nutrient pollution, were among the most reported impacts [in Water Framework Directive reporting] affecting the ecological status of water bodies.”

Case study: Tackling health risks posed by lead ammunition in the EU under chemicals regulation REACH

Lead ammunition has long been recognised as a source of poisoning of wildlife, in particular waterbirds which consume shot pellets in mistake for food or grit. In Europe one million waterbirds are estimated to die annually from resultant lead poisoning with millions more sub-lethally affected. The solution to this pollution lies in the use of alternative non-toxic ammunition and AEWA, since its inception in 1995, has been the driver to oblige signatory Parties to prevent lead shot from entering wetlands in the African Eurasian region. The original deadline for phase out of lead shot in wetlands was 2000; though this and subsequent deadlines have been missed by many, AEWA has kept the issue high profile.

There has been more recent recognition of the multiple negative health impacts of lead ammunition to wider sectors including people consuming game meat, and the extent of environmental pollution *e.g.* >20,000 tonnes of lead shot is deposited in the EU annually contaminating soils and creating a toxic legacy. In response, the European Commission began to address the problems using the EU’s chemicals regulation REACH which aims to improve the protection of human health and the environment from the risks that can be posed by chemicals. The Commission chose a two-stage approach, firstly to harmonise the patchy and sometimes non-existent lead shot wetlands-related regulations in EU Member States, and secondly to address risks from all lead ammunition in terrestrial environments which will maximise benefits to human and wildlife health and reduce enforcement issues with the partial restriction in wetlands only (completion date 2023).

The restriction on use and possession of lead shot in wetlands was adopted into EU legislation in January 2021 with a 24-month transition period for most countries. Those countries with a higher proportion of wetland land coverage (>20%) were given a 36-month transition period.

Globally lead ammunition remains one of the last sources of environmental lead pollution, which is poorly regulated, but substantive shift to non-toxic ammunition in a region of high hunting activity such as the EU will drive normalisation of non-toxic ammunition use around the world.

Further information:

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0057&qid=1611917764606>
<https://echa.europa.eu/hot-topics/lead-in-shot-bullets-and-fishing-weights>

Target 9: Invasive alien species. “By 2020, invasive alien species (1) and pathways (2) are identified and prioritised, priority species are controlled or eradicated (3), and measures are in place to manage pathways (4) to prevent their introduction and establishment.”

Highly relevant to AEWA. The need to control and eliminate established invasive non-native species, and prevent the establishment of others, is central to AEWA’s objectives. This issue is especially significant in the context of introduced predators on seabird breeding islands. As in the case of Ruddy Duck *Oxyura jamaicensis*, hybridisation with non-native species can be a major threat to the genetic integrity of native waterbirds species.

Status assessments

Globally, CBD noted that: “Good progress has been made during the past decade on identifying and prioritizing invasive alien species in terms of the risk they present, as well as in the feasibility of managing them. Successful programmes to eradicate invasive alien species, especially invasive mammals on islands, have benefited native species. However, these successes represent only a small proportion of all occurrences of invasive species. There is no evidence of a slowing down in the number of new introductions of alien species.”

The *Global Wetland Outlook* (Ramsar Convention 2018) highlighted invasive alien species (IAS) as both a direct and indirect driver of change in wetland ecological character: “The introduction of invasive species can disrupt trophic structure, energy flows and species composition, as seen with invasive crayfish in the Okavango Delta, Botswana (Nunes *et al.* 2016). Numbers of established alien freshwater species have been increasing, e.g., with continuous increases in Europe especially in the last 60 years (Nunes *et al.* 2015). Wetlands are vulnerable to invasion because the combination of sediments, nutrients and water creates conditions – sometimes helped by disturbance – for opportunistic species to flourish (Zedler & Kercher 2004). Many lakes worldwide suffer from infestation with water hyacinth (*Eichornia crassipes*), originally native to South America. Multiple drivers impact Lake Victoria, East Africa, where introduced Nile perch (*Lates niloticus*) along with eutrophication, sedimentation and water level fluctuations, led to drastic changes in ecology (Kiwango & Wolanski 2008).”

Relevant progress by AEWA

Element 1: Invasive alien species are a central element of AEWA’s Action Plan with section 2.5, *inter alia*, prohibiting Parties from introducing non-native plant or animal species than might be detrimental to migratory waterbirds listed by the Agreement. It further requires the taking of appropriate precautions to prevent the accidental escape of captive non-native animals than may be detrimental to listed waterbirds. AEWA has previously [reviewed the status of non-native waterbirds in the Agreement area](#), and has adopted [Guidelines for avoiding introduction of non-native birds](#). Most recently, MOP 7 adopted [Guidance on AEWA’s provisions on non-native species](#) which presents a legal analysis of AEWA’s provisions.

The issue has also been addressed through [Resolution 4.5](#) which prioritised attention on Ruddy Duck and Sacred Ibis *Threskiornis aethiopicus*.

In 2014, the EU adopted a comprehensive Regulation (1143/2014) on the prevention and management of the introduction and spread of invasive alien species. This has established, and regularly updated, a priority list of non-native species of “of Union Concern”. [The 2019 list](#) includes a number of waterbirds, namely Egyptian Goose *Alopochen aegyptiacus*, Ruddy Duck (see case study below) and Sacred Ibis.

National reports to MOP 8 indicate that five Parties (21% of reporting applicable Parties) have identified those seabird colonies at risk from invasive non-native species with all establishing priorities for control measures.

Element 2: No particular work has been undertaken by AEWA to identify pathways of IAS invasion and establishment (although this has been undertaken by some Parties. EU’s IAS Regulation (above), however, requires Member States to develop pathways of invasive alien species pathways of unintentional introduction and spread of invasive alien species of Union Concern.

Element 3: The UK has undertaken a long-term eradication programme for Ruddy Ducks in response to AEWA provisions with numbers falling from a peak of almost 6,000 individuals to 23 individuals in 2017 (2-3 pairs). Control programmes are also in place in five AEWA Parties (Spain, France, Belgium, Netherlands and Switzerland). MOP 8 reports indicate that 11 Parties (14% of all Contracting Parties) have considered,

developed, or implemented programmes to control or eradicate non-native species of waterbird so as to prevent negative impacts on indigenous species. Four species (Sacred Ibis, Canada Goose *Branta canadensis*, Egyptian Goose and Ruddy Duck) were listed as the focus of such programmes, with the Ruddy Duck being the target of the most control/eradication programmes.

Element 4: There is no comprehensive information on the extent to which measures are in place to manage pathways to prevent their introduction and establishment, although for EU Member States these are a requirement under the 2014 IAS Regulation.

Case study: The progressive eradication of the Ruddy Duck from Europe

The North American Ruddy Duck *Oxyura jamaicensis* has become an invasive species in Europe where it mainly frequents freshwater lakes and man-made reservoirs. It is listed as an “invasive alien species of Union concern” under EU Regulation No 1143/2014, and is regarded as the most serious threat to the survival of the globally endangered White-headed Duck *Oxyura leucocephala* due to the ability of the two species to hybridize freely and produce fertile offspring.

Ruddy Ducks were introduced into UK waterfowl collections in the late 1940s, and by the mid-1950s several individuals had escaped to form a free-flying population in southwest England. The UK population had risen to about 4,000 birds by 1998, by which time annual breeding attempts were also thought to take place in Belgium, France, Ireland, Germany, the Netherlands and Morocco.

The first hybridization between Ruddy Duck and White-headed Duck in the wild was recorded in 1991 in Spain, where at least 86 hybrids have been recorded despite a well-organized control programme to remove any Ruddy Ducks arriving in the country. Following several years of research, a Ruddy Duck eradication programme began in 2005, jointly funded by the UK Government and the EU LIFE-Nature programme. Since then, control of the species has taken place at more than 140 sites across the UK and numbers have fallen from almost 6,000 to an estimated two to three pairs by 2017. Control programmes are also in place in Spain, France, Belgium, Netherlands and Switzerland. This work has seen a significant reduction in the numbers of Ruddy Ducks appearing in Spain, and no hybrids have been reported there since 2007.

Further information: [GB Non-native Species Secretariat](#)

Target 10: Address climate change impacts. “By 2015, the multiple anthropogenic pressures on coral reefs (1), and other vulnerable ecosystems (2) impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.”

Highly relevant to AEWA. The need to put in place climate change adaptation measures related to the waterbird habitats (especially but not restricted to wetlands) is central to the fulfilment of AEWA’s objectives.

Status assessments

Globally, CBD noted that: “Multiple threats continue to affect coral reefs and other vulnerable ecosystems impacted by climate change and ocean acidification. Overfishing, nutrient pollution and coastal development compound the effects of coral bleaching. Corals have shown the most rapid increase in extinction risk of all assessed groups. Hard coral cover has declined significantly in some regions, and there has been a shift towards coral species less able to support diverse reef habitats. Other ecosystems especially in mountains and polar regions have experienced significant impacts from climate change, compounded by other pressures.”

All relevant global (Ramsar Convention 2018, IPCC 2018 and IPBES 2019), and regional (IPBES 2018a, 2018b, EEA 2020, and *Mediterranean Wetlands Outlook 2*) stress the significant impacts of climate change on wetlands and related habitats through changes to water balances and precipitation, habitat transformation, the effects of ocean acidification, facilitation of spread of diseases and non-native species, and increases in extreme events including drought, flooding, and greater storminess in coastal areas especially. Particularly at risk are arctic tundra, coastal ecosystems, and African wetlands (IPCC 2018; IPBES 2018a).

Relevant progress by AEWA

Element 2: The target implies first the identification of ecosystems vulnerable to climate change, and then secondly, putting in place measures that minimize anthropogenic pressures on those vulnerable sites.

The identification of wetlands important to migratory waterbirds has been undertaken by the [Climate Resilient Flyway project](#) which used species distribution models (based on annual cycles) to assess the exposure to climate change of AEWA-listed waterbird species (Nagy *et al.* 2021). This found that “Critical Flyway Sites alone would have limited capacity to accommodate range shifts in the seasons in which these species are most exposed to climate change. Therefore, successful climate change adaptation for AEWA-listed waterbirds needs to rely on a broader network of sites than just Critical Flyway Sites. It will require applying broader site selection criteria and further expansion of protected area networks. Site management objectives should also explicitly include objectives for assisting climate change adaptation of waterbird populations, and adaptation measures should be implemented on the ground” (Nagy *et al.* 2021).

With respect to putting in place measures to reduce pressures, AEWA has adopted a climate change adaptation framework through Resolutions [5.13](#) and [6.6](#). National reporting to MOP 8 indicated that 17 Parties have assessed the implications of climate change for both single protected sites and their national protected area network with a further six having undertaken assessments for single sites but not national networks.

In reports to MOP 8, 20 Parties (25% of all Contracting Parties) reported undertaking research into the impact of climate change on waterbirds, with a further 14 Parties (18% of all CP) indicating plans to undertake such research. Seventeen Parties (21% of all CP) reported they had undertaken assessments of the potential vulnerability to climate change of key habitats to waterbird species. A smaller proportion reported planning such assessments (12 Parties: 15% of all CP). Four Parties (5% of all CP) reported undertaking a National Action Plan to help waterbirds adapt to climate change – this could be a separate process, or form part of a larger national framework for biodiversity adaptations to climate. Fourteen Parties (18% of all CP) reported intending to produce a National Action Plan.

Case study: Conserving biodiversity and reducing human pressures on the Cacheu Mangroves National Park, Guinea-Bissau

From 2015 to 2018 Wetlands International, Instituto da Biodiversidade e das Áreas Protegidas (IBAP), the Turing Foundation and other partners implemented a ground-breaking initiative to conserve the mangroves, tidal flats,

dryland forests and seagrass beds of Cacheu National Park and its buffer zone in Guinea Bissau, ecosystems all under significant anthropogenic and climatic pressures.

This area is the largest compact mangrove environment in West Africa and home to many threatened species such as manatees and marine turtles, provides important breeding and staging habitat for hundreds of thousands of migratory birds, and serves as a nursery ground for countless species of fish. Unfortunately, the Park had been heavily degraded as a result of past slash-and-burn agriculture practices and suffered over-exploitation of natural resources.

The project worked towards conserving and restoring this unique wetland ecosystem. With communities and Park authorities, plans were developed for improved management of the park and its buffer zone; ecological mangrove restoration was introduced to rehabilitate abandoned rice-fields; and conservation measures were implemented, and communities supported, to reduce their impacts on natural resources by introducing sustainable livelihoods alternatives to harmful practices.

Outcomes included:

- 8,000 ha community-based protected forest in a buffer zone established legally and managed by communities;
- 200 ha of mangroves restored, using an ecological mangrove restoration approach, demonstrating a potential cost reduction of up to 90% compared to conventional planting projects;
- Avoidance of forest degradation by introducing solar salt production and fish smoking techniques that reduce use of mangrove fuelwood by 80%;
- seven villages provided with sustainable livelihood alternatives to harmful practices, so reducing pressure on natural resources and providing thousands with increased income;
- Poaching (fish, birds) in the Park substantially reduced through community awareness campaigns and increased patrolling; and
- Government authorities supporting development of a national agenda for wetland restoration and conservation.

Further information: [Conserving the Biodiversity of the Cacheu Mangroves National Park](#)

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11: Effective protected areas: >17% land and 10% sea. “By 2020, at least 17 per cent of terrestrial and inland water [areas] (1), and 10 per cent of coastal and marine areas (2), especially areas of particular importance for biodiversity and ecosystem services (3), are conserved through effectively and equitably managed (4), ecologically representative (5) and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes (6).”

Highly relevant to AEWA. The need to establish and appropriately manage networks of protected areas – in both the terrestrial and marine environments – is central to AEWA’s objectives. AEWA’s Action Plan requires Parties (action 3.1.2) to “to identify all sites of international or national importance for populations listed in Table 1”, using these as the basis “to continue establishing protected areas to conserve habitats important for” listed populations (action 3.2.1), giving “special attention to those wetlands which meet internationally accepted criteria of international importance” (action 3.2.2). The issue is a major focus of the Plan of Action for Africa⁸.

Status assessments

Globally, CBD noted that: “*The proportion of the planet’s land and oceans designated as protected areas is likely to reach the targets for 2020 and may be exceeded when other effective area-based conservation measures and future national commitments are taken into account. However, progress has been more modest in ensuring that protected areas safeguard the most important areas for biodiversity, are ecologically representative, connected to one another as well as to the wider landscape and seascape and are equitably and effectively managed.*”

MacKinnon *et al.* (2021) considered that “*while countries have made good progress in expanding coverage especially in terrestrial ecosystems, freshwater habitats are still much less well represented in protected area networks. In addition, many designated marine protected areas (MPAs) have little or no effective protection or management. Indeed, it is estimated that at present only 2.7 per cent of the ocean is highly protected, with many MPAs subject to unsustainable fishing and other extractive uses (Sala et al. 2021).*”

Relevant progress by AEWA

Element 1: Terrestrial protected areas. In the period 2011-2020, 25 AEWA Parties designated 38 new Ramsar Sites important for waterbirds, amounting to 22,326 km². Nearly half of this extent (10,469 km²) is comprised of the globally important Archipelago Bolama-Bijagós in Guinea-Bissau, a site of critical importance within the East Atlantic Flyway for multiple migratory waterbirds (and other biodiversity).

In total, as at 2020, Parties have designated 287 Ramsar Sites for waterbirds amounting to 294,387 km². These extend across the entire extent of the Agreement area.

Important Bird Areas have been located in all Contracting Parties that identify internationally important sites, *inter alia*, for migratory waterbirds. Many of these are also identified as components of the Critical Site Network.

Within the European Union a terrestrial network of Special Protection Areas has been classified including for migratory waterbirds and relevant data for these sites is available via the European Environment Agencies website (<https://www.eea.europa.eu/data-and-maps/data/natura-11>).

National reports to MOP8 indicated that 30 Parties (57% of Reporting Parties; 38% of all Contracting Parties) confirmed that a network of internationally or nationally important sites for migratory waterbirds sites had been fully identified within their country, with a further 16 reporting having partially done so (30% of RP; 20% of all CP). In terms of area covered, Parties reported a total area 92,161,129 ha of nationally important sites, of which 83% (~76 million ha) are legally protected. For internationally important sites, Parties reported a total of 317 721 192 ha that are considered nationally important, of which 14% (~45 million ha) are in legally protected sites. Strategic Plan Target 3.3 is that two thirds (66%) of all flyway network sites actively protected, although at MOP 8 achievement is only 42%.

⁸ <https://www.unep-aewa.org/en/node/1935>

Element 2: Marine protected areas. Whilst significant progress has been made to identify and designation of terrestrial sites of importance for migratory waterbirds, progress in marine areas has been slower. For the European Union, good progress has been made in classifying Special Protection Areas for birds in the marine environment with the total extent (as of December 2019 for EU27) amounting to 290,012 km². However, within the Agreement areas beyond the EU, there are few international treaties that facilitate the designation of marine protected areas (since the scope of the Ramsar Convention only extends to near inshore areas). Some marine protected areas have been established under national statute by some AEWPA Parties.

Element 4: Good management of protected areas. Effective management of protected areas is best delivered within the framework of management planning guidance for which exists in relation to both Ramsar and AEWPA, whilst for Special Protection Areas in the EU, a range of guidance documents outline legal requirements under the Birds and Habitats Directives and the administrative procedures for their implementation.

National Reports to MOP8 indicate that regarding management plans, only about 1.5% of protected nationally important sites having management plans in place. By area however, ~65 million ha (71%) of such sites have management plans, of which ~58 million ha (63%) have ecological resilience objectives within the plans. However, for internationally important sites 60.2% have management plans amounting to ~9 million ha). Significant numbers of important sites do not have management plans, and the large quantity of identified internationally important sites without legal protection indicates the need for continued efforts. Strategic Plan Target 3.3 is that two thirds (66%) of all flyway network sites have actively implemented management plans in place, although at MOP 8 achievement is only 20%.

Element 5: Ecological representation of protected areas. There is no information on how ecologically representative are existing protected areas for migratory waterbirds within the AEWPA region.

Element 6: Integration of protected areas with wider sea- and landscapes. Generally, there is little collated information on the integration of terrestrial and marine protected areas but for Special Protection Areas, it is typical that provision is made for the protection of waters adjacent to seabird colonies to ensure the protection of areas used for social and other behaviours – recognising that marine feeding areas are typically not contiguous with breeding areas and thus need separate sites to ensure their conservation. However, 16 Parties (20% of all Contracting Parties) reported to MOP 8 that their networks of nationally and internationally important sites were fully integrated into their water- and land-use policies, planning and decision-making processes, with a further 19 Parties having done this partially.

Case study: Twinning of the Banc d'Arguin and The Wadden Sea World Heritage Sites

The Banc d'Arguin National Park (Mauritania) and The Wadden Sea (Germany /The Netherlands) are the most critical sites for migratory birds on the East Atlantic Flyway and are intimately connected in a unique and fascinating way. The Wadden Sea provides support to migratory birds as a staging, moulting and wintering area. Every year, approximately 30% of the estimated seven million wading birds that use the East Atlantic Flyway spend the winter at Banc d'Arguin National Park. Both sites understand that the conservation status of their World Heritage areas is very closely linked and decided to join forces, share best management practices, and learn from one another.

The twinning arrangement was signed during the 2014 12th Trilateral Governmental Conference in Tønder, Denmark. The signatory ceremony took place under the patronage of the deputy Ministers for the Environment in Denmark and Mauritania. The twinning provides a framework for cooperation with a work package that will include support toward the designation of Banc d'Arguin National Park as a Particular Sensitive Sea Area under the International Maritime Organization regulation – a status obtained by the Wadden Sea in 2002.

The agreement will facilitate considerably the exchange of capacity and expertise on bird monitoring and is unprecedented in the World Heritage marine network. Preparations for the twinning arrangements started in March 2013 with an exploratory meeting in Banc d'Arguin National Park that allowed both parties to understand the opportunities for a fruitful cooperation.

Further information: https://www.waddensea-worldheritage.org/sites/default/files/2014_MoU%20Mauritania.pdf

Target 12: Prevent extinction and improve species conservation status. “By 2020 the extinction of known threatened species has been prevented (1) and their conservation status, particularly of those most in decline, has been improved and sustained (2).”

Very highly relevant to AEWA. The need to prevent species extinctions and to reverse declines is central to AEWA’s mission as reflected in the Fundamental Principle expressed in Article II of the Agreement that “Parties shall take co-ordinated measures to maintain migratory waterbird species in a favourable conservation status or restore them to such a status”, as well as the emphasis placed on it through Objective 1⁹ of AEWA’s *Strategic Plan 2009-2018*. AEWA provides a framework to protect almost half a billion (some 338 – 464 million) individuals of water- and seabirds in Africa and Eurasia.

Status assessments

Globally, CBD noted that: “*Species continue to move, on average, closer to extinction. However, the number of extinctions of birds and mammals would likely have been at least two to four times higher without conservation actions over the past decade. Among well-assessed taxonomic groups, nearly one quarter (23.7%) of species are threatened with extinction unless the drivers of biodiversity loss are drastically reduced, with an estimated total of one million threatened species across all groups. Wild animal populations have fallen by more than two-thirds since 1970 and have continued to decline since 2010.*”

Globally, the *Global Wetland Outlook* (Ramsar 2018) concluded that “Global threat status has deteriorated by -1.5% between 1988 and 2016 (BirdLife International 2018). Waterbird biogeographic populations were in a poor and deteriorating state globally in the 1970s; although overall status improved slightly between 1976 and 2005, 47% of populations were still decreasing or extinct (Wetlands International 2010).

- Only flamingos, oystercatchers, stilts and avocets, pelicans, gulls, terns, and skimmers have more increasing than decreasing populations;
- The 13 other waterbird groups have all deteriorated in status, particularly rails and crakes, sandpipers, jacanas and painted snipes and storks;
- An estimated 1.8 million waterbirds/seabirds are killed illegally every year in the Mediterranean, Northern and Central Europe and the Caucasus.

“Long-distance migrant waterbirds continue to be in poor status. Although in the 2000s their status has improved on some flyways, it has deteriorated further on others (Wetlands International 2010; Davidson 2017):

- African-Eurasian flyways have been in steady decline since the 1960s with flyways covering eastern Europe, western Asia and eastern Africa having particularly poor status.”

The *Mediterranean Wetland Outlook 2* (2018) concluded that: “In the past, many waterbirds experienced mass destruction, which greatly reduced their numbers and range. Specific protection laws, combined with effective governance, have led to a considerable recovery of nesting populations in EU countries, and consequently of numbers in their Mediterranean wintering grounds. Some species have also benefited from the creation of artificial wetlands, such as rice fields, saltpans, and gravel pits, which can constitute complementary habitats to natural wetlands. While the Living Planet Index indicates clear growth in waterbird numbers between 1990 and 2013 in Western Europe (+101%) and North Africa (+87%), it is more moderate in the eastern Mediterranean (+27%), especially in the Middle-East, where the numbers have even been declining since 2008. These contrasting regional trends can be explained by higher pressure on water resources, less effective governance, and the major increase in illegal hunting.”

Compared to other taxa, AEWA has a good understanding of the status of its listed species through the preparation of *Conservation Status Reviews* for each MOP ([CSR 5](#), [CSR 6](#), [CSR 7](#) and [CSR 8](#)). These review knowledge of each of AEWA’s listed populations.

Relevant progress by AEWA

Element 1: Extinction. One AEWA listed species is thought to have become extinct:

⁹ To undertake conservation measures so as to improve or maintain conservation status of waterbird species and populations.

- Slender billed Curlew *Numenius tenuirostris*, Central Siberia/Mediterranean & SW Asia. The last undisputed record with sufficient evidence for incontrovertible identification was on February 1995 in Morocco, despite subsequent intensive searches of the non-breeding range.

One listed population has become extinct, namely Demoiselle Crane *Anthropoides virgo*, Turkey (bre).

Two other listed populations are considered quasi extinct:

- Siberian Crane *Leucogeranus leucogeranus*, Iran (win). Only one individual has been reported from the wintering site since 2011/2012.
- Northern Bald Ibis *Geronticus eremita*, South-west Asia. Last breeding observed in Syria in 2012 and possibly extinct now as a breeding species. However, one individual has been reported in Ethiopia in 2016 which likely represents an individual that migrated from Syria.

Based on the 2020 IUCN Red List update, 203 Least Concern, 19 Near Threatened, 20 Vulnerable, nine Endangered and four Critically Endangered species are listed in Annex 2 of AEWA. Hence, 33 (13%) of the AEWA species are considered globally threatened (the last three of these categories) and 52 species (20%) are of global conservation concern (globally threatened and Near Threatened). Ducks, geese and swans (Anatidae), sandpipers and allies (Scolopacidae) have the highest number of populations of species of global conservation concern, but the proportion of populations is highest amongst cranes (Gruidae).

The Southern and Eastern regions of the Afrotropical region have the highest proportion of the populations that belong a species of global conservation concern.

Element 2: Conservation status. The main conclusions from CSR8 were:

- The overall status of AEWA waterbird populations has improved during the period of the Strategic Plan 2008–2018 although there are both increasing and declining populations.
- However, an increasing number of mainly marine and farmland species are listed as globally threatened and Near Threatened and in significant long-term decline, which highlights the importance of sustainable management beyond protected areas.
- Although 59% of AEWA populations are stable or increasing, 40% more populations are decreasing than increasing in the short-term. The largest number of populations in rapid short-term decline can be found in the Eastern and Southern African flyway (27 populations) followed by 17 populations in the Atlantic flyway and 14 populations in the Central and Southwest Asian flyway in the Western Palearctic and 12 populations in the West Asia – East African flyway. Ten populations are in rapid short-term decline in each of the Sub-Saharan African, Sahelian and Black Sea and Mediterranean flyways.

Although further deterioration of the status of ‘priority’ populations has been averted by conservation actions, and some improvement has been made in case of the populations that were in unfavourable conservation status in 2018, the negative changes in populations dependent on site networks and of dispersed species highlight the need for intensifying the implementations actions under Objectives 3 and 4 of the AEWA Strategic Plan 2019–2027.

Case study: Recovery of the Eurasian Spoonbill in France

The Eurasian Spoonbill *Platalea leucorodia leucorodia* disappeared from France as a breeding bird in the 16th century but started reappearing sporadically between 1973 and 1981 and regularly in the Grand-Lieu Lake (Loire Atlantique). In the mid-20th century, the species was once again endangered because of pollution, hunting and loss of breeding sites as a result of agricultural and hydroelectric developments. Their wetland habitat has been disturbed by the draining of feeding areas and transforming them into intensive agricultural zones as well as by water contamination from agricultural activities.

Since the 1990s, national and regional governments have been implementing conservation measures for the Eurasian Spoonbill. Recovery has been facilitated by the development of a major international conservation plan, including measures such as targeted control of water levels, protecting flood plains, and monitoring the development of vegetation and siltation. In France, conservation measures have included wetland protection, restoration and management, which has been supported by research, monitoring and awareness-raising activities.

Of particular importance has been the Grand Lieu LIFE project, which is implemented at a key site for the Spoonbill. Specific measures in the project included acquiring adjacent land to carry out restoration operations such as desilting

and dredging to remove a silt bank that had built up at the lake's outlet. The project also included a series of scientific studies to monitor multiple environmental parameters. To raise public awareness, the former hunting lodge of the Guerlain family was refurbished as a visitor centre hosting educational exhibits on the lake's fauna and flora. The project has improved the habitat for waterbirds, including the Spoonbill, resulting in its breeding population increasing from around 20 to almost 200 pairs. As a result of such diverse measures in France and elsewhere in Europe, most Eurasian Spoonbill populations are recovering (especially in north-west Europe, Hungary and the Netherlands), but some populations remain vulnerable.

Source: Tucker *et al.* (2019) and European Environment Agency (2020).

Further information: [International Single Species Action Plan for Spoonbill](#)

Target 13: Maintain genetic diversity. “By 2020, the genetic diversity of cultivated plants (1) and farmed and domesticated animals (2) and of wild relatives (3), including other socio-economically as well as culturally valuable species (4), is maintained, and strategies have been developed and implemented for minimising genetic erosion and safeguarding their genetic diversity (5).”

Indirectly relevant to AEWA. Only indirectly relevant to AEWA’s objectives, although there are potentially issues related to hybridisation between wild and domestic-bred waterbirds.

Status assessments

Globally, CBD noted that: “*Genetic diversity of cultivated plants, farmed and domesticated animals, and wild relatives, continues to be eroded. The wild relatives of important food crops are poorly represented in ex situ seed banks that help guarantee their conservation, important for future food security. The proportion of livestock breeds that are at risk or extinct is increasing, although at a slower rate than in earlier years, suggesting some progress in preventing the decline of traditional breeds. Wild relatives of farmed birds and mammals are moving closer to extinction.*”

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Target 14: Safeguard ecosystem service provision. “By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded (1), taking into account the needs of women, indigenous and local communities, and the poor and vulnerable (2).”

Highly relevant to AEWA. The need to ensure that important habitats for waterbirds are subject to wise and multifunctional use is central to AEWA’s objectives and will best ensure their long-term survival in the face of multiple pressures. The restoration of degraded habitats is particularly important to reverse past losses.

It is critical to involve local populations in wetland protection and management not just in the context of biodiversity conservation but with respect to livelihood needs. This issue is particularly, but by no means exclusively, relevant in Africa (where this issue is a focus of the AEWA Plan of Action for Africa¹⁰).

Status assessments

Globally, CBD noted that: “*The capacity of ecosystems to provide the essential services on which societies depend continues to decline, and consequently, most ecosystem services (nature’s contributions to people) are in decline. In general, poor and vulnerable communities, as well as women, are disproportionately affected by this decline. Mammal and bird species responsible for pollination are on average moving closer to extinction, as are species used for food and medicine.*”

The conservation of migratory waterbirds fundamentally depends on the conservation and wise-use of their wetland habitats. Those wetlands in turn are a significant source of ecosystem services for both local communities and more widely as documented in detail by Ramsar Convention (2018), IPBES (2018a, b, 2019) and *Mediterranean Wetlands Outlook 2* (2018). The very wide range of ecosystem services include provisioning, regulating, cultural and supporting services.

Globally, Ramsar Convention (2018) concluded that: “*Wetland ecosystem services far exceed those of terrestrial ecosystems. They provide critical food supplies including rice and freshwater and coastal fish, and fresh water, fibre and fuel. Regulating services influence climate and hydrological regimes and reduce both pollution and disaster risk. Natural features of wetlands often have cultural and spiritual importance. Wetlands offer recreational possibilities and tourism benefits. While some global data on ecosystem services are available, more targeted information is urgently required for national and local decision-makers.*”

But also, that the “*Quality of remaining wetlands is also suffering, due to drainage, pollution, invasive species, unsustainable use, disrupted flow regimes and climate change.*”

The *Mediterranean Wetland Outlook 2* (2018) concluded that there was recent (2010-2018) deterioration of multiple ecosystem services in that region, including as related to biodiversity and natural habitats, water flow and quality, and exploitable water resources. It concluded that “*Human well-being is being compromised through the loss of the multiple benefits provided by wetlands.*”

Relevant progress by AEWA

Elements 1 and 2: AEWA has recognised (through Resolutions 5.23, 6.15 and 7.2) the significance of its mission to the wider objective of sustainable development, such that:

- “... the full implementation of the Agreement, at all scales and by both Contracting Parties and other actors, has the potential to directly contribute to the attainment of the Sustainable Development Goals inter alia through actions related to the reduction of biodiversity loss; protection and restoration of habitats; climate change adaptation measures; education and awareness building; capacity development; contributing to food security and poverty reduction through the sustainable harvesting of waterbirds and the wise-use use of wetlands; and actions to address illegal taking, killing and trade.” ([Resolution 7.2](#)).

¹⁰ <http://www.unep-aewa.org/en/node/1935>

Actions to conserve wetlands as habitat for waterbirds contribute to this Target. Thus, in the period 2011-2020, 25 AEWPA Parties designated 38 Ramsar Sites important for waterbirds (under Ramsar Criterion 5 and/or 6). As well as their support for waterbirds, these recent Ramsar Sites supply a very wide diversity of wetland ecosystem services.

More generally however, whilst there are numerous local examples where good conservation practice for wetlands, motivated by the need for waterbird conservation¹¹, results in the provision of ecosystem services either for local communities or more widely, it is not possible, however, to make a more comprehensive assessment.

The ecosystem services provided by waterbirds themselves have been summarised by Green & Elmberg (2014) and further elaborated in Doc. AEWPA/MOP 8.33.

Case study: Restoration of saltpans in the Bay of Cádiz, Spain

Saltpans are used by waders in many regions of the world, and when sympathetically managed, these help replace lost natural habitat important for migratory species. The Saltpan Recovery Project was implemented by BirdLife Partners in Morocco, Tunisia, Spain, and Portugal, with support from Vogelbescherming Nederland. The overarching goal was to improve and secure the management of saltpans for the benefit of migratory waterbirds and other species.

The Bay of Cádiz, in southern Spain, is an outstanding example of Atlantic tidal marshes on the Iberian Peninsula, although many of its original saltmarshes have now been now turned into saltpans. In the Middle Ages, the area became rich thanks to its fisheries and sea salt. The Bay is a Ramsar Site, an Important Bird and Biodiversity Area (IBA), and a critical site of the Africa-Eurasia Flyway (Bahía de Cádiz or Cádiz Bay). It is crucial for migratory waterbirds, holding over 1% of 14 different East Atlantic populations. It is also important for fish, harbouring up to 60 different species, including nine that are commercially important.

Many saltpans in southern Spain are not profitable if managed according to narrow ‘for-profit’ criteria, and many in Europe have been abandoned since the 1970s. This results in loss of waterbird habitats because of cessation of water management. Salarte is a small local organisation that recognises that human-made saltpans have also created habitats that are highly valuable for migratory birds, and together with SEO (BirdLife Spain), they are working to recover and manage saltpans in Andalucía. In addition to salt, they aim also to produce fish, seaweed and molluscs, as well as encouraging ecotourism and educational activities, thus creating local jobs and income. Much of their work is in different sites within Cádiz Bay, including the restoration and management of Covacha Island; the restoration of La Esperanza saltpan (including not just salt production (200 tons) but also traditional fishing and educational visits); managing and restoring Trocadero Island; and the restoration of the San José saltpan (in El Puerto de Santa María), in partnership with a local restaurant serving dishes based exclusively on living things from this marsh area for a unique gastronomic experience. Thanks to its integrated approach, merging nature conservation with the green economy, Salarte is helping the saltpans of Cadiz Bay to thrive, and migratory birds benefit immensely from it - providing a model that could be adopted elsewhere.

Further information: <https://www.birdlife.org/worldwide/news/spains-traditional-saltpans-unlikely-bird-haven>

¹¹ For example: <https://medwet.org/2020/03/the-lixus-saltpans-morocco-human-development-at-the-service-of-environmental-protection/>

Target 15: Carbon stocks, >15% restoration of degraded ecosystems. “By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration (1), including restoration of at least 15 per cent of degraded ecosystems (2), thereby contributing to climate change mitigation and adaptation and to combating desertification.”

Highly relevant to AEWA. The restoration of degraded wetland and other ecosystems will directly benefit waterbird populations and thus significantly contribute to AEWA’s objectives. Given the importance of some wetlands (notably peatlands, inter-tidal mudflats and mangrove swamps) as both carbon stores and as bird habitats, restoration of these areas will have major benefits for migratory waterbirds.

Status assessments

Globally, CBD noted that: “Progress towards the target of restoring 15 per cent of degraded ecosystems by 2020 is limited. Nevertheless, ambitious restoration programmes are under way or proposed in many regions, with the potential to deliver significant gains in ecosystem resilience and preservation of carbon stocks.”

In the context of AEWA, inherently carbon-rich peatlands are important breeding areas for migratory waterbirds, not just in boreal regions, but also in the tropics where they provide important habitats for many waterbirds and other wetland species. Coastal wetlands are of huge significance, not just as sources of ‘blue carbon’¹² but also for waterbirds and other biodiversity¹³.

Ramsar Convention (2018) noted that: “Storage and sequestration of carbon by wetlands play an important role in regulating the global climate. Peatlands and vegetated coastal wetlands are large carbon sinks. Salt marshes sequester millions of tonnes of carbon annually. Despite occupying only 3% of the land surface, peatlands store twice as much carbon as the world’s forests. However, freshwater wetlands are also the largest natural source of methane, a greenhouse gas, especially when not well managed. Tropical reservoirs also release methane, sometimes offsetting the reported low-carbon benefits of hydropower.”

Relevant progress by AEWA

Element 1: Conservation of ecosystems. Actions to conserve wetlands as habitat for waterbirds contribute to this Target. Thus, in the period 2011-2020, 25 AEWA Parties have designated 38 Ramsar Sites important for waterbirds (under Ramsar Criterion 5 and/or 6. These include two peatland sites (in two Parties) and 14 coastal sites¹⁴ (in 12 Parties). These Ramsar Sites store significant amounts of carbon, and their future wise-use and good management will aid continued carbon sequestration. A wide range of other wetland types are found in these 25 Ramsar Sites.

Element 2: Restoration of degraded ecosystems. There are no statistics with respect to extent of restoration as motivated by waterbird conservation. There is information available on multiple cases of restoration across the Agreement area, with peatlands in particular, being the subject of much attention in many Contracting Parties (e.g. see case study below). Fifteen Parties reported to MOP 8 (19% of all Contracting Parties) that they had established multi-stakeholder partnerships to guide the development and implementation of habitat management, creation and restoration projects, with 18 such projects described. Many of these were in relation to peatland restoration including in Belarus, Ukraine, Ireland, and the UK.

¹² For example Ramsar [Resolution XIII.14 Promoting conservation, restoration and sustainable management of coastal blue-carbon ecosystems](#). Also Fennessy & Beers (2021).

¹³ As noted by CMS [Resolution 12.5 Promoting conservation of critical intertidal and other coastal habitats for migratory species](#) and Ramsar [Resolution XIII.20 Promoting the conservation and wise use of intertidal wetlands and ecologically-associated habitats](#)

¹⁴ Amounting to 486 km² for the peatland sites and to 17,185 km² for the coastal sites.

Case study: Restoration of damaged peatlands in northern Scotland, UK, for waterbirds and carbon

The Flow Country of northern Scotland is the largest continuous extent of blanket bog in the world and is of international importance for multiple species of waders, especially Golden Plover *Pluvialis apricaria*, Greenshank *Tringa nebularia*, and Dunlin *Calidris alpina schinzii*. Amongst its many other attributes, it is a huge carbon store. In the 1980s, at least 17% of the total extent was destroyed by deep-ploughing and planting with non-native conifers, an activity encouraged by state financial incentives. In 1988 UK government decided to give protection to half the extent of the remaining peatlands and to cease damaging tax incentives – which effectively halted new planting. Since then, a substantial extent of the undamaged peatlands has been designated as a Ramsar Site and EU Special Protection Area – at 143,503 hectares one of the largest UK conservation areas.

Since 1994, research has been going on into techniques that can restore drained and damaged bogs, initially funded through a major LIFE (EU) Project. Since 2001, RSPB Scotland, Scottish Natural Heritage, Forestry and Land Scotland, Plantlife and private landowners have been working together to apply those techniques to large areas. There was a major push on restoration on the RSPB Forsinard Flows reserve between 2014 and 2019 as part of the [Flows to the Future Project](#) (which stimulated the expenditure of £4.3 million with local businesses) and this work is continuing through a Scottish government peatland restoration fund. So far, over 2,600 hectares of forestry have been restored to blanket bog, and the lessons learned in the Flows are now being applied in many other countries.

The management trials have given opportunities for climate-related research to measure how quickly the restoration areas resume their uptake of carbon from the atmosphere. In some cases, estimates suggests that this is more or less fully restored after only [5-10 years](#). During the restoration process, the pattern of [carbon dioxide exchange](#) between peat soils and the atmosphere diverges from that of forestry plantations, and starts to resemble that of intact bogs. These changes in soil and vegetation can then result in older restoration areas becoming net [sinks of carbon](#), effectively starting to help cool the climate, just as intact peatlands do. Breeding waders too are starting to return to these restored areas.

Further information: <https://www.theflowcountry.org.uk/flow-facts/flow-fact-4/>

Target 16: Benefit sharing: Nagoya Protocol. By 2015, the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization* is in force (1) and operational, consistent with national legislation (2).

Low relevance to AEWA and not considered further.

Status assessments

Globally, CBD noted that: “*The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization entered into force on 12 October 2014. As of July 2020, 126 Parties to the CBD have ratified the Protocol and 87 of them have put in place national access and benefit sharing measures, as well as establishing competent national authorities. The Protocol can be considered operational.*”

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

Target 17: National biodiversity strategies. “By 2015, each Party has developed (1), adopted as a policy instrument (2), and has commenced implementing (3) an effective, participatory and updated national biodiversity strategy and action plan.”

Highly relevant to AEWA. Theoretically aims to facilitate the development of national policies for AEWA implementation, but not all National Biodiversity Strategies and Action Plans (NBSAPs) have relevant content, nor have all countries yet completed such plans.

Status assessments

Globally, CBD noted that: “By the December 2015 deadline established in this target, 69 Parties had submitted an NBSAP prepared, revised or updated after the adoption of the Strategic Plan. An additional 101 Parties have since submitted their NBSAP, so that by July 2020, 170 Parties had developed NBSAPs in line with the Strategic Plan. This represents 85% of the Parties to the Convention. However, the extent to which these NBSAPs have been adopted as policy instruments and are being implemented in an effective and participatory manner, is variable.”

Relevant progress by AEWA

Elements 1-3: A total of 70 AEWA Parties (86% of all Parties) have submitted a NBSAP to CBD following the adoption of the CBD Strategic Plan that incorporate the Aichi Biodiversity Targets; a further seven submitted a NBSAP to CBD prior to the adoption of the CBD Strategic Plan and indicated to CBD that a revision is underway; a further single Party submitted a NBSAP to CBD prior to the adoption of the CBD Strategic Plan and indicated to CBD that a revision will not be undertaken; whilst three AEWA Parties have yet to submit an NBSAP to CBD.

Previous assessment ([Resolution 7.2](#)) noted the importance to address AEWA implement issues within National Biodiversity Strategies and Action Plans (NBSAPs). National Reports asked Parties “*Are the AEWA priorities incorporated into your country’s National Biodiversity Strategies and Action Plan (NBSAP) and other strategic planning processes? (Resolution 6.3)*”. By MOP8, 43 Parties (54% of all Contracting Parties) had incorporated AEWA priorities into either their NBSAP, other strategic plans and policies or both. Strategic Plan Target 5.5 is that migratory waterbird conservation is integrated into the new generation of NBSAPs and/or similar national plans/policies by at least three-quarters of Parties: currently achievement is 54%.

AEWA Parties have implemented a range of other strategic processes that help implement the Agreement’s objectives. Some examples of these include: national strategic for ecosystem management of wetlands; nature conservation sector Strategic Plan; action plans for protection of threatened species; Ramsar Action Plans; national wetland strategies; strategies for the creation of protected areas; strategies for the creation of protected marine areas; sectoral plans such as for invasive alien species; and a National Nature Conservation Master Plan.

Case study: What is an NBSAP?

CBD’s Article 6 on ‘General Measures for Conservation and Sustainable Use’ states that each Contracting Party shall, in accordance with its particular conditions and capabilities:

- (a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned;
- (b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

Article 26 and Article 10(a) are closely linked to Article 6. The first calls for Parties to present, through their national reports, information on measures which have been taken for the implementation of the provisions of the Convention and their effectiveness in meeting the objectives of the Convention. The latter encourages Parties to integrate consideration of the conservation and sustainable use of biological resources into national decision-making.

Article 6 creates an obligation for national biodiversity planning. A national strategy will reflect how the country intends to fulfil the objectives of the Convention in light of specific national circumstances, and the related action plans will constitute the sequence of steps to be taken to meet these goals.

The requirement to integrate consideration of the conservation and sustainable use of biological resources into national decision-making, and mainstream issues across all sectors of the national economy and policy-making framework, are the complex challenges at the heart of CBD.

Further information: [National Biodiversity Action Plans and Strategies](#)

Target 18: Indigenous peoples and local communities. “By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity and their customary use of biological resources, are respected (1), subject to national legislation and relevant international obligations, and fully integrated (2) and reflected in the implementation of the Convention with the full and effective participation (3) of indigenous and local communities, at all relevant levels.”

Highly relevant to AEWA. Traditional knowledge of waterbirds is important in many parts of the Agreement area with respect to the use and management of migratory waterbirds which – where relevant - always needs to involve local communities.

Status assessments

Traditional taking of waterbirds by local communities for subsistence and/or cultural purposes is undertaken especially by local communities in boreal regions, for example of seabirds in the arctic (Maurie 1982; Denlinger & Wohl 2001; Merkel & Barrie 2008) and sub-arctic (Nørrevang 1986), and by tropical communities especially of ducks (for example Bhima 2006 (below) and Zwarts *et al.* 2009).

Globally, CBD noted that: “*There has been an increase in the recognition of the value of traditional knowledge and customary sustainable use, both in global policy fora and in the scientific community. However, despite progress in some countries, there is limited information indicating that traditional knowledge and customary sustainable use have been widely respected and/or reflected in national legislation related to the implementation of the Convention, or on the extent to which indigenous peoples and local communities are effectively participating in associated processes.*”

Relevant progress by AEWA

Element 3: AEWA’s [Guidelines on the management of key sites for migratory waterbirds](#) strongly emphasises the need to involve local communities in the management of these areas, and other guidance (such as the [Guidance on taking a systematic approach to responding to waterbird declines: a checklist of potential actions](#) highlight relevant Ramsar guidance to this end also. However, there is no information as to the extent to which this occurs. There have been few if any representatives of indigenous peoples and/or local communities participating in AEWA’s processes including Meetings of Parties.

Case study: Subsistence use of waterbirds at Lake Chilwa, Malawi

Lake Chilwa in southern Malawi is an important habitat for waterbirds. About 160 species have been recorded, including many migrants. Around 1.5 million birds occur in the wetland, including 12 species in numbers exceeding 1% of their flyway populations.

The Lake Chilwa catchment area has a human density of 162 person/km², one of the highest in Malawi. Most of the people are subsistence farmers and fishermen, but they also harvest waterbirds for local consumption and trade. At least 460 trappers use traditional traps and snares to catch waterbirds, and bird-catching takes place every year with a peak period in the rainy season. A Lake Chilwa Management Plan was developed in 2000 with the objective of enabling local communities to manage the natural resources on a sustainable basis for their own benefit. Bird Hunting Committees and a Bird Hunters Association were formed but have not been legally established.

The Danish Hunters Association began a project in 2003 to improve the Bird Hunters Association and works with various government agencies and NGOs to regulate hunting, advise communities on sustainable management of waterbirds, and carry out research and monitoring.

Further information: Bhima (2006) - [Subsistence use of waterbirds at Lake Chilwa, Malawi](#)

Target 19: Enhance and share knowledge and technology. “By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved (1), widely shared and transferred, and applied (2).”

Highly relevant to AEWA as reflected in the emphasis placed on it through Objective 3¹⁵ of AEWA’s *Strategic Plan 2009-2018*. Knowledge of the status and trends of waterbird populations, factors affecting these, and their habitat requirements are fundamental to the implementation of the Agreement.

Status assessments

Globally, CBD noted: “*Significant progress has been made since 2010 in the generation, sharing and assessment of knowledge and data on biodiversity, with big-data aggregation, advances in modelling and artificial intelligence opening up new opportunities for improved understanding of the biosphere. However, major imbalances remain in the location and taxonomic focus of studies and monitoring. Information gaps remain in the consequences of biodiversity loss for people, and the application of biodiversity knowledge in decision making is limited.*”

Relevant progress by AEWA

Element 1: Improvement of the science base has been addressed through the inclusion of specific targets in the *Strategic Plan 2009-2018* related to support for national and international waterbird monitoring programmes, encouragement of relevant research programmes by relevant state agencies, universities and others and collation of best practices for waterbird conservation including traditional knowledge. During the period 2011-2019, the African-Eurasian Waterbird Monitoring Partnership has been developed as a structure to take forward the development of the International Waterbird Census (IWC). Further, donors have provided funding to allow the publication of *Conservation Status Reviews* for [MOP 5](#), [MOP 6](#) and [MOP 7](#) which review knowledge of each of AEWA’s listed populations. Relevant national reporting with respect to research and monitoring shows that:

- National reporting to MOP 8 indicates that most Parties (42, 53% of all Contracting Parties) confirmed that they have some form of national monitoring system to assess the status of waterbirds but at least ten do not, and the situation is unclear for 27 others.
- Some countries have supported, technically or financially, other Parties or Range States in designing appropriate monitoring schemes and developing their capacity to collect reliable waterbird population data.
- Forty Parties (51% of all Contracting Parties) reported using data collected through the IWC or other relevant monitoring schemes to inform national-level implementation of AEWA.
- Thirty-two Parties (40% of all Contracting Parties) confirmed that funds and/or logistical support had been provided for the IWC and/or other waterbird monitoring schemes at the international or national level. All 32 Parties provided support at the national level, whilst only half also gave support at the international level.
- Over the period 2011-2020, knowledge of population sizes and trends of AEWA-listed waterbirds has significantly improved. [CSR 6](#) found that better monitoring leads to the designation of a larger number of protected areas and in turn this leads to better conservation status of waterbirds. It also noted that the knowledge of the status of waterbirds and their key sites has significantly improved in areas where active investment and exchange of experience has taken place (such as North and West Africa). Generally

Element 2: With respect to the application of science to decision making, the four *Conservation Status Reviews* (above) have been essential to allow review of AEWA’s listing of populations by each MOP, thus ensuring that proposed changes of status have been based on best available knowledge and information. Results from national waterbird monitoring schemes are made available through relevant websites in many countries and there are many national open-access data initiatives.

¹⁵ To increase knowledge about species and their populations, flyways and threats to them, as a basis for conservation action.

Case study: National data sharing schemes build international contexts

The UK's National Biodiversity Network (NBN) is a collaboration of biodiversity data partners and users who work together to make data accessible and usable by others. Its operation is facilitated by the NBN Trust, a UK charitable body that has overseen the development and management of the NBN's information facilities since 2001. The NBN's vision is that: *'Wildlife data collected and shared openly by the Network are central to the UK's learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment'*. To achieve that vision, the network works to improve the recording, collection, verification, curation, aggregation, analysis and use of wildlife data in the UK.

Data and information held by the NBN is not only widely used to inform conservation science within the UK but also contributes to developing international contexts through its submission to the Global Biodiversity Information Facility (GBIF), where it is combined with data from many other similar national schemes (such as Sweden for example) as well as institutional data providers such as museums.

GBIF works through national nodes such as the NBN and provides data-holding institutions around the world with common data standards and open-source tools that enable them to share information about where and when species have been recorded. This knowledge derives from many sources, including everything from museum specimens collected in the 18th and 19th centuries to contemporary geotagged smartphone photos shared by amateur naturalists.

Examples of the many peer-reviewed publications deriving from GBIF data are given in its [2020 Science Review](#), although data are also used to inform multiple other conservation-related initiatives and policies. GBIF has formal partnerships and collaborations with multiple other international initiatives such as the [Biodiversity Indicators Partnership](#); [Intergovernmental Platform on Biodiversity and Ecosystem Services](#); [Convention on Migratory Species](#); and [Convention on Biological Diversity](#).

Further information: [National Biodiversity Network](#); [Global Biodiversity Information Facility](#)

Target 20: Mobilise financial resources. “By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the *Strategy for Resource Mobilization*, should increase substantially from the current levels. (Specific targets: (1) to double international financial flows to developing countries; (2) to include biodiversity in national priorities or development plans; (3) to report on domestic spending, needs, gaps, priorities; (4) to prepare national finance plans and assess the multiple values of biodiversity; and (5) to mobilize domestic financial resources.)”

Highly relevant to AEWA. Adequate funding to implement the Agreement is critical to ensure its ultimate effectiveness.

Status assessments

Globally, CBD noted that: “*There have been increases in domestic resources for biodiversity in some countries, with resources remaining broadly constant for others over the past decade. Financial resources available for biodiversity through international flows and official development assistance have roughly doubled. However, when all sources of biodiversity finance are taken into account, the increase in biodiversity financing would not appear to be sufficient in relation to needs. Moreover, these resources are swamped by support for activities harmful to biodiversity (see Aichi Target 3). Progress on identifying funding needs, gaps and priorities and the development of national financial plans and assessments of biodiversity values has been limited to relatively few countries (see Aichi Target 2).*”

Relevant progress by AEWA

Element 1: AEWA has continued to struggle to develop sustainable funding streams for its Small Grants Fund (SGF) which is targeted at providing funding for relevant projects in developing countries. In the period 2010-2015, 18 projects from 17 African countries (Côte d’Ivoire, Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Madagascar, Mauritania, Morocco, Nigeria, Senegal, Tanzania, Togo, Uganda and Zimbabwe) were funded with support totalling € 294,720.

However, due to unavailability of scheme funding since 2015, the Small Grants Fund is not accepting new project proposals.

Case study: Small Grants Fund supports waterbird monitoring training in Mauritania – 2015

With support from AEWA’s SGF, the Mauritanian conservation NGO AMISO (Association mauritanienne des amis des oiseaux et de la protection des espèces animales menacées d’extinction) successfully implemented a project to enhance technical and material capacity for waterbird identification and monitoring in Mauritania. The project focussed on the Aftout Essahili lagoon, a peripheral zone of Diawling National Park (PND) in southwest Mauritania. The lagoon is an Important Bird and Biodiversity Area (IBA) and critical site for breeding and wintering of numerous waterbird species covered under AEWA, including Greater and Lesser Flamingos (*Phoenicopterus roseus* and *P. minor*), Eurasian Spoonbill and Great Cormorant.

The project delivered a three-day training course (in English and French) on waterbird identification and monitoring to 30 participants including Diawling National Park guards, staff from the Department for Protected and Coastal Areas (Direction des Aires Protégées et du Littoral), which is the national AEWA implementing agency, and local community volunteers. Two field trips allowed offered participants some hands-on practice in waterbird identification and counting techniques, as well as the use of binoculars and telescopes in support of their monitoring activities.

The project funding also allowed for the acquisition of basic optical equipment, long-range walkie-talkies and dismountable mesh to protect flamingo nesting sites during breeding seasons. The project thus contributed to enhancing the technical capacity for waterbird monitoring of PND eco-guards and enabled them to both communicate more effectively across the vast areas of the National Park while in the field as well as better protect nesting sites at Aftout Essahili against predators such as jackals.

Further information: <https://www.unep-aewa.org/en/news/capacity-waterbird-monitoring-reinforced-mauritania>

References

- Bhima, R. 2006.** Subsistence use of waterbirds at Lake Chilwa, Malawi. Pp. 255-256 in: *Waterbirds around the world*. Eds. G.C. Boere, C.A. Galbraith & D.A. Stroud. The Stationery Office, Edinburgh, UK.
- BirdLife International 2018.** *State of the world's birds: taking the pulse of the planet*. Cambridge, UK: BirdLife International.
- Convention on Biological Diversity 2020.** *Global Biodiversity Outlook 5*. Montreal. 220 pp.
- Davidson, N.C. 2014.** How much wetland has the world lost? Long term and recent trends in global wetland area. *Marine and Freshwater Research* 65(10): 934-941.
- Davidson, N.C., Fluet-Chouinard, E. & Finlayson, C.M. 2018.** Global extent and distribution of wetlands: trends and issues. *Marine and Freshwater Research* 69: 620–627.
- Davidson, N.C., Dinesen, L., Fennessy, S., Finlayson, C.M., Grillas, P., Grobicki, A., McInnes, R.J. & Stroud, D.A. 2019.** Trends in the ecological character status of the world's wetlands. *Marine and Freshwater Research* 71(1): 127-138.
- Denlinger, L. & Wohl, K. (eds.) 2001.** *Seabird Harvest Regimes in the Circumpolar Nations*. CAFF Technical Report No. 9, CAFF Secretariat, Iceland. 56 pp.
- Dixon, M.J.R., Loh, J., Davidson, N.C. & Walpole, M.J. 2016.** Tracking global change in ecosystem area: the Wetland Extent Trends Index. *Biological Conservation* 193: 27-35.
- European Environment Agency 2020.** *State of nature in the EU: Results from reporting under the nature directives 2013-2018*. EEA Report No 10/2020. EEA, Copenhagen. 146 pp.
- FAO 2016.** *Global Forest Resource Assessment (GFRA) summary 2015*. Rome: Food & Agriculture Organisation.
- Fennessy, M.S. & Beers, L. 2021.** *The contributions of blue carbon ecosystems to climate change mitigation*. Ramsar Convention Secretariat, Ramsar Briefing Note No. 11. Gland, Switzerland.
- Fox, A.D. & Madsen, J. 1997.** Behavioural and distributional effects of hunting disturbance on waterbirds in Europe: implications for refuge design. *Journal of Applied Ecology* 34: 1-13.
- Green, R. 2020.** Corn Crake conservation. *British Birds* 113(11): 671–685.
- Green, A.J. & Elmberg, J. 2014.** Ecosystem services provided by waterbirds. *Biological Reviews* 89: 105–122.
- IPBES 2018a.** *Summary for policymakers of the regional assessment report on biodiversity and ecosystem services for Africa of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. Archer, E., Dziba, L.E., Mulongoy, K.J., Maoela, M.A., Walters, M., Biggs, R., Cormier-Salem, M-C., DeClerck, F., Diaw, M.C., Dunham, A.E., Failler, P., Gordon, C., Harhash, K.A., Kasisi, R., Kizito, F., Nyingi, W.D., Oguge, N., Osman-Elasha, B., Stringer, L.C., Tito de Morais, L., Assogbadjo, A., Egoh, B.N., Halmy, M.W., Heubach, K., Mensah, A., Pereira, L. & Sitas, N. (eds.). IPBES Secretariat, Bonn, Germany. 49 pages
- IPBES 2018b.** *Summary for policymakers of the regional assessment report on biodiversity and ecosystem services for Europe and Central Asia of the Intergovernmental Science-Policy Platform on*

Biodiversity and Ecosystem Services. Fischer, M., Rounsevell, M., Torre-Marín Rando, A., Mader, A., Church, A., Elbakidze, M., Elias, V., Hahn, T., Harrison, P.A., Hauck, J., Martín-López, B., Ring, I., Sandström, C., Sousa Pinto, I., Visconti, P., Zimmermann, N.E. & Christie, M. (eds.). IPBES Secretariat, Bonn, Germany. 48 pp.

IPBES 2018c. *The IPBES assessment report on land degradation and restoration*. Montanarella, L., Scholes, R. & Brainich, A. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany. 744 pp.

IPBES 2019. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. IPBES Secretariat, Bonn, Germany. 56 pp.

IPCC 2018. *Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Masson-Delmotte, V., Zhai, P., Pörtner, H.-O., Roberts, D., Skea, J., Shukla, P.R., Pirani, A., Moufouma-Okia, W., Péan, C., Pidcock, R., Connors, S., Matthews, J.B.R., Chen, Y., Zhou, X., Gomis, M.I., Lonnoy, E., Maycock, T., Tignor, M. & Waterfield, T. (eds.]. 24 pp.

Kiwango, Y.A. & Wolanski, E. 2008. Papyrus wetlands, nutrients balance, fisheries collapse, food security, and Lake Victoria level decline in 2000–2006. *Wetlands Ecology and Management* 16(2): 89-96.

MacKinnon, K., Mrema, E.M., Richardson, K., Cooper, D. & Gidda, S.B. 2021. Protected and conserved areas: contributing to more ambitious conservation outcomes post-2020. *Parks* 27(1): 7-12.

Maes, J., Teller, A., Erhard, M., Condé, S., Vallecillo, S., Barredo, J.I., Paracchini, M.L., Abdul Malak, D., Trombetti, M., Vigiak, O., Zulian, G., Addamo, A.M., Grizzetti, B., Somma, F., Hagyo, A., Vogt, P., Polce, C., Jones, A., Marin, A.I., Ivits, E., Mauri, A., Rega, C., Czúcz, B., Ceccherini, G., Pisoni, E., Ceglar, A., De Palma, P., Cerrani, I., Meroni, M., Caudullo, G., Lugato, E., Vogt, J.V., Spinoni, J., Cammalleri, C., Bastrup-Birk, A., San Miguel, J., San Román, S., Kristensen, P., Christiansen, T., Zal, N., de Roo, A., Cardoso, A.C., Pistocchi, A., Del Barrio Alvarelos, I., Tsiamis, K., Gervasini, E., Deriu, I., La Notte, A., Abad Viñas, R., Vizzarri, M., Camia, A., Robert, N., Kakoulaki, G., Garcia Bendito, E., Panagos, P., Ballabio, C., Scarpa, S., Montanarella, L., Orgiazzi, A., Fernandez Ugalde, O. & Santos-Martín, F. 2020. *Mapping and assessment of ecosystems and their services: An EU ecosystem assessment*. EUR 30161 EN, Publications Office of the European Union, Ispra. ISBN 978-92-76-17833-0, doi:10.2760/757183, JRC120383.

Malaurie, J. 1982. *The Last Kings of Thule*. Cape, London. 489 pp.

Mediterranean Wetlands Outlook 2018. *Mediterranean Wetlands Outlook 2: solutions for sustainable Mediterranean wetlands*. Tour du Valat, France.

Merkel, F. & Barry, T. (eds.) 2008. *Seabird harvest in the Arctic. CAFF International Secretariat, Circumpolar Seabird Group (CBird)*. CAFF Technical Report No. 16. 77 pp.

Nagy, S., Breiner, F.T., Anand, M., Butchart, S.H.M., Flörke, M., Fluet-Chouinard, E., Guisan, A., Hilarides, L., Jones, V.R., Kalyakin, M., Lehner, B., Pearce-Higgins, J.W. & Voltzit, O. 2021. Climate change exposure of waterbird species in the African-Eurasian flyways. *Bird Conservation International*, 1- 26pp. DOI: <https://doi.org/10.1017/S0959270921000150>.

- Nørrevang, A. 1986.** Traditions of sea bird fowling in the Faroes: an ecological basis for sustained fowling. *Ornis Scandinavica* 17: 275-281.
- Nunes, A.L., Triearico, E., Panov, V.E., Cardoso, A.C. & Katsanevakis, S. 2015.** Pathways and gateways of freshwater invasions in Europe. *Aquatic Invasions* 10(4): 359-370.
- Nunes, A.L., Douthwaite, R.J., Tyser, B., Measey, G.J. & Weyl, O.L.F. 2016.** Invasive crayfish threaten Okavango Delta. *Frontiers in Ecology and the Environment* 14: 237–238.
- Ramsar Convention on Wetlands 2018.** *Global Wetland Outlook: state of the world's wetlands and their services to people*. Gland, Switzerland: Ramsar Convention Secretariat. 86 pp.
- Sala, E., Mayorga, J., Bradley, D., Cabral, R.B., Atwood, T.B., Auber, A., Cheung, W., Costello, C. et al. 2021.** Protecting the global ocean for biodiversity, food and climate. *Nature* 592: 397–402.
- Tucker, G., et al. 2019.** *Study on identifying the drivers of successful implementation of the Birds and Habitats Directives*. Report to the European Commission, DG Environment on Contract ENV.F.1/FRA/2014/0063, Institute for European Environmental Policy, Brussels.
- UN World Conservation Monitoring Centre 2017.** *Wetland Extent Trends [WET] Index*. Cambridge, UK.
- Wetlands International 2010.** *State of the World's Waterbirds 2010*. Wageningen, Netherlands.
- Zedler, J.B. & Kercher, S. 2004.** Causes and consequences of invasive plants in wetlands: opportunities, opportunists, and outcomes. *Critical Reviews in Plant Sciences* 23(5): 431-452.
- Zwarts, L., Bijlsma, R.G., van der Kamp, J. & Wymenga, E. 2009.** *Living on the edge. Wetlands and birds in a changing Sahel*. KNNV Publishing, Zeist, The Netherlands. 564 pp.