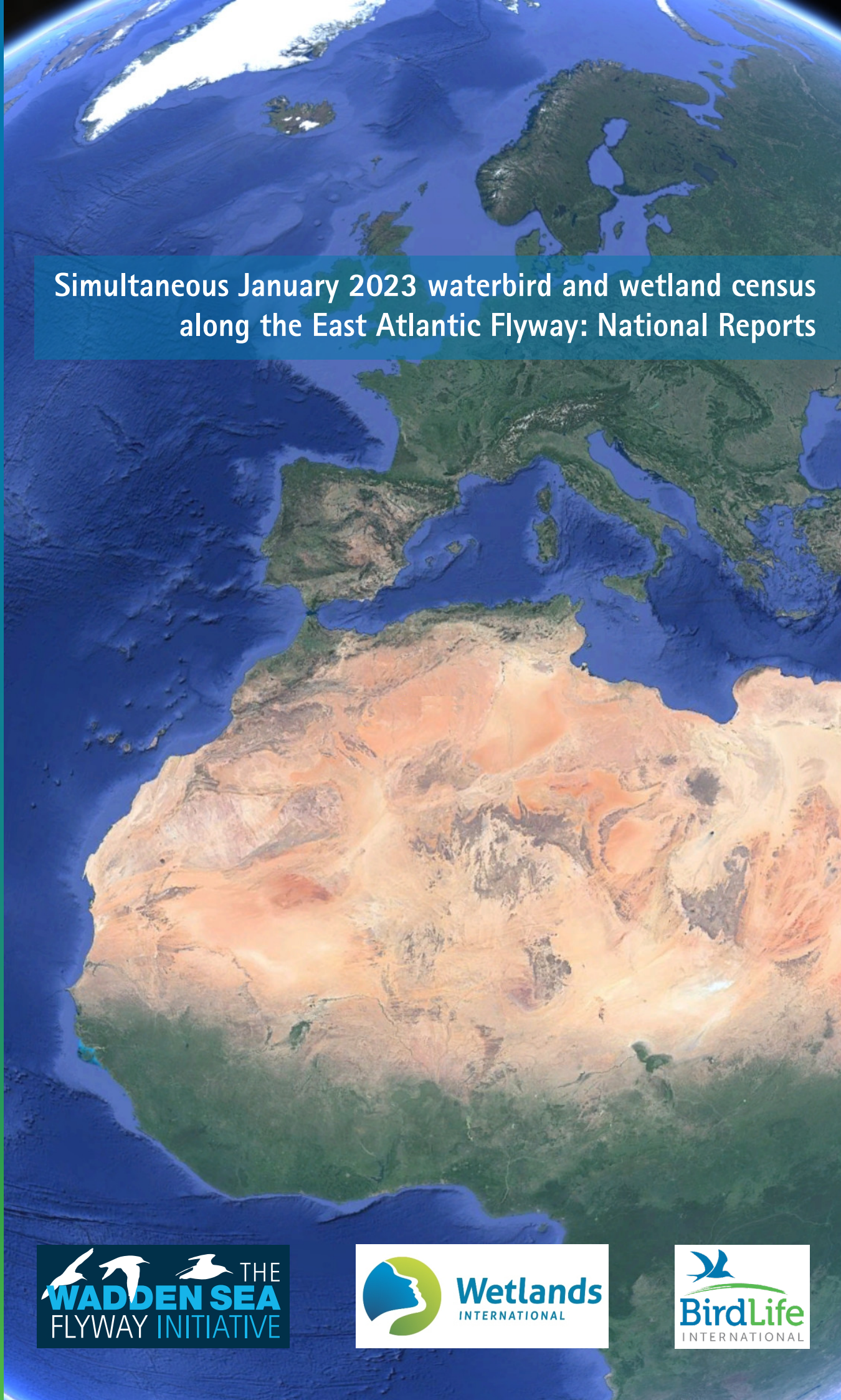


Simultaneous January 2023 waterbird and wetland census along the East Atlantic Flyway: National Reports

THE WADDEN SEA FLYWAY INITIATIVE

Wetlands INTERNATIONAL

BirdLife INTERNATIONAL

Simultaneous January 2023 waterbird and wetland census along the East Atlantic Flyway: National Reports

Wadden Sea Flyway Initiative
Wetlands International
BirdLife International

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This census, part of a monitoring programme, was organized by the Wadden Sea Flyway Initiative, Wetlands International, and BirdLife International in cooperation with the national authorities, organisations and institutions responsible for waterbird and wetland monitoring in their country.

Besides the organisations funding these national monitoring institutions, the international organisation and carrying out of the survey of January 2023 was supported by the Dutch Ministry of Agriculture, Nature and Food Quality and the Swiss foundation MAVA. Additional funding was received from the Government and National Park Wadden Sea Niedersachsen, Government and National Park Wadden Sea Hamburg, Government and National Park Wadden Sea Schleswig-Holstein, Ministry of Environment and Food and National Park Wadden Sea Denmark, Vogelbescherming Nederland, the Wetland Bird Survey through the British Trust for Ornithology, and Tour du Valat, France.

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Summary

In January (and February) 2023, for the fourth time, a simultaneous waterbird count was organized along the East Atlantic Flyway. Countries were asked to prepare a short chapter of the results collected. Thirty-one out of 36 countries submitted their reports, of which 90% reported on their 2023 data. Some of the 2023 count data are still in the process of being validated and will be submitted for future analyses in due course along with the data from the remaining five countries. The results from all 36 countries, covering the whole East Atlantic Flyway, will be available for future analyses on updating distribution, trends and population size of waterbird populations up and including 2023.

The results from the 2023 counts, taking into account the data currently missing (by using the most recent former count, mostly from 2022) showed a total of 233 waterbird species (species belonging to waterbird families as defined under Ramsar, excluding seabirds and groups like Kingfishers), were recorded in the 36 countries. Of these species more than 20 million individuals were counted, almost 70% of which belong to the 67 species which are the core set of species using the East Atlantic coastal sites. This total underestimates the true number of individual waterbirds present in the East Atlantic Flyway because not all wetlands are surveyed. Future analyses are needed to account for the sites that were not counted and for sites for which a sampling approach was used. Because of the same reasons comparison of these counted numbers with former counted numbers, to make statements about changes in numbers, is not meaningful. A comprehensive analysis of the status and trends of the species populations using this flyway will be published at the end of 2024.

This work is part of a cooperation between the Wadden Sea Flyway Initiative (WSFI), Wetlands International (WI) and BirdLife International (BirdLife) to improve the monitoring of waterbirds and wetlands along the East Atlantic Flyway. In total more than 13,700 observers collected the field data, often in their free time or as officers from government institutions, national parks, nature reserves, NGOs, and research organisations.

Résumé

En janvier (et février) 2023, pour la quatrième fois, un comptage simultané des oiseaux d'eau a été organisé le long de la voie de migration de l'Atlantique Est. Les pays ont été invités à préparer un petit chapitre pour donner une première impression des résultats collectés. 31 pays ont rédigé un chapitre dans ce rapport, dont 90% rapportent les données de 2023. Certains chiffres de 2023 sont encore en cours de validation et seront soumis pour des analyses futures en temps voulu. Cela sera également le cas, ou l'a déjà été, pour cinq autres pays qui n'ont pas de compte national dans ce rapport. Au total, les résultats de 36 pays, couvrant l'ensemble de la voie de migration de l'Atlantique Est, seront donc disponibles pour de futures analyses sur la mise à jour de la distribution, des tendances et de la taille des populations d'oiseaux d'eau jusqu'en 2023 inclus.

Sur la base des résultats pour 2023 inclus dans ce rapport et en tenant compte des résultats manquants actuels en utilisant les comptages antérieurs les plus récents (pour la plupart de 2022), certains faits peuvent être présentés. Au total, 233 espèces d'oiseaux d'eau (espèces appartenant aux familles d'oiseaux d'eau telles que définies par Ramsar, à l'exclusion des oiseaux de mer et des groupes tels que les martins-pêcheurs) ont été recensées dans les 36 pays en janvier (février) 2023 (2022). Parmi ces espèces, plus de 20 millions d'individus ont été dénombrés au total. Sur ces 20 millions, près de 70% appartiennent aux 67 espèces qui constituent le cœur du suivi des sites côtiers de l'Atlantique Est. Malgré le grand nombre d'individus dénombrés, il ne s'agit pas du nombre total réel d'oiseaux d'eau empruntant la voie de migration de l'Atlantique Est, qui est encore (beaucoup) plus important. De futures analyses sont nécessaires pour prendre en compte les sites non comptés et les sites pour lesquels une approche d'échantillonnage a été utilisée pour rapporter les tailles réelles des populations totales. Pour les mêmes raisons, il n'est pas encore possible de comparer ces nombres comptés avec les résultats antérieurs et de faire des déclarations sur les tendances. Une analyse complète de l'état des populations des espèces utilisant cette voie de migration sera publiée à la fin de l'année 2024.

Ce travail fait partie d'une coopération entre la Wadden Sea Flyway Initiative (WSFI), Wetlands International (WI) et BirdLife International (BirdLife) visant à améliorer la surveillance des oiseaux d'eau et des zones humides le long de la voie de migration de l'Atlantique Est. Au total, plus de 13 700 observateurs ont collecté des données sur le terrain, souvent pendant leur temps libre ou en tant qu'agents d'institutions gouvernementales, de parcs nationaux, de réserves naturelles, d'ONG et d'organismes de recherche.

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1. Introduction

This report presents results of monitoring work on 'coastal' waterbird populations of the East Atlantic Flyway. The East Atlantic Flyway ranges from arctic Northeast Canada to East Siberia, boreal and temperate Europe and Russia and continues along the East Atlantic seashore from Norway to South Africa. At this flyway many Palearctic and African waterbird populations occur, long and short distance migrants, and also resident populations. Monitoring flyway populations requires a moment during the year cycle that active migration is at its minimum and numbers can relatively easily be assessed at the whole range where the population occurs. This is mostly done during the breeding season, especially for species using colonies, or during non-breeding in January, especially for species which concentrate at discrete wetlands in winter (summer in the southern hemisphere). This report gives results about count data collected during January (and February) 2023 in all countries along the whole East Atlantic coast of Europe and Africa (see figure 1). Besides the assessment of waterbird numbers present also environmental circumstances, pressures and conservation measures at the sites visited were collected to allow future analyses of likely drivers for changes in population status.

This work is part of a cooperation between the Wadden Sea Flyway Initiative (WSFI), Wetlands International (WI), BirdLife International (BirdLife), national government institutions and non-government organisations of countries along the Flyway. The aim of the monitoring is to improve the knowledge base for the conservation and management of waterbirds and their sites using the East Atlantic Flyway. This cooperation started after the inscription of the Wadden Sea (shared by Denmark, Germany and The Netherlands) as a World Heritage site in 2009. Waterbird populations using the Wadden Sea, both during breeding and migration, depend on the (coastal) sites along the East Atlantic Flyway during periods of the year that they are not within the Wadden Sea itself. This perspective for cooperation is the same for other countries along the flyway as their breeding, migrant or wintering populations also use other sites along the flyway.

The overall aims of the survey 2023 were:

- Collect simultaneous counts of waterbirds using (coastal) wetlands along the East Atlantic Flyway in January 2023 as a contribution to assessments of population size, distribution and trends of flyway populations of waterbird species.
- Collect counts of individual (key) sites along this flyway as a contribution to monitoring these sites, especially their importance for waterbirds in the non-breeding period of January.
- To collect data about environmental circumstances, including human use and conservation at the sites counted as vital contributions to assessments of causes for population change.
- To increase capacity for monitoring of waterbird numbers and wetlands assessments contributing to local, national and flyway conservation and adaptive management.

The current report summarizes the basic results per country and forms a background document for the future analysis. A full assessment of the results will be pushed in 2024 as was done for the 2020 results (van Roomen et al. 2022).



Figure 1. Poster used for the announcement of the Total East Atlantic Flyway survey of January 2023.

2. Methods

Monitoring strategy

The monitoring strategy consists of abundance monitoring, environmental monitoring and vital rate monitoring (van Roomen, Delany & Schekkerman 2013). This integrated approach assesses the state of the species and contributes to the assessment of site conditions (at site level more counts in other months of the year are needed than only in January for a proper state monitoring). It enables warnings where conservation and management actions are needed and it will help with pointing to likely causes and formulating hypotheses for more in depth research. At the same time the programme also enables evaluation of ongoing and new responses in conservation and management collecting data about successes and where improved approaches are needed. Of the three elements of the programme, currently the abundance and environmental monitoring is implemented within the WSFI, WI and BirdLife cooperation and covered in this report. Vital rate monitoring is also carried out for many species and populations by many organisations and institutes but is mostly not brought together across species on flyway level

Abundance monitoring methods

Species and populations

The principles as outlined in the guidelines for waterbird monitoring (Hearn et al. 2018 and partly updated in Nagy et al. 2021) developed under the African Eurasian Waterbird Agreement (AEWA) are followed. For most waterbird species, the breeding period, or the non-breeding period (January) is the best time for monitoring flyway populations across countries. The non-breeding period is optimal for species which breed across large ranges of remote habitats in relatively low densities. In winter they often concentrate on a few sites in high concentrations. The current report focuses mainly on these species and follows the methodology of the International Waterbird Census.

This so-called mid-winter or January count is part of a long tradition of waterbird surveys under the umbrella of the world-wide International Waterbird Census (IWC) coordinated by Wetlands International. International manuals for this census are available (Delany 2010, Hearn et al. 2018) and most countries have developed their own manual in local language. An East Atlantic Flyway manual for Africa in English, French and Portuguese is available as well (van Roomen et al. 2014). For the same region also a photographic guidebook of waterbirds for the African East Atlantic Flyway is widely distributed to help identification of species (Barlow & Dodman 2015).

Sites

The International Waterbird Census contributes to the assessment of the status of waterbird species and flyway populations but can collect valuable data for site monitoring as well. The counts are site based and the January counts contribute to our knowledge of the value of individual sites as well. It is a robust assessment of the importance of sites in the middle of the non-breeding period. The data presented in this report contributes also to that aim. However, sites should not only be assessed for their importance in January and proper site monitoring should also include the periods during migration time, moult and breeding when different populations and sometimes much higher numbers are present. This kind of site monitoring is carried out in many individual countries and for site monitoring and complete site assessment that data needs to be used. Summary data of these national site monitoring programmes often contributes to the Important Bird and Biodiversity areas programme of BirdLife International (BirdLife International 2006), see also Wetlands International & BirdLife International (2018). Counting total numbers at sites is often straight-forward in relatively small sites but becomes much more difficult in large complex sites. Many of these large and complex sites are covered in this report. In tidal areas waterbirds are often distributed over large areas of mudflat during low tide but are fortunately gathering during high water at high tide roots. This is the moment to count them, and coordinated surveys require many observers at a large number of counting units, sometimes on uninhabited islands, at the right time. A large number of tropical tidal wetlands even provides more difficulties as they are fringed by mangroves making high tide roost counts impossible. At these sites only sample counts of parts of the area are possible and extrapolations are needed to assess total numbers at these sites. These kinds of analyses are not done yet for the surveys reported in this report. Also, in other countries and other sites the numbers reported for 2023 are counted numbers only and no corrections for incomplete coverage or different detectability are made yet.

Environmental monitoring

Based on the Important Bird and Biodiversity areas programme to assess state of habitat, pressures and conservation responses at sites (Birdlife International 2006) a questionnaire was developed to collect expert opinions from local observers and site managers. This questionnaire was further fine- tuned and extended during pilot use in 2013 and 2014 and was in full use during the survey in 2017, 2020 and now during the 2023 survey. In 2023 we developed an online application in JotForm to enter the data which facilitates the filling in and handling of the data. Some countries also continued with using the standard excel form.

About this report

Countries from Iceland to Estonia and from Norway to South Africa, all along the East Atlantic Flyway, participated to the 2020 East Atlantic Flyway survey as part of their International Waterbird Census. In many countries in East Atlantic Africa also financial support and in some extra counters were organized to contribute to this survey. Countries have been requested to contribute a small national overview to this report to give a first impression of the results collected and put emphasis to the large local and national efforts to this kind of international programmes. Of in principle 40 countries, 32 has done so, giving a large overview of results from all over the flyway both in Africa and Europe. It is as such a follow-up report of the one made after the total survey of 2017, which covered East Atlantic Africa (Agblonon et al. 2017). Countries missing are often contributing to the results which later will be analyses for trends etc. but were not able, for several reasons, to contribute a chapter at this stage. Also results of more inland countries will be used in future analyses as not all species and populations of interest are only occurring in the countries covered. Countries reporting count results have done so for the East Atlantic Flyway 'focal' species as covered in van Roomen et al. 2018 or for the whole group of waterbird species following Ramsar definition of "waterbirds". Only species with less than 50 counted individuals along the whole flyway have been excluded from that countries list. Taxonomy and bird names follow Handbook of the Birds of the World and BirdLife International (2019).

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3. Norway



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Results of January 2023 counts of waterbirds along the Norwegian coast

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1. INTRODUCTION

Stretching from 64 to 79 °N the Norwegian coast offers a multitude of suitable habitats for wintering waterbirds, from rocky coasts to tidal areas. Monitoring of wintering birds are, however, challenging as the mainland coastline, including fiords and small bays, covers nearly 29,000 km, and nearly 101,000 km when including the shores of all islands outside the coast. Only a fraction of these coastlines are accessible from roads. Furthermore, harsh weather during daytime, and lack of daylight north of the Arctic circle during the winter months make monitoring of waterbirds even more challenging.

Monitoring of wintering waterbirds in Norway was initiated in some selected stretches of coastline in 1975, and with a national coverage of 9 selected areas since 1980 (figure 1). The monitoring is organised by the Norwegian Institute for Nature Research, NINA, and is conducted by members of the Norwegian Ornithological Society. Annually about 100 members of the Ornithological society participates in the monitoring.

2. METHODS

The 9 selected areas for monitoring is divided into smaller localities/count units, 299 in total, each 1-2 km long (some up to 4-5 km), covering minimum 600 km of coastline (c. 2% of the mainland coastline). Each of these localities are counted from land at fixed vantage points, preferably by the same person each year. The counts are performed during late January to late February in most areas except the two northernmost areas (Troms and Varangerfjorden) where they are performed in early March due to the lack of daylight during winter.

3. RESULTS

The results are submitted to Wetlands International annually. The most numerous species is reflecting the coastal coverage of the monitored sites. The five most common wintering waterbirds

within the selected areas is the Common eider (*Somateria mollissima*), followed by mallard (*Anas platyrhyncos*), common guillemot (*Uria aalge*), king eider (*Somateria spectabilis*) and the Long-tailed duck (*Clangula hyemalis*). This does not change substantially from year to year.

4. DISCUSSION

Shallow wintering areas might be affected by bottom-dwelling wind turbines which are being planned in some areas. Also conflicts of area use with salmon farms might affect wintering waterbirds. The shipping traffic poses a risk of oil spills which could severely impact diving species like cormorants, ducks, greebes and divers. Bycath might be a problem at least with local fisheries at certain times of the year. A decreasing number of some of the benthic feeders (diving ducks) suggest that changes in food availability, possibly related to climate change, might be important.

Acknowledgements

The monitoring programme for wintering waterbirds is financed by the Norwegian Environmental Agency. In total more than 75 observers participated in the counts. We are very thankful to all members of the Norwegian Ornithological Society that participates in the counts every winter.



Figure 1. Map showing the 9 areas selected for monitoring of wintering waterbirds along the Norwegian coast. The red dots represent the centre of each of the localities/count units.

Table 1. Numbers of counted waterbirds in Norway in January 2023

Scientific name	Common name (EN)	2023
Cygnus olor	Mute Swan	73
Cygnus cygnus	Whooper Swan	591
Branta canadensis	Canada Goose	392
Anser anser	Greylag Goose	34
Anser brachyrhynchus	Pink-footed Goose	1
Anser albifrons	Greater White-fronted Goose	1
Clangula hyemalis	Long-tailed Duck	2,972
Somateria spectabilis	King Eider	1,278
Somateria mollissima	Common Eider	16,856
Polysticta stelleri	Steller's Eider	459
Melanitta fusca	Velvet Scoter	2,183
Melanitta nigra	Common Scoter	980
Bucephala clangula	Common Goldeneye	1,219
Mergellus albellus	Smew	7
Mergus merganser	Goosander	17
Mergus serrator	Red-breasted Merganser	2,414
Tadorna tadorna	Common Shelduck	1
Aythya fuligula	Tufted Duck	247
Aythya marila	Greater Scaup	54
Mareca penelope	Eurasian Wigeon	1,807
Anas platyrhynchos	Mallard	12,508
Anas acuta	Northern Pintail	9
Anas crecca	Common Teal	79
Tachybaptus ruficollis	Little Grebe	24
Podiceps grisegena	Red-necked Grebe	53
Podiceps cristatus	Great Crested Grebe	100
Podiceps auritus	Horned Grebe	238
Rallus aquaticus	Western Water Rail	1
Gallinula chloropus	Common Moorhen	1
Fulica atra	Common Coot	10
Gavia stellata	Red-throated Loon	295
Gavia arctica	Arctic Loon	3
Gavia immer	Common Loon	148
Ardea cinerea	Grey Heron	719
Phalacrocorax carbo	Great Cormorant	1,884
Haematopus ostralegus	Eurasian Oystercatcher	312
Pluvialis squatarola	Grey Plover	1
Vanellus vanellus	Northern Lapwing	2
Numenius arquata	Eurasian Curlew	69
Arenaria interpres	Ruddy Turnstone	69
Calidris canutus	Red Knot	1
Calidris alpina	Dunlin	1
Calidris maritima	Purple Sandpiper	1,138
Gallinago gallinago	Common Snipe	3
Tringa totanus	Common Redshank	6
Rissa tridactyla	Black-legged Kittiwake	1,061
Larus ridibundus	Black-headed Gull	35
Larus canus	Mew Gull	594
Larus fuscus	Lesser Black-backed Gull	1
Larus argentatus	European Herring Gull	7,759
Larus hyperboreus	Glaucous Gull	6
Larus marinus	Great Black-backed Gull	1,159

4. Sweden



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Results of January 2023 counts of waterbirds in Sweden

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1. INTRODUCTION

Sweden, with a coastline of around 2,400 km, is situated in the northern part of Europe. At the Swedish west coast, the water has a typical marine character, whereas the water at the east coast (Baltic Sea) is more or less brackish. In winter, most waterbird habitats are found along the coasts, as most inland waters except in the south are covered with ice. When the International Waterfowl Count (IWC) started, the Baltic coast north of Stockholm archipelago was normally totally ice-covered. In later years, winters have been milder and open water has been available also along more northerly areas of the east coast and, to a large extent, also in the inland of south Sweden. In response to that we have increased the network of observers further north.

The southern part of the Swedish coastline, including the two large islands Öland and Gotland, has an open coastline with a mix of beaches, shallow vegetated areas, and moraine coasts. Extensive archipelagos with thousands of small islands and skerries are found along most of the Baltic coast, the archipelagoes being widest in the Stockholm region (up to 70 km from the mainland to the outermost skerries).

In Sweden, regular January counts have been undertaken every year since the start of the International Waterfowl Count in 1967. Every winter a network of sites (both coastal and inland) has been surveyed by a large number of volunteers. In addition to these annual counts, large scale country-wide surveys were organized in 1971-1974, 1987 – 1989 (partial), 2004, and 2015 (see Nilsson & Haas 2016). These country-wide surveys included inland waters, all inshore coastal waters (including the archipelagoes) but not the offshore-areas. In recent time large scale offshore surveys targeting wintering waterbirds have been carried out in 2016 (Nilsson 2016) and 2020.

This chapter is focused on the January count in

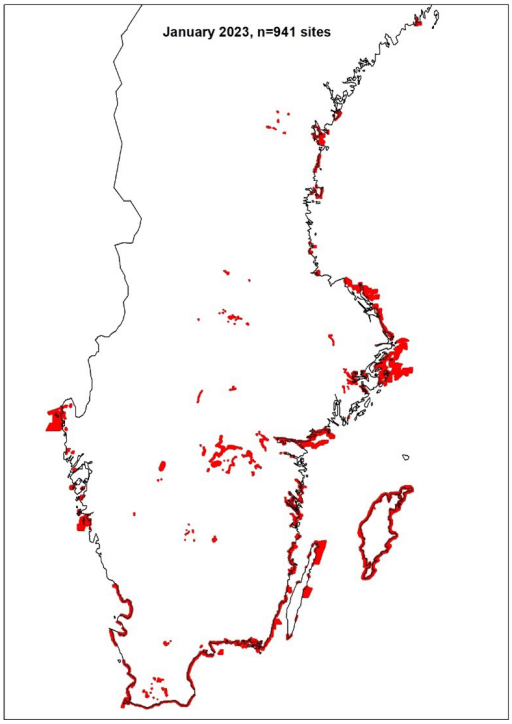


Figure 1. Map showing the distribution of Midwinter counts in January 2023.

2023, but results are shown for 2021 to 2023. No data from offshore areas are included.

2. METHODS

The January survey of waterbirds are based on counts of birds in predefined areas (counting units/sites). The entire Swedish coast is covered by such counting units, but also inland waters are part of the system. The survey is mainly carried out from land, but boats are used to some extant to get samples from archipelagoes. In January 2023, around 220 observers manage to cover 941 sites (Figure 1). Of these, 155 were inland sites and 786 coastal. The survey effort was about the same in 2021 (905 sites) and 2022 (917 sites). Goose data come from three different sources; the IWC counts, dedicated goose surveys, and the Swedish species gateway (Artportalen). Long-tailed ducks, who mainly are wintering offshore, are not presented here because the IWC survey does only cover a very small fraction of the population wintering in Sweden.

The Swedish midwinter counts cover most waterbird groups, but not gulls.

3. RESULTS

Almost 735 000 waterbirds were observed during the January 2023 count (Table 1). Geese excluded, the number of surveyed waterbirds ranged between 452,000 and 569,000 over the years 2021 to 2023. Worth noting is the high number of wintering scaups. Over 47,000 scaups were observed in 2023, the vast majority along the coast of Gotland. This suggests that about 25% of the population wintering in western and northern Europe did so in Swedish waters (cf. Marchowski et al. 2020).
The totals above do not include the mainly offshore wintering species long-tailed duck. The absolute majority of the population wintering in Swedish waters are found on offshore banks in the central parts of the Baltic Sea. The number of Long-tailed Ducks was estimated to be around 370,000 within the Swedish Exclusive Economic Zone of the Baltic Sea in the winter of 2016 (Nilsson 2016).

4. DISCUSSION

All species wintering in the inshore parts of Swedish coastal waters increased markedly between 1966 and 2015 (Nilsson & Haas 2016), and in general terms this trend seems to continue even if there are exceptions. There might be several drivers behind the positive trends, but climate change is likely to be a key factor. The increasing numbers imply that Swedish waters are becoming more and more important for wintering waterbirds, and with that comes a responsibility to provide conditions, and a network of protected areas, that are suitable in the long run.

Acknowledgements

Over the years, several hundred observers have taken part in January counts. Without their help, we would not have been able to cover so many sites as we did. Financial support to the project has been obtained from the Swedish Environmental Protection Agency.

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Table 1. Total numbers of observed waterbirds in the Swedish IWC counts 2021 – 2023. NA = data not available. Species occurring in very low numbers and gulls are not included.

Scientific name	Common name (EN)	2021	2022	2023
Gavia arctica	Black-throated diver	69	170	129
Gavia stellata	Red-throated diver	200	72	113
Podiceps cristatus	Great crested grebe	3,418	4,590	3,108
Podiceps grisegena	Red-necked grebe	38	57	47
Podiceps auritus	Slavonian grebe	56	161	219
Tachybaptus ruficollis	Little grebe	317	177	256
Phalacrocorax carbo	Great cormorant	12,036	14,110	12,673
Phalacrocorax aristotelis	Shag	213	1,532	2,988
Ardea cinerea	Grey heron	1,826	939	1,387
Ardea alba	Great white egret	13	6	29
Anas platyrhynchos	Mallard	122,051	96,206	108,055
Anas crecca	Teal	2,853	2,649	1,966
Anas strepera	Gadwall	560	997	1,171
Anas penelope	Wigeon	27,535	21,401	22,186
Anas acuta	Pintail	587	393	370
Anas clypeata	Shoveler	88	2	99
Aythya marila	Scaup	19,474	34,000	47,167
Aythya fuligula	Tufted duck	96,840	193,671	112,857
Aythya ferina	Pochard	1,022	1,941	1,856
Bucephala clangula	Goldeneye	58,261	69,658	61,232
Melanitta fusca	Velvet scoter	9,443	2,266	3,976
Melanitta nigra	Common scoter	6,912	6,365	5,783
Somateria mollissima	Eider	7,269	10,237	12,467
Mergus serrator	Red-breasted merganser	4,342	5,856	6,419
Mergus merganser	Goosander	15,405	27,363	15,576
Mergellus albellus	Smew	7,154	11,043	9,192
Tadorna tadorna	Shelduck	15	80	80
Anser anser	Greylag goose	NA	NA	45,909
Anser fabalis	Bean goose	NA	NA	35,810
Anser brachyrhynchus	Pink-footed goose	NA	NA	782
Anser albifrons	White-fronted goose	NA	NA	6,343
Branta canadensis	Canada goose	NA	NA	38,340
Branta leucopsis	Barnacle goose	NA	NA	118,791
Cygnus olor	Mute swan	26,056	38,269	29,778
Cygnus cygnus	Whooper swan	4,658	3,327	1,995
Cygnus columbianus	Bewick's swan	11	29	1
Gallinula chloropus	Moorhen	95	27	87
Fulica atra	Coot	20,317	19,775	24,425
Haematopus ostralegus	Oystercatcher	9	32	16
Vanellus vanellus	Lapwing	19	13	8
Pluvialis apricaria	Golden plover	13	46	1
Numenius arquata	Curlew	417	279	290
Tringa totanus	Redshank	24	49	68
Calidris maritima	Purple sandpiper	1,299	1,066	839
Calidris alpina	Dunlin	1,447	157	83

5. Estonia



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Results of January 2023 counts of waterbirds in Estonia

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Estonian University of Life Sciences, Kreutzwaldi 1, Tartu, Estonia

EESTI ORNITOLOOGIAÜHING
ASUTATUD 1921

www.emu.ee
Eesti Maaülikool
Estonian University of Life Sciences

1.INTRODUCTION

Mid-winter counts (IWC) in Estonia were conducted for the first time in the winter of 1960/61. The project was run by the Baltic Commission for the Study of Bird Migration. In 1967 Estonia was one of the first to join the International Waterbird Census (IWC) project, led by International Waterfowl Research Bureau (IWRB). From 1991 the project has been managed by the Estonian Ornithological Society. Initially the concept was an annual complete count, but starting 1991 the project was changed into a traditional monitoring programme, where counts are held on monitoring sites. From 1996 onward the mid-winter count is a part of the Estonian State Monitoring Programme. The estimation of wintering waterfowl was done by the Commission of Bird Numbers in The Estonian Ornithological Society.

2. METHODS

Most of the data of the IWC are collected by volunteers and some more professional teams. Numbers of observers in Estonia are between 300 and 350. The count is held in January with centralised dates in the middle of the month. Estonian waters have been divided into 7 main sections, 20 subsections and 338 counting units. Depending on ice conditions and the coverage areas the coast of Estonia has been divided into monitoring and non-monitoring units. There are 98 monitoring sites in total on Estonian coast and 40 sites inland (Figure 1). Aerial surveys took place in winter 2016 and 2021 but not in winter 2023.

3. RESULTS

Table 1 (p. 17): Numbers of wintering waterbirds in Estonian monitoring sites counted in 2021-2023

based on the IWC data. Also given is the status and numbers of wintering waterbirds in Estonia (2013-2017) (Elts et al. 2019) and updated estimation by Leho Luigujõe, based on data from IWC and aerial surveys (Table 1).

4. DISCUSSION

Main threats for waterbirds are by-catch and small oil spills. High pressure expected in future concerning offshore powerplants.

Acknowledgements

Acknowledgements for observers (349 observers in the year 2023).

Funding: Environment Agency of Estonia, Environmental Board of Estonia, Estonian University of Life Sciences, The Cohension Fund EU.

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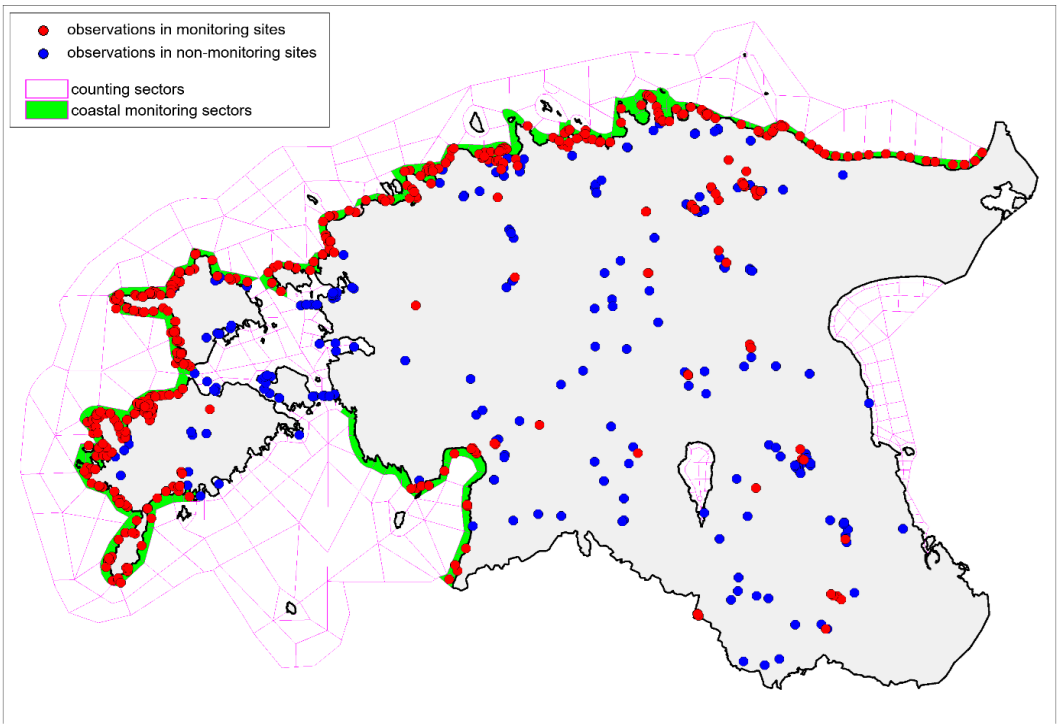


Figure 1. Coverage of IWC in Estonia in January 2023

Table 1. Number and estimations of wintering birds in Estonia.

Scientific name	Common name (EN)	2021	2022	2023	Totals estimated 2013-2017	Totals estimated 2017–2023
Cygnus olor	Mute swan	15,633	22,876	18,503	8,000-17,000	10,000-30,000
Cygnus columbianus	Bewick's Swan	2	0	0	5-30	0-20
Cygnus cygnus	Whooper Swan	1,663	644	1,473	1000-3,000	1,000-3,000
Branta leucopsis	Barnacle Goose	193	0	1	not estimated	0-200
Branta canadensis	Canada Goose	12	4	1	not estimated	0-30
Anser anser	Greylag Goose	14	1	0	not estimated	0-20
Anser fabalis	Bean Goose	1	0	0	not estimated	0-10
Anser albifrons	White-fronted Goose	0	0	0	not estimated	0-5
Anas acuta	Pintail	4	1	3	not estimated	0-10
Anas penelope	Wigeon	148	0	40	10-50	10-200
Anas strepera	Gadwall	46	0	3	0-5	0-100
Anas crecca	Teal	78	35	18	20,-100	20-200
Anas platyrhynchos	Mallard	18,235	10,935	10,887	16,000-21,000	15,000-30,000
Aythya ferina	Pochard	55	71	1	5-30	10-100
Aythya fuligula	Tufted Duck	9,788	10,935	13,992	3,000-5,000	5,000-15,000
Aythya marila	Scaup	1,276	1,576	1,142	300-3,500	500-3,500
Somateria molissima	Eider	4	4	1	10-30	10-40
Polysticta stelleri	Steller's Eider	109	303	143	800-1,500	800-1500
Clangula hyemalis	Long-tailed Duck	17,359	20,282	31,690	100,000-500,000	100,000-500,000
Melanitta nigra	Common Scoter	596	535	435	12,000-240,000	12,000-250,000
Melanitta fusca	Velvet Scoter	1,482	365	557	2,000-10,000	2,000-10,000
Bucephala clangula	Goldeneye	17,225	22,938	20,539	30,000-50,000	30,000-40,000
Mergellus albellus	Smew	1638	3060	3632	1,000-3,000	1,000-4,000
Mergus serrator	Red-breasted Merganser	585	1955	2197	500-2,500	500-2,500
Mergus merganser	Goosander	8,106	10,221	13,345	4,000-22,000	5,000-20,000
Gavia stellata	Red-throated Diver	115	27	79	500-3,000	500-3,000
Gavia arctica	Black-throated Diver	16	7	13	50-350	50-300,
Gavia adamsii	Yellow-billed Diver	0	0	1	not estimated	0-1
Tachybaptus ruficollis	Little Grebe	43	35	24	15-30	20-60
Podiceps cristatus	Great Crested Grebe	140	38	137	50-250	50-250
Podiceps grisegena	Red-necked Grebe	3	0	4	5-20	5-20
Podiceps auritus	Horned Grebe	2	3	8	1-20	5-20
Phalacrocorax carbo	Great Cormorant	706	45	673	100-1,000	100-1,000
Botaurus stellaris	Bittern	1	3	0	1-10	1-10
Ardea alba	Great White Egret	3	1	3	0-3	1-10
Ardea cinerea	Grey Heron	609	6	81	150-600	200-1,100
Ciconia ciconia	White Storck	0	1		0-3	0–3
Grus grus	Common Crane	0	0	4	not estimated	0–5
Rallus aquaticus	Water Rail	6	0		10-50	10–50
Gallinula chloropus	Moorhen	0	0	1	1-10	1–10
Fulica atra	Eurasian Coot	219	0	51	50-2,500	100–2,500
Calidris maritima	Purple Sandpiper	6	0	83	50-150	20–100
Vanellus vanellus	Lapwing	4	0		not estimated	0–5
Scolopax rusticola	Woodcock	1	0	0	5-50	5–50
Gallinago gallinago	Common Snipe	17	0	1	5-30	5–30
Larus ridibundus	Black-headed Gull	645	671	832	500-3,000	500–3,000
Larus canus	Common Gull	1,282	3,497	2,576	50,000-100,000	4
Larus fuscus	Lesser Black-backed Gull	1	0		0-3	2
Larus argentatus	Herring Gull	4,094	8,643	7,308	30,000-50,000	30,000–300,000
Larus marinus	Great Black-backed Gull	209	252	275	500-1,000	500–2,000
Uria aalge	Common Guillemot	0	0	1	0-5	0–5
Alca torda	Razorbill	5	1	1	50-200	50–200
Cepphys grylle	Black Guiilemot	2	8	3	50-100	50–100

6. Latvia



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Results of January 2023 counts of waterbirds in Latvia

Antra Stīpniece, Latvian Ornithological Society

1. INTRODUCTION

IWC is an international public monitoring project launched in Europe in 1967. It is coordinated by Wetlands International. In January 2023, the survey took place for the 57th time in Latvia. Since 2016, wintering waterbirds surveys have been part of the Latvian Biodiversity Monitoring Program and are financed by Latvian Nature Conservancy Board. The aims of the project are to obtain data on wintering of waterfowl on the coast (along its entire length) and in at least 130 inland places (Figure 1) and to identify trends in changes in the number of common species.

2. METHODS

Counts should be carried out every year in the same sites, the boundaries of which do not change from year to year. Wintering sites should be surveyed on the central dates of the survey (14/15 January in 2023) or on the day as close as possible to the central dates with suitable weather conditions for the survey (good visibility, not disturbed by waves and fog).

In winter 2022/2023 a warm autumn was followed by a frosty December. The 1st decade of January was rich in precipitation and the central dates came with warmer weather. As a result water levels were high in all country and in one region even the red flood warning was announced. The central dates were also stormy. Therefore for the most of seacoast sites the next weekend was used for bird counts.

On the central dates 42% of site visits were made (Figure 2). If more than one count is received for a site, the one closest to the central date, performed by the same observer as in previous years, or the one where the site survey is more complete, was used.

The species of birds, the number, if possible, sex, age, census accuracy, ice condition (what % of water body is frozen) and the extent to which the census is affected by weather and disturbance is recorded. It is also reported if the place is completely frozen or dry and there are no birds. The survey of wintering waterfowl on the coast

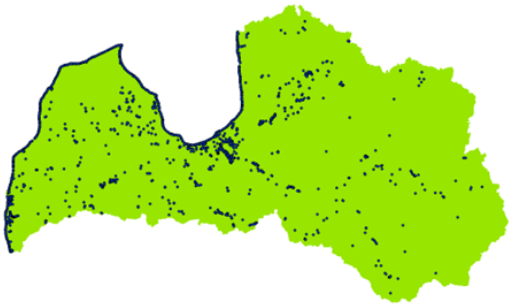


Figure 1. Sites visited during IWC 2023 in Latvia.

was carried out on foot along the shore, grouping observations in 1 km sections, the boundaries of which were determined using GPS devices. Majority of data were reported via portal www.Dabasdati.lv.

Between 7 and 26 January, 417 possible wintering places for waterfowl were inspected, including the entire available shoreline. One third of the sites checked were without birds - either ice-covered or flooded. Seacoast was ice-free.

Most counts were performed on foot. Engure Lake was checked by means of a drone.

3. RESULTS

A total of 102,306 birds of 47 species were counted – 56,872 on the coast and 45,434 inland. Table 1 presents only the birds actually counted and identified to species.

4. DISCUSSION

The swiftly changing weather conditions had had impact on bird numbers and distribution – there we less swans, Coots Mallards, Goosanders and Goldeneyes counted in January 2023 than in previous two years, the long-term trend still remaining stable for Mute Swan and moderate increase for Coot, Mallard, Goosander, Goldeneye and Whooper Swan. However, geese flocks were met in the southwestern part of Latvia. The recent years more often geese arrive already in end of January. Also, the first Lapwings were present in January.

Last twelve years show a steep increase of fish-eating birds in mid-January – Grey Heron and Gret White Heron in inland waters and Great Crested Grebe and Great Cormorants wintering mainly in seacoast waters.

Near coast only part of the wintering Scoters, Long-tailed Ducks and Loons are met. Both Velvet and Common Scoters show strong increase near coast during last twelve years. These species as well as majority of gulls should be evaluated from data of another monitoring project – plane based counts. For gulls also not all waste tips were visited and sometimes birds are hard to sort by species. We also could not check so many fields as it is done during swan censuses.

Acknowledgements

Many thanks to all observers (178 in 2023). Funding was received from the Latvian Nature Conservancy Board.

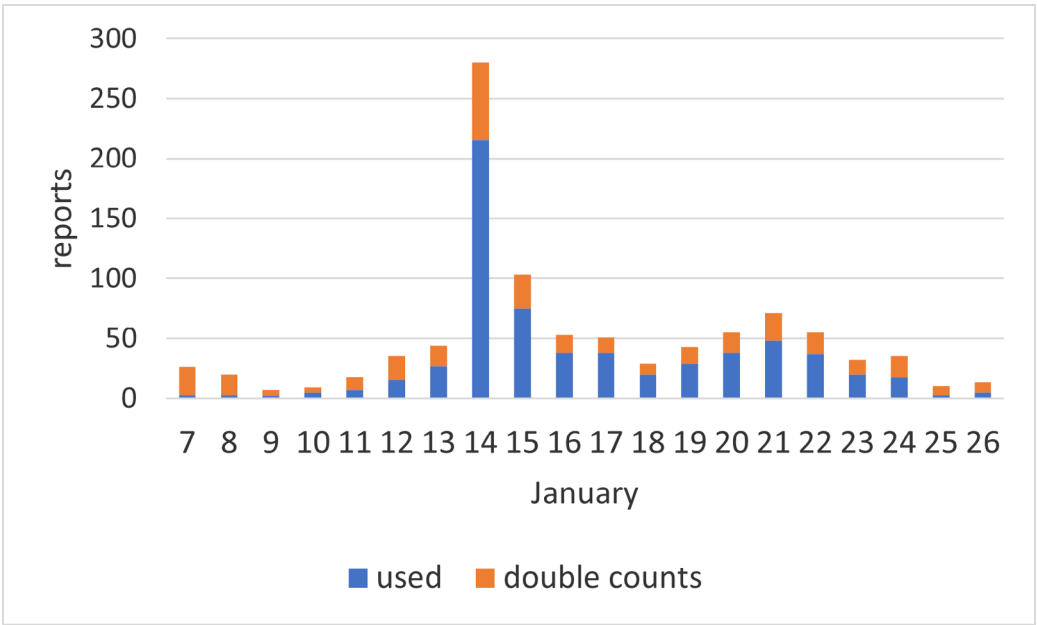


Figure 2. Number of IWC reports in 2023 in Latvia.

Table 1. Birds identified to species in mid-January 2023 in Latvia

Scientific name	Common name (EN)	Number
Cygnus olor	Mute swan	406
Cygnus cygnus	Whooper Swan	339
Branta canadensis	canada Goose	1
Anser anser	Greylag Goose	336
Anser fabalis	Bean Goose	403
Anser albifrons	Greater White-fronted Goose	54
Clangula hyemalis	Long-tailed Duck	21,326
Melanitta fusca	Velvet Scoter	9,983
Melanitta nigra	Common Scoter	2,439
Bucephala clangula	Goldeneye	4,338
Mergus albellus	Smew	38
Mergus merganser	Goosander	3,785
Mergus serrator	Red-breasted Merganser	120
Aix galericulata	Mandarin duck	1
Aythya fuligula	Tufted Duck	1,040
Aythya marila	Greater Scaup	58
Mareca strepera	Gadwall	4
Mareca penelope	Eurasian Wigeon	6
Anas acuta	Pintail	1
Anas platyrhynchos	Mallard	20,905
Anas crecca	Common Teal	38
Tachybaptus ruficollis	Little Grebe	10
Podiceps grisegena	Red-necked Grebe	1
Podiceps cristatus	Great Crested Grebe	1,074
Podiceps auritus	Horned Grebe	2

Scientific name	English name	Number
Rallus aquaticus	Western Water Rail	5
Gallinula chloropus	Common Moorhen	4
Fulica atra	Common Coot	121
Grus grus	Common Crane	2
Gavia stellata	Red-throated Loon	883
Gavia arctica	Arctic Loon	58
Ardea cinerea	Grey Heron	84
Ardea alba	Great White Heron	39
Botaurus stellaris	Eurasian Bittern	3
Phalacrocorax carbo	Great Cormorant	2,321
Scolopax rusticola	Eurasian Woodcock	1
Vanellus vanellus	Northern lapwing	117
Calidris maritima	Purple Sandpiper	1
Larus ridibundus	Black-headed Gull	2,069
Larus canus	Common Gull	3,121
Larus fuscus	Lesser Black-backed Gull	175
Larus argentatus	Herring Gull	19,900
Larus cachinnans	Caspian Gull	13
Larus marinus	Great Black-backed Gull	577
Alca torda	Razorbill	1
Alcedo atthis	Common Kingfisher	21
Buteo lagopus	Rough-Legged Buzzard	8
Circus cyaneus	Hen Harrier	2
Haliaeetus albicilla	White-tailed Sea Eagle	60
Milvus milvus	Red Kite	1

7. Lithuania



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Results of January 2023 counts of waterbirds in Lithuania

Laimonas Šniaukšta[1,2]
[1]On behalf of Lithuanian Ornithological Society, Naugarduko str. 47-3, LT-03208 Vilnius, Lithuania.
[2]Birds at river Nemunas near Kaunas.

1. INTRODUCTION

Lithuania is a country in the Baltic region of Europe, situated on the eastern shore of the Baltic Sea. Lithuanian ecosystems include natural and semi-natural (forests, bogs, wetlands and meadows) and anthropogenic ecosystems. Winters in Lithuania used to be cold, when the temperature drops down to -20°C, most of open water is frozen and wintering water birds could be found mainly at the sea or near power or hydroelectric power plants. As the climate warms, winters are increasingly warmer when water bodies do not freeze and wintering birds spread throughout the country.

IWC counts are organised every winter from 2010 in Lithuania. More than 37,000 birds are counted during cold winter counts with up to 112,000 birds during warm winters.

Main sites in Lithuania are: Baltic Sea coast, Lithuanian part of Kuršių Bay, Nemunas and Neris rivers near Kaunas City, Flooded meadows in Šilutė district (during warm winters).

2. METHODS

Counts were done at 51 sites by the volunteers mainly with a help of National and Regional parks and reserves employees. Main counts were carried out on January 13-15 (total January 13-22).

3. RESULTS

123 observers registered more than 80,000 wintering birds (Figure 1). The weather in January was cold, although it warmed up before the census, but most of the lakes and other standing water bodies were frozen at the time of the census. Baltic sea coastal observation conditions during the weekend from 13th to 15th of January were inappropriate for counting birds due to a very strong wind and big waves, therefore, the counts in the area were

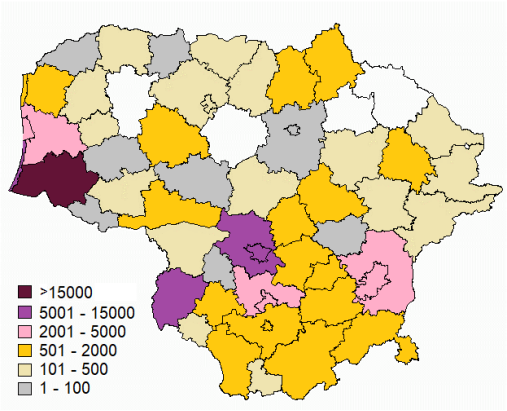


Figure 1. Map with indication of coverage of the country and total numbers of waterbirds counted in January 2023

performed one week later. Mallard was the most numerous waterfowl species with total number of more than 32,500 registered birds. The second most abundant species was Common Goldeneye with a number of almost 11,000 and the third – Velvet Scooter with a number of more than 5,500 birds registered. These three species are the most common during winter counts in Lithuania. Eurasian Coot (~4,900), Tufted Duck (~2,900) and Great Crested Grebe (~2,800) were also numerous this year. Common Merganser was only seventh most numerous species (~2,600) during this count.

4. DISCUSSION

Mild winters makes it hard to have good coverage of wintering birds as they are spread through the country. It has become common for one winter to be mild and the next to be cold. Sometimes weather conditions change during the counts. These changing conditions make it difficult to adequately compare counts data from several years or evaluate species trends.

Species like Common and Velvet Scoters, Long-tailed ducks are getting less numerous at the Lithuanian Baltic Sea coast. This could be the result of lack of food, change of wintering territories or bycatch and death of wintering birds in fishing nets.

At Nemunas river in Kaunas abundant gatherings of wintering swans is an annual event. During recent warm winters when the temperatures are mild and waters or the river not frozen kayaking became quite a popular activity. However, it was noticed that passing kayaks scares and flushes swans, some of which collides with electrical wires across the river and get killed or severely injured. Some preventive measures have been implemented: dedicated markings were placed on the wires and also informative messages were sent to the kayaking organizing parties with a request to avoid the territory.

Acknowledgements

Last winter 123 observers (most of them volunteers) took part in IWC, we thank them all very much.

Table 1. Waterbird species and numbers counted at the sites covered.

Scientific name	Common name (EN)	Total
Gavia arctica	Black-throated Diver	4
Gavia stellata	Red-throated Diver	155
Podiceps auritus	Slavonian Grebe	1
Podiceps cristatus	Great Crested Grebe	2,839
Tachybaptus rufi-collis	Little Grebe	38
Phalacrocorax carbo	Great Cormorant	547
Ardea cinerea	Grey Heron	141
Egretta alba	Great White Egret	59
Anas crecca	Green-winged Teal	32
Anas penelope	Wigeon	122
Anas platyrhynchos	Mallard	32,684
Anas strepera	Gadwall	20
Aythya ferina	Pochard	1
Aythya fuligula	Tufted Duck	2,953
Aythya marila	Greater Scaup	101
Bucephala clangula	Goldeneye	10,982
Clangula hyemalis	Long-tailed Duck	292
Melanitta fusca	Velvet Scoter	5,513
Melanitta nigra	Common Scoter	180
Mergellus albellus	Smew	81
Mergus merganser	Goosander	2,686
Anser albifrons	White-fronted Goose	9
Anser anser	Greylag Goose	1,680
Anser fabalis	Bean Goose	152
Anser spp.	unidentified geese	1,700
Cygnus Cygnus	Whooper Swan	2,007
Cygnus olor	Mute Swan	1,625
Cygnus spp.	unidentified swans	7
Fulica atra	Common Coot	4,920
Gallinula chloropus	Moorhen	12
Larus argentatus	Herring Gull	2,010
Larus cachinnans	Caspian Gull	1
Larus canus	Common Gull	5,582
Larus marinus	Great Black-backed Gull	74
Larus ridibundus	Black-headed Gull	623
Larus spp.	unidentified gulls	530

8. Poland



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Results of the January 2023 counts of waterbirds in Poland

Włodzimierz Meissner,
University of Gdansk

1. INTRODUCTION

IWC is launched in Poland in seventies of the last century, but in 2010 it was included to the State Environmental Monitoring coordinated by the Polish Society for the Protection of Birds (OTOP), a BirdLife partner. All monitoring projects conducted within the State Environmental Monitoring are financed by the Chief Inspectorate of Environmental Protection.

2. METHODS

Counts of wintering waterbirds are carried out every year in the same 563 sites, the boundaries of which do not change from year to year (fig. 1). In 2023, they were performed at 558 sites. Wintering sites were surveyed preferably on the central dates of the survey (14/15 January 2023) or on two neighbouring days. On days considered to be the optimum time to carry out the count, 77% of sites were checked (fig. 2). During the survey, bird species, number if possible, sex, age, census accuracy and ice condition (what percentage of the water body is frozen) were recorded. The counts were organised on days with good visibility so that the results were not dependent on the weather. The survey of wintering waterbirds was mainly carried out on foot, but large lagoons (i.e. the Vistula Lagoon and the Szczecin Lagoon) and some sections of the Vistula River were surveyed from a plane or motor boat.

According to www.tutiempo.net, the average air temperature in Central Poland (Warsaw) in January 2023 was + 3.4° C.

3. RESULTS

A total of 943,388 waterbirds were recorded, including 1,092,322 stationary and 24,729 in flight. The most numerous was the Mallard accounting for 36% of all individuals of known species seen during the survey (Table 1). Long-term changes in the abundance of wintering waterbirds were

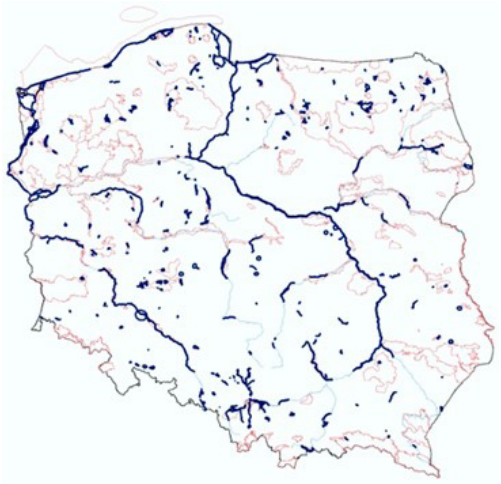


Figure 1. Distribution of IWC sites (dark blue) in Poland. Boundaries of the Natura 2000 areas are shown in red.

checked for 14 species, for which the counting method used allows the majority of individuals to be detected in a given area. An statistically significant increase in wintering populations of 12 species was recorded in the period between 2011 and 2023: Coot, Great Crested Grebe, Cormorant, Grey Heron, Common Pochard, Scaup, Tufted Duck, Whooper Swan, Mute Swan, Goldeneye, Red-breasted Merganser and Mallard. Whereas in the case of Goosander and Smew a statistically significant decrease in abundance was observed over the analysed time period.

4. DISCUSSION

In the 13 years of IWC surveys, it is clear to see how the number of individuals of duck species such as Wigeon, Teal and Gadwall, which 30-40 years ago wintered in Poland in low numbers, is increasing nowadays. Only Goosander and Smew show a decrease in numbers, which may be due to a change in distribution on their European wintering grounds, where they are moving closer to their breeding grounds as the climate warms.

The results obtained during the 13 years of monitoring confirm the very high importance of the Szczecin Lagoon with the Świna Delta and the outer and inner Puck Bay for waterbirds wintering in Poland. These water bodies gather more than 20,000 wintering waterbirds each year. The Warta Mouth National Park is also one of the most important national wintering grounds, and such a high concentration of waterbirds as in 2023 has not been found there so far. Concentrations of more than 150,000 individuals of wintering waterbirds have not yet been reported from Polish inland sites.

Far more waterbirds winter in the western than in the eastern part of Poland, influenced by the higher January temperatures and the greater number of large, rarely fully frozen bodies of water.

Acknowledgements

Many thanks to all the observers (456 in 2023) and to Tomasz Chodkiewicz and Łukasz Ławicki from the Polish Society for the Protection of Birds for their invaluable help in preparing the database. Funding was received from the Chief Inspectorate of Environmental Protection.

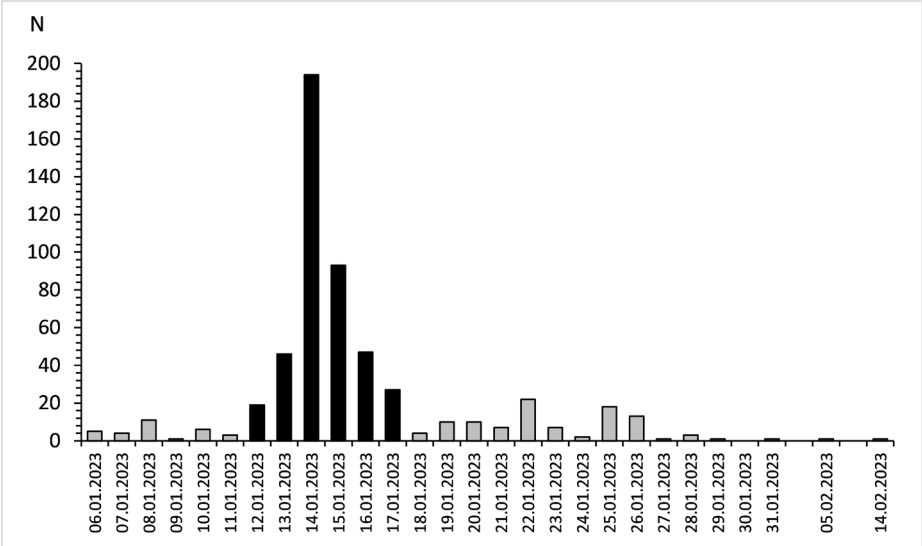


Figure 2. Dates of surveys of individual sites. Black indicates counts carried out at the optimum time.

Table 1. Waterbird numbers found during IWC surveys in 2023 in Poland.

Scientific name	Stationary	In flight	Total	Percentage
Anas platyrhynchos	339,122	2,771	341,893	36%
Anser fabalis sensu lato	74,645	7,778	82,423	9%
Aythya fuligula	80,911	65	80,976	9%
Fulica atra	68,045	4	68,049	7%
Bucephala clangula	42,282	540	42,822	5%
Phalacrocorax carbo	35,975	3,029	39,004	4%
Larus argentatus sensu lato	35,025	2,984	38,009	4%
Chroicocephalus ridibundus	24,454	2,148	26,602	3%
Aythya marila	25,340	14	25,354	3%
Anser anser	20,722	2,524	23,246	2%
Melanitta fusca	17,901	72	17,973	2%
Anas crecca	17,809	155	17,964	2%
Cygnus olor	17,218	615	17,833	2%
Mergus merganser	17,351	174	17,525	2%
Larus canus	16,693	520	17,213	2%
Aythya ferina	14,562		14,562	2%
Clangula hyemalis	12,079	108	12,187	1%
Anser albifrons	11,266	541	11,807	1%
Melanitta nigra	11,161	53	11,214	1%
Cygnus cygnus	8,981	291	9,272	1%
Podiceps cristatus	8,088	6	8,094	1%
Ardea cinerea	3,947	93	4,040	+
Mareca penelope	4,018	21	4,039	+
Mergus albellus	3,288		3,288	+
Ardea alba	2,866	82	2,948	+
Mergus serrator	820	39	859	+
Mareca strepera	742	26	768	+
Tachybaptus ruficollis	742	2	744	+
Cygnus bewickii	568		568	+
Aix galericulata	448		448	+
Gallinula chloropus	431	1	432	+
Larus marinus	394	12	406	+
Branta leucopsis	223	6	229	+
Anas acuta	170	6	176	+
Gavia stellata	66	10	76	+
Alca torda	26	33	59	+
Rallus aquaticus	58		58	+
Alopochen aegyptiaca	43		43	+
Tadorna tadorna	38		38	+
Gavia arctica	24	6	30	+
Somateria mollissima	25		25	+
Branta canadensis	19		19	+
Podiceps nigricollis	16		16	+
Podiceps auritus	13		13	+
Podiceps grisegena	8		8	+

Scientific name	Stationary	In flight	Total	Percentage
Netta rufina	5		5	+
Spatula clypeata	5		5	+
Anser erythropus	4		4	+
Aix sponsa	4		4	+
Larus fuscus	4		4	+
Aytya nyroca	3		3	+
Anser brachyrhynchus	2		2	+
Ichthyaetus melanocephalus	2		2	+
Uria aalge	2		2	+
Radjah radjah	1		1	+
Larus delawarensis	1		1	+
Hydrocoloeus minutus	1		1	+
Gavia adamsii	1		1	+
Ceephus grylle	1		1	+
Aix galericulata	448		448	+
Gallinula chloropus	431	1	432	+
Larus marinus	394	12	406	+
Branta leucopsis	223	6	229	+
Anas acuta	170	6	176	+
Gavia stellata	66	10	76	+
Alca torda	26	33	59	+
Rallus aquaticus	58		58	+
Alopochen aegyptiaca	43		43	+
Tadorna tadorna	38		38	+
Gavia arctica	24	6	30	+
Somateria mollissima	25		25	+
Branta canadensis	19		19	+
Podiceps nigricollis	16		16	+
Podiceps auritus	13		13	+
Podiceps grisegena	8		8	+
Netta rufina	5		5	+
Spatula clypeata	5		5	+
Anser erythropus	4		4	+
Aix sponsa	4		4	+
Larus fuscus	4		4	+
Aytya nyroca	3		3	+
Anser brachyrhynchus	2		2	+
Ichthyaetus melanocephalus	2		2	+
Uria aalge	2		2	+
Radjah radjah	1		1	+
Larus delawarensis	1		1	+
Hydrocoloeus minutus	1		1	+
Gavia adamsii	1		1	+
Ceephus grylle	1		1	+
Total	918,659	24,729	943,388	100%

9. Republic of Ireland



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Results of January 2023 counts of waterbirds in the Republic of Ireland

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BirdWatch Ireland
protecting birds and biodiversity

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage

An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

I-WeBS

1. INTRODUCTION

On the western fringe of Europe and strategically placed along the East Atlantic Flyway, Ireland is important for hundreds of thousands of migratory waterbirds that migrate here for winter, or on passage, to join a smaller proportion of resident waterbird species. The 3,171km long Irish coastline is characterised by many estuaries, coastal bays, lagoons and sandy or cobble beaches, while inland, there is a diversity of wetland habitats from lakes, fens and bogs, to callows (seasonally flooded grassland) and turloughs (seasonal waterbodies found in areas of limestone karst). The temperate maritime climate leads to relatively ice-free feeding conditions for wintering waterbirds, while influxes of waterbirds can occur during cold spells on the continent.

The Irish Wetland Bird Survey (I-WeBS) is one of Ireland's longest running bird monitoring schemes and will celebrate its 30th anniversary during winter 2023/24. Its primary objective is to monitor the numbers and distribution of waterbird populations wintering in the Republic of Ireland. The data collected have been used to provide a basis for site selection and designation of Special Protection Areas (SPAs) under the European Birds Directive (2009/147/EC), and for reporting on the long-term monitoring of wetland sites, including national and site-specific species trends (e.g. Kennedy et al. 2023).

2. METHODS

I-WeBS is undertaken by staff of the National Parks & Wildlife Service (NPWS) and BirdWatch Ireland as well as a network of hundreds of skilled volunteer counters across the country. During each winter season, counts are undertaken once per month between September and March inclu-

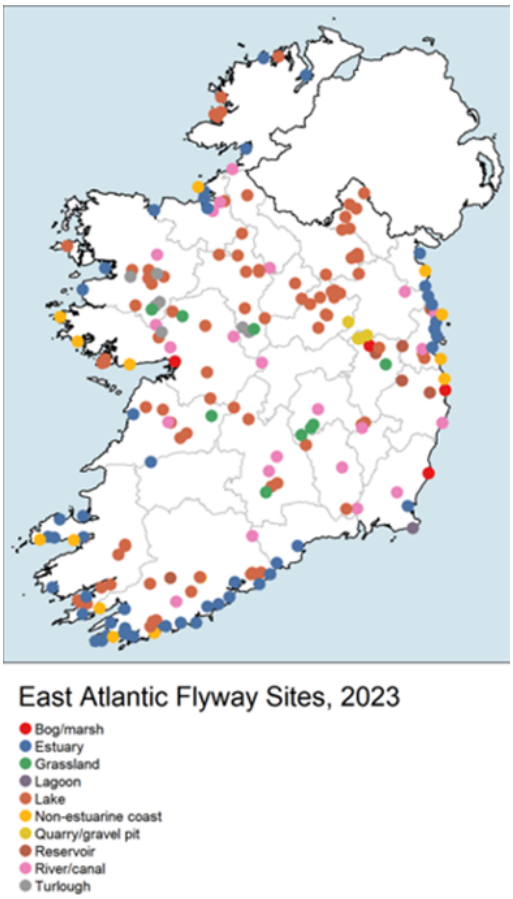


Figure 1. Sites counted during January IWC Count, also indicating type of wetland – Republic of Ireland.

sive. Count dates are pre-determined in order to maximise coordination of counts across the entire country. Full monthly count coverage is not always achieved so emphasis is put on achieving counts during the mid-winter period November to February when numbers of most waterbirds reach their peak. Counters are especially encouraged to undertake counts in January as these totals contribute to the IWC each year. Counts are undertaken largely from ground-based vantage points. A few sites are counted by boat while a few very large sites are counted via aerial surveys undertaken by the NPWS. All counts from January 2023 were obtained through ground-based surveys. During each monthly survey, counters undertake counts of waterbirds within predetermined subsites (wetland site subdivisions) within a 3-4 hour period starting on a rising or high tide (coastal sites), when waterbirds are pushed closer to shoreline roosts and are easier to count. Large sites require a team of counters who work in a coordinated manner to minimise double counting of birds. Data are largely submitted via an online data entry system, with the use of the more time-consuming paper forms now decreasing year on year.

3. RESULTS

A total of 268,510 waterbirds was counted in the Republic of Ireland during January 2023 (Table 1). This represents a 10% decrease compared to the total numbers recorded during January 2020.

Overall estuaries supported the most waterbirds (72% of the total in 2023), followed by lakes and rivers/canals. The total number of waterbirds at estuarine sites counted in both 2020 and 2023 was 10% lower in 2023. The largest species count in January 2023 was for Dunlin (37,306 individuals), followed by Wigeon, Lapwing, Oystercatcher and Golden Plover. Note that gulls are not counted as standard at all sites, so the totals for gull species represent a best lower estimate only. Although Bewick's Swan was not observed during January 2023, up to 16 individuals were recorded at Wexford Wildfowl Reserve during winter 2022/23. This species is expected to cease being a regular wintering species on the island of Ireland in the coming years (Burke et al. 2021).

4. DISCUSSION

The January 2023 waterbird count is considered to have had typical I-WeBS count coverage, and better site coverage than in January 2020, but at a total of 211 wetland sites, is substantially lower than the total number of wetland sites listed in the I-WeBS database (1,039 total sites, not including grassland sites used by foraging swans only). That said, the majority of larger wetland sites that support the most waterbirds were counted during January 2023. The major exception is the Shannon and Fergus Estuaries SPA on the western Atlantic coast which in terms of numbers of waterbirds supported, is likely to be the most important site in the Republic of Ireland. Sadly, the count coverage for this challenging 32,261ha site is poor. As ever, we endeavour to recruit, encourage and train new counters to this national monitoring survey, but count coverage is an on-going issue. The general trend for wintering waterbirds in the Republic of Ireland is for declining numbers. Burke et al. (2018) reported a decline in total numbers of 40% over nearly 20 years (up to 2015/16). Recent national trends based on modelling of sites with the best count coverage have shown that 57% of Ireland's wintering waterbirds are in long-term decline (across 23 years), including 64% of wildfowl, 60% of waders and 33% of wildfowl allies (grebes, divers, cormorants, herons and rails) (Kennedy et al. 2023). An even higher proportion is declining in the medium-term 12-year period (66% overall; 57% wildfowl, 87% waders, 33% wildfowl allies)

while 60% have shown declines in the recent 5-year period up to 2019/20.

Lying at the very western edge of Europe, Ireland is likely seeing the effects of climate change upon numbers of wintering waterbirds, with several species perhaps shifting distribution or 'short-stopping' to winter in areas closer to breeding grounds. But pressures and threats affecting Irish wetlands are undoubtedly contributing to the observed declines. Key pressures upon waterbirds in the Republic of Ireland are aquaculture and fisheries, pollution (especially of inland waterbodies), increased urbanisation and development in general, and recreational (and other) disturbance. In particular the effects of disturbance on species over-wintering survival and fitness are poorly researched and quantified during impact assessments here, and the cumulative effects of various sources of disturbance, as well as other factors, has likely taken its toll on the numbers of waterbirds returning to Ireland each autumn. Of current concern are the ongoing outbreaks of Highly Pathogenic Avian Influenza (HPAI). Winter 2021/22 sadly saw an unprecedented number of cases of HPAI ('avian flu') throughout Ireland. Several wintering waterbird species were affected by this fatal virus, as well as gulls and raptors. Particularly badly hit were Barnacle geese in Counties Sligo and Donegal. While cases in waterbirds during winter 2022/23 were low, the virus has since hit Irish breeding seabird colonies so there remains a threat as the virus continues to circulate in wild bird populations.

Acknowledgements

The Irish Wetland Bird Survey (I-WeBS) is funded by the National Parks and Wildlife Service (Department of Housing, Local Government and Heritage) and is coordinated by BirdWatch Ireland. We are indebted to the staff and volunteer waterbird counters for their hard work and dedication to the Irish Wetland Bird survey over the past 30 years.

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Table 1. Total counts of observed waterbirds during the January IWC count in 2020 and 2023. Also provided are the most recent Republic of Ireland national population estimates (see footnote for references). NA = not available.

Scientific name	Common name (EN)	Count 2020	Count 2023	% Difference	National Population Estimate
Cygnus atratus	Black Swan	3	1	-66.7	NA
Cygnus olor	Mute Swan	2,170	2,364	8.9	7,032[a]
Cygnus cygnus	Whooper Swan	2,366	3,010	27.2	14,467[b]
Cygnus columbianus	Bewick's Swan	7	0	NA	12[b]
Branta bernicla hrota	Light-bellied Brent Goose	17,613	13,108	-25.6	30,295[c]
Branta bernicla bernicla	Brent Goose (Dark-bellied)	0	2	NA	NA
Branta leucopsis	Barnacle Goose	4,914	3,398	-30.9	16,237[d]
Branta canadensis	Canada Goose	57	15	-73.7	NA
Anser anser	Greylag Goose	4,250	1,792	-57.8	2,176[e]
Anser anser	Greylag Goose (domestic)	0	1	NA	NA
Anser brachyrhynchus	Pink-footed Goose	183	3	-98.4	629[e]
Anser albifrons flavirostris	Greenland White-fronted Goose	8,587	696	-91.9	9,500[f]
Clangula hyemalis	Long-tailed Duck	48	29	-39.6	NA
Somateria mollissima	Eider	5	184	3580	NA
Melanitta fusca	Velvet Scoter	7	3	-57.1	NA
Melanitta nigra	Common Scoter	1,022	724	-29.2	NA
Bucephala clangula	Goldeneye	302	387	28.1	1,256[a]
Mergus merganser	Goosander	2	7	250	NA
Mergus serrator	Red-breasted Merganser	868	597	-31.2	1,913[a]
Alopochen aegyptiaca	Egyptian Goose	0	1	NA	NA
Tadorna tadorna	Shelduck	4,338	4,262	-1.8	6,378[a]
Aythya ferina	Pochard	34	868	2452.9	4,729[a]
Aythya collaris	Ring-necked Duck	2	0	NA	NA
Aythya fuligula	Tufted Duck	3,297	4,509	36.8	16,927[a]
Aythya marila	Scaup	6	0	NA	167[a]
Spatula clypeata	Shoveler	1,204	2,096	74.1	1,865[a]
Mareca strepera	Gadwall	155	295	90.3	515 [a]
Mareca penelope	Wigeon	28,074	22,289	-20.6	50,452 [a]
Anas platyrhynchos	Mallard	5,380	5,794	7.7	18,810 [a]
Anas platyrhynchos	Mallard (domestic)	5	496	9820	NA
Anas acuta	Pintail	805	623	-22.6	1,017 [a]
Anas crecca	Teal	17,118	18,237	6.5	27,644 [a]
Anas carolinensis	Green-winged Teal	1	1	0	NA
Tachybaptus ruficollis	Little Grebe	523	762	45.7	1,594 [a]
Podiceps cristatus	Great Crested Grebe	480	964	100.8	1,734 [a]
Podiceps nigricollis	Black-necked Grebe	2	1	-50	NA
Podiceps auritus	Slavonian Grebe	36	6	-83.3	NA
Rallus aquaticus	Water Rail	6	11	83.3	NA
Gallinula chloropus	Moorhen	194	303	56.2	NA
Fulica atra	Coot	513	3,157	515.4	13,303 [a]
Gavia stellata	Red-throated Diver	177	97	-45.2	NA
Gavia arctica	Black-throated Diver	2	2	0	NA
Gavia immer	Great Northern Diver	537	336	-37.4	NA
Ardea cinerea	Grey Heron	562	573	2	1,943 [a]
Egretta garzetta	Little Egret	354	362	2.3	1,274 [a]
Pelecanus onocrotalus	Great White Pelican	0	1	NA	NA
Gulosus aristotelis	Shag	645	704	9.1	NA
Phalacrocorax carbo	Cormorant	1,957	2,447	25	7,967 [a]

Scientific name	Common name (EN)	Count 2020	Count 2023	% Difference	National Population Estimate
Haematopus ostralegus	Oystercatcher	17,507	20,482	17	42,875 [a]
Recurvirostra avosetta	Avocet	0	1	NA	NA
Pluvialis squatarola	Grey Plover	873	971	11.2	2,812 [a]
Pluvialis apricaria	Golden Plover	36,805	18,954	-48.5	80,707 [a]
Charadrius hiaticula	Ringed Plover	1,922	2,153	12	10,545 [a]
Vanellus vanellus	Lapwing	27,980	22,155	-20.8	69,823 [a]
Numenius phaeopus	Whimbrel	65	18	-72.3	NA
Numenius arquata	Curlew	12,840	11,383	-11.3	28,300 [a]
Limosa lapponica	Bar-tailed Godwit	6,538	5,324	-18.6	13,385 [a]
Limosa limosa	Black-tailed Godwit	13,312	10,356	-22.2	17,862 [a]
Arenaria interpres	Turnstone	1,162	1,286	10.7	6,296 [a]
Calidris canutus	Knot	6,543	5,652	-13.6	13,752 [a]
Calidris pugnax	Ruff	11	9	-18.2	NA
Calidris alba	Sanderling	1,529	1,945	27.2	7,572 [a]
Calidris alpina	Dunlin	20,615	37,306	81	37,409 [a]
Calidris maritima	Purple Sandpiper	28	8	-71.4	465 [a]
Limnodromus scolopaceus	Long-billed Dowitcher	1	0	NA	NA
Scolopax rusticola	Woodcock	0	3	NA	NA
Gallinago gallinago	Snipe	429	824	92.1	NA
Lymnocryptes minimus	Jack Snipe	1	14	1300	NA
Actitis hypoleucos	Common Sandpiper	3	7	133.3	NA
Tringa ochropus	Green Sandpiper	4	1	-75	NA
Tringa erythropus	Spotted Redshank	0	1	NA	NA
Tringa nebularia	Greenshank	505	825	63.4	1,208 [a]
Tringa totanus	Redshank	8,996	8,550	-5	16,812 [a]
Charadrii sp	Unidentified wader	60	570	850	NA
Chroicocephalus ridibundus	Black-headed Gull	16,603	13,443	-19	NA
Ichthyaetus melano-cephalus	Mediterranean Gull	7	41	485.7	NA
Larus delawarensis	Ring-billed Gull	4	3	-25	NA
Larus canus	Common Gull	7,402	4,533	-38.8	NA
Larus fuscus	Lesser Black-backed Gull	673	461	-31.5	NA
Larus argentatus	Herring Gull	5,175	5,079	-1.9	NA
Larus marinus	Great Black-backed Gull	839	603	-28.1	NA
Larus glaucoides	Iceland Gull	2	3	50	NA
Thalasseus sandvicensis	Sandwich Tern	1	0	NA	NA
Sterna hirundo	Common Tern	1	0	NA	NA
Alcedo atthis	Kingfisher	11	28	154.5	NA
TOTALS		297,258	268,510		

[a]2011/12-2015/16 (Burke et al. 2018), [b] 2020 (Burke et al. 2021), [c]2017 (data from Irish Brent Goose Research Group), [d]2018 (Doyle et al. 2018), [e]2017/18 – 2019/20 (Burke et al. 2021), [f]2017/18 (Fox et al. 2018)

10. United Kingdom



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Results of January 2023 counts of waterbirds in the United Kingdom

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1. INTRODUCTION

The UK is a country with an extensive coastline, a maritime climate and a strategic geographic position on the East Atlantic Flyway. The combination makes it a favoured location for many waterbirds in winter. The Wetland Bird Survey and its predecessors allow us to take a long view of waterbird population change in the UK, with counting at some sites being continuous since 1947. We can calculate population trends from the 1966/67 winter for most wildfowl species, 1974/75 for wader species, and since at least 1993/94 for other waterbirds. WeBS is a partnership, with the survey run by a national coordination team at BTO and volunteer local coordinators for regions and estuaries.

Results are still being digitised, submitted and checked, but January 2023 counts have been submitted for 4,663 count units at 2,672 sites so far (Figure 1), already a slight increase on the January 2020 survey.

2. METHODS

Almost all the major wetlands (estuaries, freshwater bodies and marshlands) of the UK are counted at least once each year. Most counts are carried out by volunteers, or a mixture of site wardens and volunteers. Coastal sites are counted at high tide when birds are roosting. Most counts are land based, but boats are used for access in some places. Large sites are sub-divided into count units. Many small sites are also counted.

Most sites are counted once a month throughout the year, on count dates set in advance to optimise counting at high tide during daylight for as many coastal sites as possible. The data from the January WeBS counts are submitted to IWC. The reporting year runs from July to June, so the consolidation of count unit data to site totals does not take place until the following winter and results are published after this in the spring. This means that January 2023 UK totals are not yet available, the numbers reported here relate to the years 2018-2022.

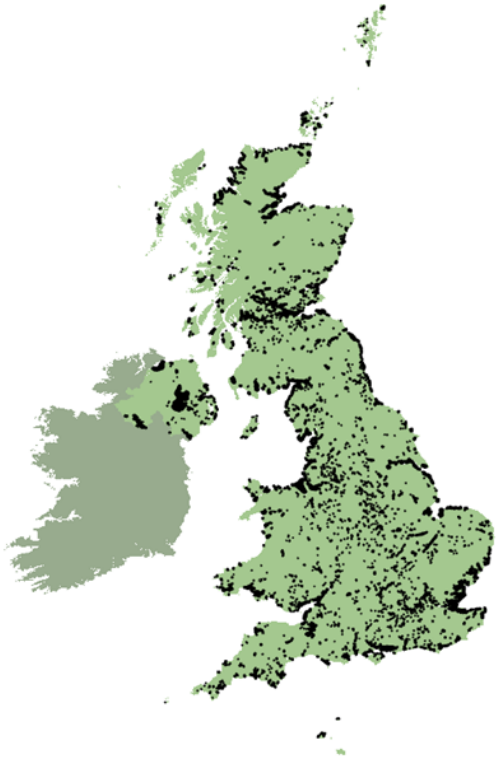


Figure 1. Map of WeBS sites counted in January 2023

3. RESULTS

Table 1 gives the average count for January 2018-2022 as January 2023 results are not yet published. January 2021 coverage was severely impacted by COVID-19 pandemic measures and so is excluded from the average.

For producing national population estimates, and depending on the species, modelling is used to extrapolate the counts to uncounted areas. The latest population estimates for Great Britain included a January estimate for some species (as well as peak winter estimates for 98 species or populations) and where available is also given in table 1. Source: Frost et al, 2019.

4. DISCUSSION

One important use of WeBS trends is in assessing species' status. In the most recently published Birds of Conservation Concern, Pochard and Ringed Plover were added to the national "Red list" due to declines of over 50% in their 25-year WeBS trends. More positively, UK WeBS trends for colonising species such as Little Egret and Great White Egret or species where there has been conservation effort such as Avocet have increased rapidly.

A key driver in the 1940s for setting up the counts was concern over habitat loss and development pressure. This is still the case today, and the WeBS dataset has been used to inform hundreds of development proposals on wetlands. In some cases this has played a major part in halting a detrimental development proposal. In other cases WeBS counts have informed requirements for compensatory wetland creation as mitigation for the loss of mudflats and other wetland habitats.

Year to year changes in populations are often in response to weather. For example, exceptionally cold weather in Eastern Europe in January 2017 pushed some birds to find refuge further west, in Britain.

Acknowledgements:

WeBS is a partnership jointly funded by the BTO, RSPB and JNCC with fieldwork conducted by volunteers. We are indebted to the time and skills of the 3,300 WeBS Counters who collected the data and the 140 volunteer Local Organisers who coordinate their efforts.

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Table 1. Average counts for January 2018-2022 excluding 2021 for East Atlantic Flyway focal species in the UK. Also given are Great Britain January estimates based on Frost et al 2019. Great Britain January estimates are not available for all species (NA), and do not include population estimates for Northern Ireland. January 2021 coverage was severely impacted by coronavirus pandemic measures and so is excluded from the average.

Scientific name	Common name (EN)	Average 2018-2020, 2022	GB January Estimate
Branta bernicla	Brent Goose	78,694	98,900
Branta leucopsis	Barnacle Goose	27,897	NA
Anser anser	Greylag Goose	62,662	NA
Somateria mollissima	Common Eider	13,966	NA
Tadorna tadorna	Common Shelduck	46,916	47,000
Spatula clypeata	Northern Shoveler	18,169	19,000
Mareca penelope	Eurasian Wigeon	342,973	440,000
Anas platyrhynchos	Mallard	117,308	620,000
Anas acuta	Northern Pintail	15775	19,000
Anas crecca	Common Teal	167,443	420,000
Podiceps cristatus	Great Crested Grebe	6,556	12,000
Podiceps auritus	Horned Grebe	160	NA
Podiceps nigricollis	Black-necked Grebe	56	99
Platalea leucorodia	Eurasian Spoonbill	56	NA
Ardea alba	Great White Egret	213	NA
Phalacrocorax carbo	Great Cormorant	23,182	45,000
Haematopus ostralegus	Eurasian Oystercatcher	192,428	260,000
Recurvirostra avosetta	Pied Avocet	8,723	7,800
Pluvialis squatarola	Grey Plover	24,068	29,000
Charadrius hiaticula	Common Ringed Plover	5,966	19,000
Numenius phaeopus	Whimbrel	17	17
Numenius arquata	Eurasian Curlew	58,823	100,000
Limosa lapponica	Bar-tailed Godwit	35,762	42,000
Arenaria interpres	Ruddy Turnstone	10,941	36,000
Calidris canutus	Red Knot	209,915	210,000
Calidris alba	Sanderling	8,250	18,000
Calidris alpina	Dunlin	275,433	320,000
Calidris maritima	Purple Sandpiper	980	8,900
Tringa erythropus	Spotted Redshank	37	49
Tringa nebularia	Common Greenshank	506	640
Tringa totanus	Common Redshank	63,377	77,000
Larus ridibundus	Black-headed Gull	196,600	NA
Larus melanocephalus	Mediterranean Gull	1,025	NA
Larus canus	Mew Gull	46,448	NA
Larus fuscus	Lesser Black-backed Gull	8,070	NA
Larus argentatus	European Herring Gull	79,531	NA
Larus marinus	Great Black-backed Gull	7,358	NA

11. Germany



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Results of January 2023 counts of waterbirds in Germany

Kim Lindner, Anton Morkovin, Nikolas Prior, Johannes Wahl & Kees Koffijberg

Federation of German Avifaunists (DDA)

1. INTRODUCTION

Coastal and offshore waters in Germany are major stopover and wintering sites for waterbirds migrating along the East Atlantic Flyway. Especially during spring and autumn migration, several million waterbirds can be found around the shallow waters and adjacent offshore areas of the North Sea and southern Baltic Sea (Gerlach et al. 2019). Characterised by tidal mudflats, numerous estuaries (notably Ems, Weser and Elbe rivers) and shallow lagoons (so-called "Boddengewässer" along the Baltic coast), the German coastal waters stand out as attractive foraging sites for various migrating waterbird species. Particularly the tidal areas of the Wadden Sea feature major waterbird concentrations each year and have been declared UNESCO Word Heritage in 2009. Further inland, agriculturally dominated areas in the lowland plains in northern and eastern Germany harbour large concentrations of migratory geese and swans, while river floodplains and pre-alpine lakes support numerous species of dabbling and diving ducks among other waterbirds. The tendency for milder winters has further increased the importance of Germany as a wintering area, as recently documented for the Bewick's Swan (Beekman et al. 2019).

The counting of waterbird populations has a long-standing tradition in Germany and can be traced back to its very beginning in the 1940's. Since the start of the International Waterbird Census (IWC) in 1966/67, systematic synchronous counts have been conducted on a regular basis. Originally organised differently in the former West and East Germany, the two counting schemes were smoothly brought together and are now part of the national waterbird monitoring scheme (MrW). Since 1990, seabird counts from ships and planes are completing the monitoring in the German offshore waters of North and Baltic Sea. The national coordination through the Federation of German Avifaunists (DDA) is supported by the

federal government as part of the national bird monitoring scheme. A large network of coordinators from site to federal state level is connecting with the people in the field.

At present, the German waterbird monitoring covers approx. 2,500 count units monthly from September to April. In January, there is an increased effort to cover as many waterbodies as possible within the framework of the International Waterbird Census (IWC, fig. 1). Moreover, important areas like the Wadden Sea are monitored year-round, with a selection of sites being covered in a bi-weekly scheme to monitor species only present for a short time during migration, such as the Spotted Redshank. These counts are part of the Trilateral Monitoring and Assessment Program (TMAP), a cooperation between the Netherlands, Denmark and Germany in the Wadden Sea. Here, complementary aerial surveys are carried out in specific months to assess numbers of seaducks and moulting Common Shelduck. In addition, agricultural areas in mainly the northern and eastern part of the country are surveyed for geese and swans. This effort is concentrated in September, November, January, March and May, i.e. months with international surveys (some regions covered monthly). For specific species like Common Crane, a network of night-roosts is covered by dedicated surveys.

Most counts are performed by volunteers, locally supported by employees from site-managing agencies or professional counters paid by the administration (often associated with the monitoring of Natura 2000 sites). Currently, over 2 000 people participate in the counts. In the 2022/2023 counting season, most volunteers belonged to the age groups of 50-59 or older with c. 20% female participants. Recently, most newly joining members belonged to the same 50+ age group, however also younger generations are increasingly joining the national waterbird counts. In comparison to 2005, the proportion of female volunteers increased from approx. 10% to 20% with regional differences (Wahl & Sudfeldt 2010). In autumn 2023, an online system showing counting site vacancies was launched, facilitating an easier participation in the census scheme. To expand the census network and its coverage in the midwinter period, we aim to highlight the importance of the Total Flyway Count in January and the International Waterbird Census in general.

2. METHODS

In the season 2023, the East Atlantic Flyway total count in Germany was predominantly organised around the weekend of January 14/15th but conducted one week later along the Wadden Sea coast due to the tidal cycle. The total count was conducted within the framework of the national waterbird monitoring scheme as well as the regional geese and swan counts. All species listed in African-Eurasian Waterbird Agreement were counted, but observers were encouraged to report an extended species list covering additional wetland-associated passerines and raptors. Goose and swan counts covered a limited set of open habitat waterbird species including species such as Golden Plover and Lapwing. According to the German Meteorological Service (DWD), January weather all over Germany was characterised by temperatures c. 4 °C above the long-term average and usually associated with the situation in early spring in March. In southern Germany, some days even experienced spring-like conditions with nearly 20°C. Hence, the tendency for a mild winter continued, as mild and often wet weather prevailed during most parts of the 2022/23 season. Consequently, ice and snow cover were much lower than usual. The only obvious cold spell occurred in the first half of December, including temporary snow cover in parts of the country.

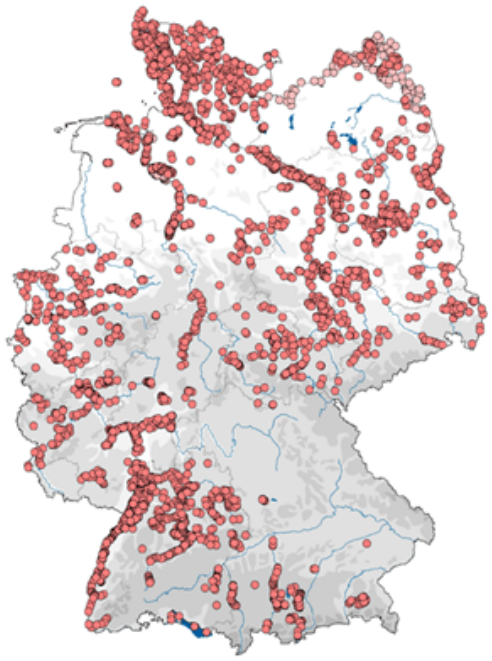


Figure 1. The January 2023 count covered 3 200 count units, for which data was available by Oct. 2023, mostly entered via ornitho.de or the associated NaturaList app. Count units marked in rosé conducted counts that were not yet digitally available in the national database. At many more sites, IWC counts have been conducted, namely in Lower Saxony (esp. Wadden Sea area), Mecklenburg-Western Pomerania and Bavaria.

Table 1. Trend statistics for five model waterbird species in January in Germany (cf. Fig. 3). Population trends: ↓↓ – strong decline (>3% per year), ↓ – moderate decline (1-3%), ↘ – slight decline (<1%), → – stable (insignificant trend, no changes), ↗ – slight increase (<1%), ↑ – moderate increase (1-3%).

Scientific name	Common name (EN)	Annual population change in January (% ± SE)			
		1968–2023		2014–2023	
Podiceps cristatus	Great Crested Grebe	+2.10 ± 0.049	↑	0.00 ± 0.46	→
Fulica atra	Common Coot	-0.53 ± 0.038	↘	-1.89 ± 0.52	↘
Cygnus olor	Mute Swan	+1.60 ± 0.044	↑	-0.09 ± 0.40	→
Anas platyrhynchos	Mallard	-1.06 ± 0.033	↓	-4.19 ± 0.40	↓↓
Aythya fuligula	Tufted Duck	+0.40 ± 0.054	↗	-1.19 ± 0.66	→

In the past years, much progress has been made to submit census data online through ornitho.de and the connected NaturaList app for direct entry in the field. These changes in submission of counts and adaptation of regional routines in database management are still work in progress, which means that we cannot present a full account on waterbird numbers present in Germany in January 2023 yet. Based on results that have been submitted so far, data from 3 200 census units (approx. half of all units counted) have been received (Fig. 1). This does not cover all sites counted, as some data still have to be submitted or processed. Based on the newest mid-winter counts, we calculated nationwide population trends for five waterbird species of different systematic positions and ecology (Great-crested Grebe, Common Coot, Mute Swan, Mallard and Tufted Duck) using R package rtrim 2.1.1 (Bogaart et al., 2020; Table 1). We further present overall trends for the whole season from September to April as well as estimated seasonal abundance changes.

3. RESULTS

The preliminary trends based on long-term and recent January data show different developments for the five species (Figure 2, Table 1): Mute Swan and Great-crested Grebe display a moderate increase, whereas Mallard has experienced a moderate decline since the late 1960s. Population changes in Common Coot and Tufted Duck are less pronounced but tend to decline more recently likewise. Common Coot, Mallard and Tufted Duck

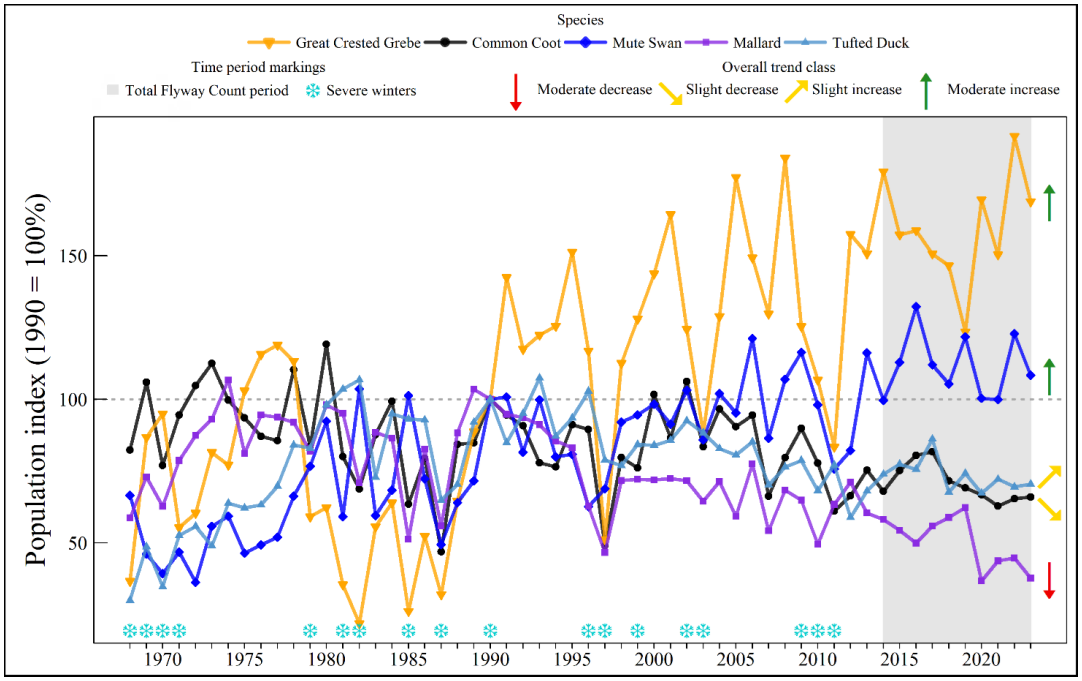


Figure 2. Long-term trends in five model waterbird species in January in Germany relative to 1990 (100%). Harsh winters are marked on the x-axis. Arrows denote trend symbols reflecting the long-term trend from 1968 onwards (cf. tab. 1).

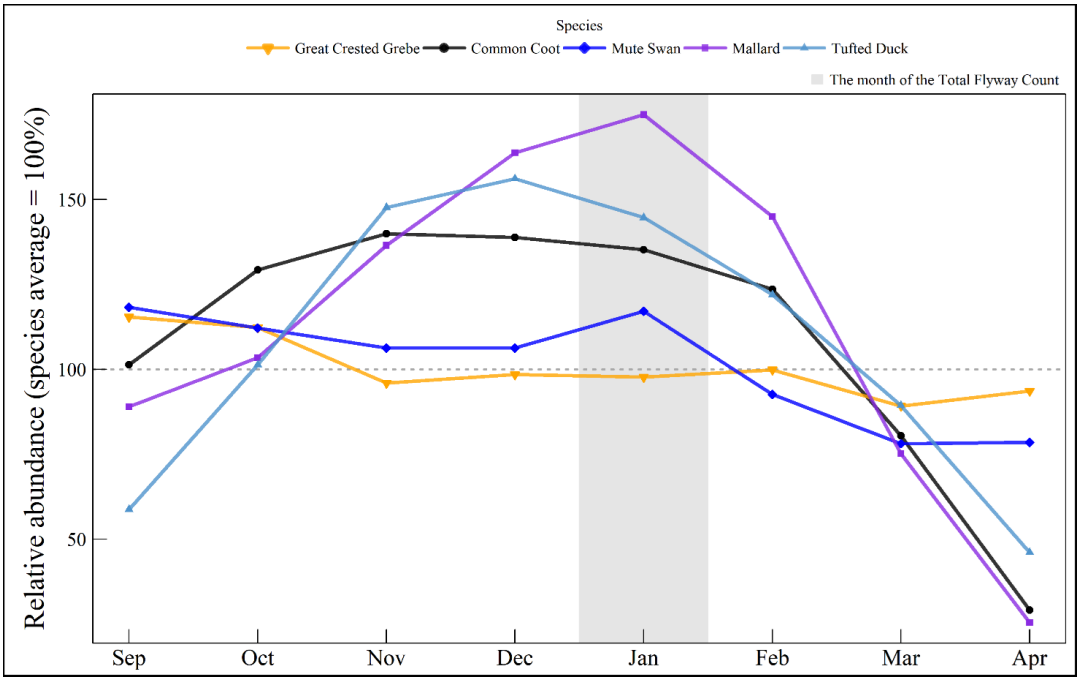


Figure 3. Phenology in five model waterbird species in Germany from 2013/2014 to 2022/2023.

reach their seasonal peak in December while Great-crested Grebe and Mute Swan are stable over the most part of the count season (Figure 3).

4. DISCUSSION

Multiple factors have been identified to affect waterbird numbers in Germany. For the selected species, especially Great-crested Grebe seems to be subject to pronounced decreases in severe winters, resulting in an exodus to offshore waters or southbound movements to avoid winter weather. The large dynamics in this species (especially peak numbers in some years) require further investigation. Earlier flyway assessments have shown stable trends in recent years (van Roomen et al., 2022), while numbers in Germany still suggest an upward trend. Increases in Mute Swan are likely associated with the general increase of herbivorous species in response to the intensification of agriculture and subsequent improvements in feeding opportunities over the past decades. However, this increase seems to ease in recent years. In Mallard, the long-term downward trend has accelerated within the past decade and corresponds well with the overall negative trend observed in the East-Atlantic Flyway. For more than 10 years, no harsh first half of winter occurred, which may have contributed to the accelerating decline due to short-stopping or cessation of migratory behaviour. Trend values based on counts from September to April (not presented here) show similar results, but much more pronounced recent declines, suggesting that negative tendencies were linked with changes in the beginning or the end of the wintering period. Estimates based on January counts only may be subject to variation due to winter weather (Fig. 3) and thus not always reflect the underlying population trends. On a continental scale, these aspects are less pronounced as the entire flyway population is covered. However on a national or site level, multiple counts over the winter season are necessary to capture changes in waterbird abundances.

Apart from changes in distribution and numbers caused by warmer winters, the rise of renewable energies is an emerging issue. In addition to expanding wind energy areas, the use of floating solar panels in larger waterbodies rapidly increases. This development is still in an early stage, but a national assessment of important waterbodies and wetlands is essential to identify the relevant stopover, wintering and moulting sites for waterbirds to exclude these from the speeding up expansion of renewable energies also outside Special Protection Areas.

Acknowledgements

Above all, we would like to thank all observers of the 2023 Total Flyway Count – especially the long-time volunteers, who continuously

participate in one of our waterbird censuses. A special thanks go out to our regional, often similarly voluntary coordinators who through their untiring support contribute immensely to the success of the nationwide waterbird monitoring: Hans-Joachim Augst, Johannes Baust, Katja Behm, Rüdiger Burkhardt, Bernhard Disch, Thomas Dolich, Norman Donner, Heidemarie Eichstädt, Regina Eidner, Werner Eikhorst, Jost Einstein, Jochen Fischer, Armin Goergen, Klaus Günther, Thomas Heinicke, Bernd Heinze, Uwe Helbing, Iris Herrmann, Christine Kowallik, Mona Kuhnigk, Michael Kulick, Jochen Lehmann, Bernd Litzkow, Martin Müller, Simone Müller, Frank Radon, Sören Rust, Kathrin Schidelko, Falk Schieweck, Michael Schmolz, Hilmar Schnick, Martin Schulze, Rico Spangenberg, Dietmar Sperling, Darius Stiels, Stefan Sudmann, Günter Süßmilch, Klaus-Henry Tauchert, Mathias Vieth, Stefan Wolff, Detlef Wucherpfennig. We further want to thank our colleagues along the flyway for their trusting collaboration and stimulating exchange. On the national level our work is supported by the Federal Nature Conservation Agency (BfN) and the federal state agencies through the Administrative Agreement on bird monitoring in Germany, for which we are thankful.

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12. The Netherlands



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Results of January 2023 counts of waterbirds in The Netherlands

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1. INTRODUCTION

The Netherlands are a fairly small low laying country in Western Europe bordering the North Sea. Large parts of the country are a big delta of the Rhine, Meuse, Schelde and Eems rivers. Thanks to its water rich character (almost 20% of the area of The Netherlands consists of surface water), relatively mild winters and location on the East Atlantic migration route, The Netherlands is very attractive for wintering and migrating waterbirds. Waterbird counts in The Netherlands have a long tradition, the IWC counts in the Netherlands are organised from 1967 onwards. Locally some counts already even in 1947. Nowadays the waterbird counts, which are carried out monthly from September to April (and in some important areas year round) are part of a national governmental ecological surveillance scheme ('Netwerk Ecologische Monitoring'). The data is mainly used to inform about species' abundance and their trends, which are estimated at a national scale as well as for specific sites (Natura 2000, other important bird areas and specific goose and swan sites).

2. METHODS

In January 2023 in total c. 2900 counting units were counted covering c 23,000 km² which is approximately 55% of the country's surface.

Large-scale and systematic waterbird surveys have been carried out in the Netherlands for decades. The scheme has a fixed set up and is carried out following standardised guidelines and routines (Hornman et al. 2022). Sovon coordinates this scheme in close collaboration with national as well as regional governmental bodies and Statistics Netherlands (trend analyses and quality control). Fieldwork is carried out by c. 2,200 volunteers, while in some larger areas also professional counters are involved (sometimes ship-based or aerial

surveys). Counting effort focuses on all important wetlands and goose and swan staging/wintering sites, including vast farmland areas.

Waterbird counts are carried out monthly in September-April (additional goose counts in May), in some areas year round (e.g. SW Delta area, Ijsselmeer and Noord-Holland, Frisian and Groningen Wadden Sea coasts). The highest counting effort is achieved during the International Waterbird Census (IWC) in January. At this time, numerous smaller waterbodies, urban parks and various canals are additionally visited, with focus on the low western part of the country, where the largest concentrations of waterbirds occur. Tidal areas are counted during high tide, whereas the open waters of Lake IJsselmeer, Lake Markermeer, Wadden Sea and North Sea (coastal zone as well as offshore) are covered with aerial surveys (latter only in January and November). For seabirds, the data of aerial surveys are supplemented by systematic seawatch data from coastal viewpoints.



Figure 1: Parts of the Netherlands counted for all waterbird species (in blue) and sites counted for geese and swan (in green) in January.

3. RESULTS

Unfortunately, the January 2023 count took place under very unfavourable circumstances. Due to stormy weather and heavy rainfall, a number of important areas, especially in the Wadden area in particular some important sandbanks and small islands, could not be reached (by boat) and therefore not counted. The Wadden Sea complete count was therefore far from complete: approximately 1/3 of the birds were not counted there. We have therefore made an imputation (additional estimate) for the uncounted areas in the Wadden area. For most species only a relatively small number of individuals (at most a few percent) have been added to the total number counted. However, for waders, and in particular the species that gather in large groups on those sandbanks and islands (such as Oystercatcher, Knot, Dunlin, Bar-tailed Godwit and Curlew) the imputation made a big difference (up to c. 50% of imputation).

Although the count was incomplete, in total 5.33 million birds (rounded) were counted. With the imputation for the non counted areas total number increased to 5.62 million. Since 2011 total number of counted waterbirds was never below 5 million (average 5.48 million). Greater white-fronted Goose (833,000), Wigeon (656,000) and Barnacle Goose (601,000) were the most numerous bird species, as was the case in most years before, although Greater white-fronted Goose and Wigeon pushed Barnacle Goose from rank 1 to 3. Thanks to the quick submission of counting data (thanks to online portals and apps) the result of the January 2023 count is already as good as complete .

4. DISCUSSION

After decades of continuous increase, the average number of waterbirds in the Netherlands stabilized already around 2000 and is declining in recent years. The decline is mainly due to lower numbers in some goose and swan species and the group of species that mostly overwinter northeast of our country have been declining here over the past decades, as they winter further north. Species that primarily overwintered southwest of the Netherlands are now showing an increase in the Netherlands because of a range shift caused by milder winters.

Many species qualifying for Natura 2000-sites show a status quo of their long-term trends. Abundance in species with a favorable conservation status usually is still above levels which had been defined as a favorable number. On the other hand, a group of 20 species in an unfavorable conservation status do not show signs of recovery, partly also mirroring developments at flyway level. At site-level there are 27 SPAs for which at least half of the qualifying species occur in numbers above conservation objectives, while in 30 SPAs numbers in at least half of all qualifying species remained below target level. Online, www.sovon.nl/nl/gebieden gives a full overview of all sites, species and trends as well as links to general information about these sites.

Acknowledgements

In January 2023 about 2200 volunteer counters participated in the IWC census. I would like to thank them all for their time and commitment. Thanks to their enthusiastic and unremitting commitment, the regional coordinators were able to motivate many counters and recruit new ones. Without the professional counts in the Delta area, Lake IJsselmeer and North Sea coast the census wouldn't be complete.

The Dutch Waterbird scheme is part of the Dutch governmental Network of Ecological Monitoring (NEM) and is commissioned by Rijkswaterstaat - Central Information Services, and the Ministry of Agriculture, Nature and Food Quality. It is carried out by Sovon Dutch Centre for Field Ornithology and Statistics Netherlands.

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Table 1. Counted numbers (preliminary) of selected species (East Atlantic Flyway focal species) in The Netherlands during the IWC waterbird count in January 2023. Numbers marked with an asterisk (*) are counted plus imputed numbers, due to unfavorable conditions in the Wadden sea (see text). The total average population estimates in the Netherlands (including estimates for uncounted sites) in 2016/17-2020/21 are given as well (Hornman et al. 2022), NA is not assessed.

Scientific name	Common name (EN)	2023	Total estimate 2017-2021
Branta bernicla	Brent Goose	54,466*	52,100
Branta leucopsis	Barnacle Goose	601,061*	768,000
Anser anser	Greylag Goose	464,457*	554,000
Tadorna tadorna	Common Shelduck	60,573*	46,800
Spatula clypeata	Northern Shoveler	14,278*	19,700
Anas penelope	Eurasian Wigeon	655,862*	863,000
Anas platyrhynchos	Mallard	232,598*	429,000
Anas acuta	Pintail	27,632*	24,600
Anas crecca	Common Teal	89,006*	79,300
Aythya marila	Greater Scaup	90,203	74,600
Somateria mollissima	Common Eider	38,451	63,800
Melanitta nigra	Common Scoter	66,135	45,000
Bucephala clangula	Common Goldeneye	5,103*	6,600
Mergus serrator	Red-breasted Merganser	6,175*	6,800
Podiceps cristatus	Great Crested Grebe	18,257	23,000
Podiceps auritus	Horned Grebe	91	120
Podiceps nigricollis	Black-necked Grebe	636	810
Phoenicopterus roseus	Greater Flamingo	20	NA
Phalacrocorax carbo	Great Cormorant	29,975*	58,400
Platalea leucorodia	Eurasian Spoonbill	126	NA
Bubulcus ibis	Catlle Eagret	16	NA
ardea cinerea	Grey Heron	7,729	15,100
Ardea alba	Great White Egret	6,705	11,500
Egretta garzetta	Little Egret	399	NA
Haematopus ostralegus	Eurasian Oystercatcher	137,689*	167,000
Recurvirostra avosetta	Pied Avocet	5,307*	2,970
Pluvialis squatarola	Grey Plover	28,716*	28,300
Charadrius hiaticula	Common Ringed Plover	781*	450
Charadrius alexandrines	Kentish Plover	0	NA
Numenius phaeopus	Whimbrel	9	NA
Numenius arquata	Eurasian Curlew	119,762*	150,000
Limosa lapponica	Bar-tailed Godwit	45,865*	62,000
Arenaria interpres	Ruddy Turnstone	7,322*	7,300
Calidris canutus	Red Knot	51,642*	52,400
Calidris alba	Sanderling	10,297*	15,700
Calidris alpina	Dunlin	337,332*	249,000
Calidris maritima	Purple Sandpiper	273	NA
Calidris minuta	Little Stint	6	NA
Actitis hypoleucos	Common Sandpiper	10	NA
Tringa totanus	Common Redshank	14,861*	12,300
Tringa erythropus	Spotted Redshank	167*	NA
Tringa nebularia	Common Greenshank	31*	NA
Larus ridibundus	Black-headed Gull	245,264*	349,000
Larus melanocephalus	Mediterranean Gull	26	NA
Larus canus	Mew Gull	249,054*	340,000
Larus marinus	Great Black-backed Gull	4,915*	24,000
Larus argentatus	European Herring Gull	79,254*	161,000
Larus cachinnans	Caspian Gull	462	NA
Laurus michahellis	Yellow-legged Gull	82	NA
Larus fuscus	Lesser Black-backed Gull	230	NA
Sterna sandvicensis	Sandwich Tern	35	NA
Sterna hirundo	Common Tern	3	NA

13. Belgium



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Results of January 2023 counts of waterbirds in Belgium

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RESEARCH INSTITUTE
NATURE AND FOREST

1. INTRODUCTION

Coastal waterbird numbers in Belgium are rather small. The main reason is that, of all the European countries bordering the sea, Belgium has one of the shortest (65.4 km in length) and most urbanised coastlines with few suitable habitats for waterbirds. Along the coast, narrow sandy beaches prevail, with broader beaches restricted to the west coast near De Panne (c. 3 km long) and at both sides of the Zeebrugge harbour piers (c. 1 km). The tidal range amounts to between 3-5 m. Stony breakwaters - constructed to prevent marine erosion - are a characteristic feature along the Belgian shoreline. More than half of the entire length of the coast (34 km) is bordered with buildings and boulevards. Intertidal saltmarshes and mudflats are found at two locations: the eastern bank of the Yzer estuary at Nieuwpoort and the tidal inlet of the Zwin area near the Dutch border. The tidal flats and saltmarshes along the river Yzer cover about 33 ha, beside some 25 ha of dune habitats. The Zwin nature reserve at Knokke is part of a transboundary wetland, with around 250 ha in Belgium and 25 ha in The Netherlands. Both these areas are nationally and internationally protected, with tidal habitats recently been restored and expanded by nature restoration projects. Until 10 years ago, also the port of Zeebrugge held important waterbird numbers but most of the suitable feeding areas for waders have been gradually disappearing due to the construction of new container terminals.

2. METHODS

Mid-monthly waterbird counts in Flanders – the northern region of Belgium - are carried out during the period of October to March (Devos et al. 2020) and also cover coastal habitats. Hence, they provide quite complete and reliable information about the numbers and trends of waterbirds that occur along the Belgian coast. These counts are organised by the Flemish Research Institute for Nature and Forest (INBO), while most of the field-

work is done by skilled volunteers (with support of the NGO Natuurpunt).

For the East Atlantic Flyway survey 2023, almost all counts took place on 22/23 January and included all waterbird species, with exception of gulls. Waders along the coast were counted during high tide, when they gather on high tide roosts. Traditional roost places are well known and their coverage during the 2023 count can be regarded as quite complete. In order to minimise the effects of bird movements, the majority of the roosts were counted more or less simultaneously (by 10 counters).

3. RESULTS

The results of the East Atlantic Flyway count along the Belgian coast in January 2023 are summarized in Table 1 and compared to total species numbers in Belgium and numbers in 2020. The most numerous species were Dunlin, Eurasian Oystercatcher and Northern Lapwing. The distribution of typical coastal species as Sanderling, Dunlin and Ruddy Turnstone is largely restricted to the Belgian coastline, so their numbers are very close to the total Belgian population number. In contrast, some wader species such as Northern Lapwing, Golden Plover and Eurasian Curlew mainly occur at inland sites, especially on agricultural grasslands and arable fields. Their numbers in coastal areas only represent a small proportion of the Belgian population.

4. DISCUSSION

Placed in an international context, numbers of coastal waders wintering in Belgium are rather small and do not represent a large proportion of total flyway populations (< 1%). For most species, numbers counted in January 2023 were slightly higher than in 2020. This is mainly due to the positive response of several species to the large nature restoration project in the Zwin area near Knokke, by which 120 ha of new tidal habitat was created on formerly arable land. The largest increase was recorded in the numbers of Pied Avocet, with 324 birds (only 47 in 2020). The only coastal species that showed a significant decrease compared to 2020 was Ruddy Turnstone (665 vs 1,197). It is however not yet clear if this fits within a negative trend on the longer term or is rather a short-term fluctuation.

Acknowledgements

Many thanks go to the dedicated volunteers that were involved in the counts along the Belgian coast: Paul Lingier, Serge Allein, Geert Jonckheere, Jean Pieters, Roland François, Bart Put, Wouter Faveyts, Leo Declercq, Luc Maertens, Guido Rappé, Georges De Putter, Frank De Scheemaeker and Marc De Ceuninck.

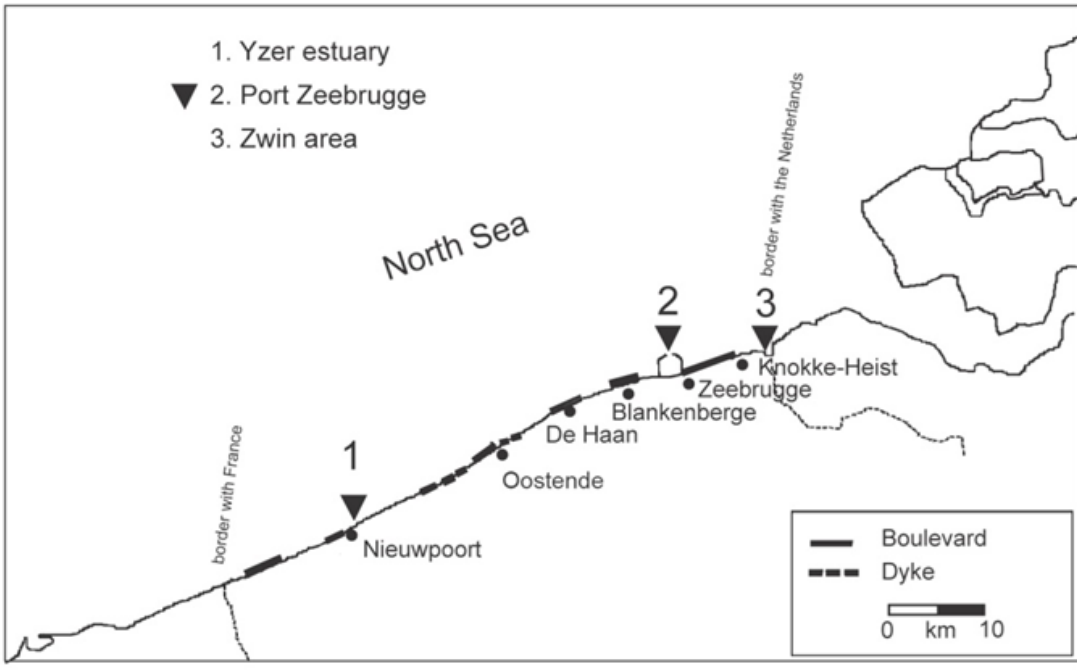


Figure 1. Map with the Belgian shoreline and indication of the main wintering areas of coastal waterbirds.

References

Devos K., T'jollyn F., Desmet P., Piesschaert F. & Brosens D. 2020. Watervogels – Wintering waterbirds in Flanders, Belgium. ZooKeys 915: 127-135. https://doi.org/10.3897/zookeys.915.38265.

Table 1. Species totals of coastal waterbirds along the Belgian coast and for the whole of Belgium during the mid-January count 2023, compared with count results of 2020.

Scientific name	Common name (EN)	Coast 2023	Total Belgium 2023	Coast 2020	Total Belgium 2020
Branta bernicla	Brent Goose	32	48	24	27
Branta leucopsis	Barnacle Goose	7	11,631	8	13,220
Somateria mollissima	Common Eider	0	0	1	1
Tadorna tadorna	Common Shelduck	376	3,209	368	3,207
Spatula clypeata	Northern Shoveler	2	4,632	4	3,698
Mareca penelope	Eurasian Wigeon	320	40,229	233	30,537
Anas platyrhynchos	Mallard	389	45,767	400	45,291
Anas acuta	Northern Pintail	54	920	25	442
Anas crecca	Common Teal	27	16,455	23	9870
Podiceps cristatus	Great Crested Grebe	43	1,865	27	2,111
Platelea leucorodia	Eurasian Spoonbill	3	14	1	13
Phalacrocorax carbo	Great Cormorant	64	5,316	78	6,233
Haematopus ostralegus	Eurasian Oystercatcher	1,965	2,317	1,654	1,959
Recurvirostra avosetta	Pied Avocet	324	416	47	262
Pluvialis squaterola	Grey Plover	276	276	187	187
Pluvialis apricaria	Golden Plover	1	4,180	0	4,437
Charadrius hiaticula	Common Ringed Plover	84	96	82	82
Vanellus vanellus	Northern Lapwing	1,025	35,401	779	35,448
Numenius phaeopus	Whimbrel	0	0	1	1
Numenius arquata	Eurasian Curlew	364	7,682	339	9,076
Limosa limosa	Black-tailed Godwit	11	11	2	11
Limosa lapponica	Bar-tailed Godwit	2	2	0	0
Arenaria interpres	Ruddy Turnstone	665	657	1,197	1,199
Calidris canutus	Red Knot	2	2	7	7
Calidris alba	Sanderling	345	345	251	251
Calidris alpina	Dunlin	2,207	2,285	1,847	1,858
Calidris maritima	Purple Sandpiper	36	36	38	38
Tringa erythropus	Spotted Redshank	11	16	11	11
Tringa totanus	Common Redshank	534	713	302	356
Total number		**9,169**	**184,521**	**7,936**	**169,833**

14. France



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Results of January 2023 counts of waterbirds in France/ Comptage des Oiseaux d'eau à la janvier 2023 en France

Caroline Moussy (IWC Coordinator for France) & Gwenaël Quaintenne (IWC French database manager)
LPO Ligue Pour la Protection des Oiseaux, BirdLife International France, wetlands-france@lpo.fr.

1. INTRODUCTION

At the crossroad between the Black Sea-Mediterranean and the East Atlantic flyways, France is an attractive country for many overwintering waterbird species thanks to the number and diversity of its wetlands and its network of protected areas. Most waterbirds are found along the North Sea and the Channel Sea, the Bay of Biscay, and the Mediterranean Sea, totalling 5,165 km of coastline. They frequent large estuarine bays and intertidal flats, coastal marshes, mediterranean lagoons, linear rocky and sandy shorelines. Inland wetlands are also of great importance, including some large wetlands areas such as the Rhine Valley, the region of Champagne and lakes and ponds of the Brenne and the Dombe areas. Each year over 2.7 million waterbirds are counted by a growing network of volunteer & professional birdwatchers and protected area managers, making the IWC one of the largest and longest running citizen science programmes in France.

2. METHODS

The IWC in France relies mainly on the network of some 70 local coordinators deployed at the scale of administrative Counties and Regions. They coordinate participants, organise the cover and date of the census and oversee data reporting to the national coordination. Relaying the official date of the IWC in Europe and Africa (fixed to the 14th-15th January in 2023) a 7-days windows is allowed to account for local constraints such as tidal cycle or bad weather. Since 2016, the process for reporting census data goes through an online reporting module developed by Germany on the Biolovision Sàrl database and dedicated to IWC. This new system of reporting was only possible thanks to the hard work done by the local coor-

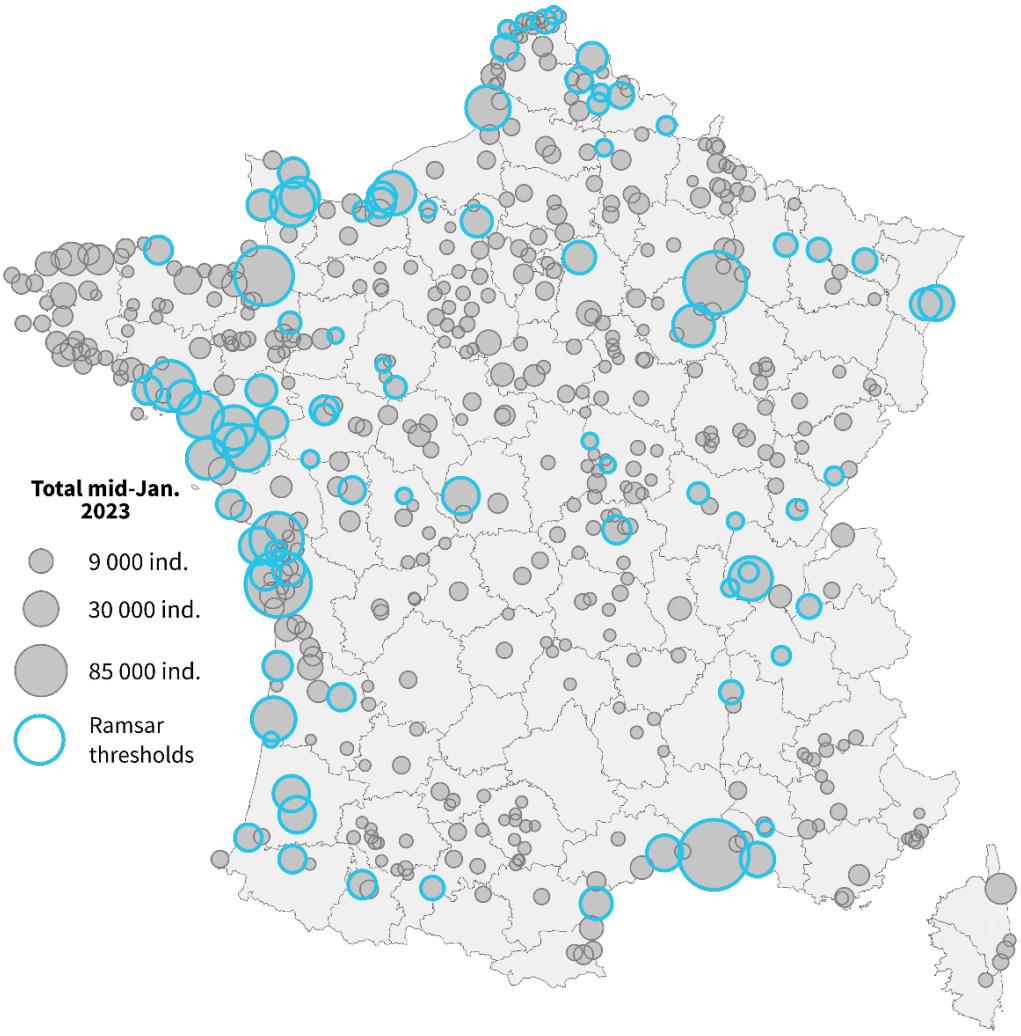


Figure 1. Cover of the 2023 IWC in France. Total number of waterbirds counted during the 2023 mid-January census in France and location of sites meeting criteria for international importance (blue circles) are given as well.

dinators to digitize more than 10,000 counting units inside some 500 functional sites. Using this system, observers can now report their observations directly in the field using the smartphone app NaturaList. Most sites are visited on foot, but boats are also used to visit islands and some lakes. Due to its extent and inherent accessibility problems, only the Camargue is surveyed each year by plane. In 2023, 488 sites were counted (Figure 1, i.e. a good cover of 94% of active sites) for a total of 2,746,882 waterbirds. More than 1,500 birdwatchers - mainly volunteers but also professional from Nature Conservation NGOs, public agencies, protected areas etc. - were involved in the census. Each year, an annual report describing the key figures and conditions of the counts is published, along with an appendix describing numbers, distributions and trends of some 70 regular species. These documents can be found here: https://www.lpo.fr/la-lpo-en-actions/connaissance-des-especes-sauvages/suivis-ornithologiques/oiseaux-d-eau/wetlands-international/telechargez-les-bilans-wetlands.

3. RESULTS

The results of the 2023 International Waterbird Census in France are presented in table 1.

4. DISCUSSION

The winter 2022/23 in France was very mild until the beginning of January, the second half of the month was cooler after the break of several storms and depressions, with snowy spells in lowlands and high winds through several parts of the country. These events have locally disturbed counts due to low visibility and frost, but most of sites (>90%) have reported good conditions. At 2,754,378 individuals, total counts were within

the average, except of for Ducks, Goose, Grebes, and Common Coot, whose counts were below average. The fall in Anatidae numbers is further exacerbated by low counts reported for the Camargue (-37% versus 5yrs mean), the primary site for this group. The aerial census of the site had to be postponed to the first half of February due to mistral for weeks at a time. Several species reached new lows, including Common Goldeneye, Greater Scaup, Common Pochard and Tufted Duck. On the other hand, and probably because of the cold spell, with 163,198 birds, the count was the second highest for Common Teal. In a context of long-term increase, numbers of Crane and Ardeidae were above average. Waders' counts were also higher than average, mainly because of the influx of Eurasian Lapwing (with an occurrence record on sites), while the Golden Plover recorded its highest count ever with 57,492 individuals. Coastal numbers of Pied Avocet, Ringed Plover, and Red Knot were below average. For instance, Red Knot numbers were down 30% vs. 2022, corresponding to the same levels observed in January 2018 and 2019 following poor breeding seasons. Numbers of Dunlins, Grey Plover or Eurasian Curlew were higher relative to 2022. Counts of Laridae were within the average. Their national winter census (on roosting sites) is planned for winter 2023/24. Due to high wind events, coastal numbers of Mediterranean Gull reached a new high this year, with some individuals also reported in inland sites, such as in the Rhône Valley. 669 individuals were reported for the rarer Little Gull, representing the third highest count and the first for occurrence with 44 sites reporting the species. Unusual high numbers of Grey Phalarope (highest record of 40 ind.) are also significant.

Acknowledgements

This work would have been impossible without the participation of field ornithologists, mostly volunteers, counting birds for a large number of ornithological associations and organizations.

Table 1. Total numbers of EAF assessment focal species recorded in France in mid-January 2023. Numbers are given according to each Wetland International regions (North-West Europe, North-West Mediterranean and Central Europe)

EAF assesment Focal Species			Nb. ind. mid-january 2023 per WI regions & total			
Scientific name	Common name (EN)	Nom vernaculaire (FR)	NW Europe	NW Med	C Europe	Total France
Branta bernicla	Brent Goose	Bernache cravant	92,537			92,537
Branta leucopsis	Barnacle Goose	Bernache nonnette	429		2	431
Anser anser	Greylag Goose	Oie cendrée	10,831	99	424	11,354
Somateria mollissima	Common Eider	Eider à duvet	224			224
Tadorna tadorna	Common Shelduck	Tadorne de Belon	46,553	6,694	13	53,260
Spatula clypeata	Northern Shoveler	Canard souchet	32,103	7,291	62	39,456
Mareca penelope	Eurasian Wigeon	Canard siffleur	28,317	3,473	540	32,330
Anas platyrhynchos	Mallard	Canard colvert	194,190	25,795	8,826	228,811
Anas acuta	Northern Pintail	Canard pilet	14,093	1,276	142	15,511
Anas crecca	Common Teal	Sarcelle d'hiver	137,780	24,192	1,228	163,200
Podiceps cristatus	Great Crested Grebe	Grèbe huppé	23,869	3,234	797	27,900
Podiceps auritus	Horned Grebe	Grèbe esclavon	169	1		170
Podiceps nigricollis	Black-necked Grebe	Grèbe à cou noir	2,753	2,252		5,005
Phoenicopterus roseus	Greater Flamingo	Flamant rose		49,014		49,014
Platalea leucorodia	Eurasian Spoonbill	Spatule blanche	1,906	250		2,156
Ardea alba	Great White Egret	Grande Aigrette	7,793	601	232	8,626
Pelecanus rufescens	Pink-backed Pelican	Pélican gris		7		7
Phalacrocorax carbo	Great Cormorant	Grand Cormoran	62,420	10,661	2,285	75,366
Haematopus ostralegus	Eurasian Oystercatcher	Huîtrier pie	43,902	11		43,913
Recurvirostra avosetta	Pied Avocet	Avocette élégante	14,124	1,626		15,750
Pluvialis squatarola	Grey Plover	Pluvier argenté	36,021	1,644		37,665
Charadrius hiaticula	Common Ringed Plover	Pluvier grand-gravelot	10,297	184		10,481
Charadrius alexandrinus	Kentish Plover	Gravelot à collier interrompu	130	443		573
Numenius phaeopus	Whimbrel	Courlis corlieu	62	1		63
Numenius arquata	Eurasian Curlew	Courlis cendré	30,147	413	7	30,567
Limosa lapponica	Bar-tailed Godwit	Barge rousse	7,657	1		7,658
Arenaria interpres	Ruddy Turnstone	Tournepierre à collier	22,839	141		22,980
Calidris canutus	Red Knot	Bécasseau maubèche	31,085	32		31,117
Calidris alba	Sanderling	Bécasseau sanderling	23,374	90		23,464
Calidris alpina	Dunlin	Bécasseau variable	308,018	22,601	1	330,620
Calidris maritima	Purple Sandpiper	Bécasseau violet	925			925
Calidris minuta	Little Stint	Bécasseau minute	37	1,413		1,450
Tringa erythropus	Spotted Redshank	Chevalier arlequin	302	2		304
Tringa nebularia	Common Greenshank	Chevalier aboyeur	620	85		705
Tringa totanus	Common Redshank	Chevalier gambette	5,728	455		6,183
Chroicocephalus genei	Slender-billed Gull	Goéland railleur	1	437		438
Chroicocephalus ridibundus	Black-headed Gull	Mouette rieuse	230,282	23,889	3,102	257,273
Ichthyaetus melanocephalus	Mediterranean Gull	Mouette mélanocéphale	10,610	2,780		13,390
Ichthyaetus audouinii	Audouin's Gull	Goéland d'Audouin		4		4
Larus canus	Mew Gull	Goéland cendré	15,895	1		15,896
Larus fuscus	Lesser Black-backed Gull	Goéland brun	10,147	6		10,153
Larus argentatus	European Herring Gull	Goéland argenté	62,900		1	62,901
Larus marinus	Great Black-backed Gull	Goéland marin	8,698			8,698
Thalasseus sandvicensis	Sandwich Tern	Sterne caugek	346	526		872

15. Spain



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Results of January 2023 counts of waterbirds in Spain

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1. INTRODUCTION

Spain is a very important region to spend the winter and as a key stop on the migratory route of a significant number of waterfowl. Winter censuses of these species have been carried out since the 1980s and each year they improve in coverage and quality. The reports from the International Waterbird Census (IWC) represent the longest-running coordinated monitoring program in Spain. SEO/BirdLife began coordinating, conducting, and collecting survey data through volunteers in the 1960s. Since then, monitoring has grown in participation and commitment; to the point that there are now autonomous communities that systematically carry out surveys every year.

For some years now, it has been up to the Ministry of the Environment to coordinate this work at the national level, and to the autonomous communities that carry out censuses within their territories. It is SEO/BirdLife who annually compiles all the information in a database, where data from censuses carried out by volunteers and local groups in some provinces and autonomous communities are also added.

SEO/BirdLife also acts as international coordinator, to ensure that all data is included in the World Wintering Waterbird Compilation; within the framework of Wetlands International.

On average, in Spain there are more than 1,000 waterbird sites counted (figure 1), although annual coverage depends on the resources available to the autonomous communities that control them. In recent years, some of these regions have not been surveyed for several winters. In the Canary Islands, censuses have begun to be carried out a few years ago.

2. METHODS

The autonomous communities provided information on winter waterfowl censuses for the national

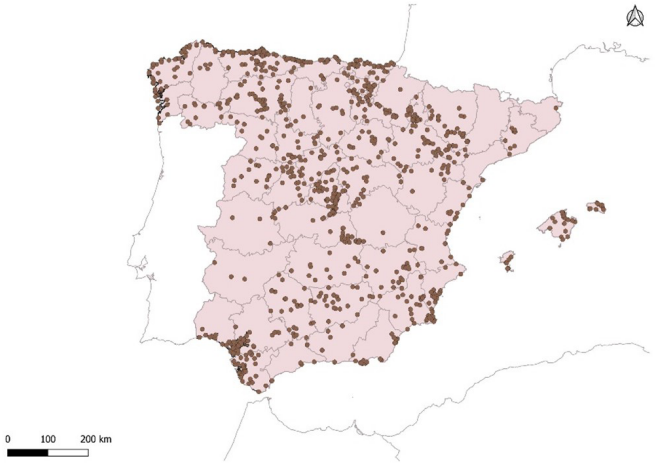


Figure 1. Cover of waterbird sites for the period 2009-2016 in Spain

compilation carried out by SEO/BirdLife for the Ministry of the Environment. Additionally, for some communities and provinces, information from censuses conducted by local groups or other organizations is included. The counts are carried out mainly from points located on the edge of the wetlands. In some rivers the census is divided into different sections and for some coastal areas sections that are also repeated each winter are also used.

In the Doñana Natural Area, the terrestrial census is corrected with an aerial census and the census points depend largely on the level of flooding of the marsh.

All species of waterbirds are counted: grebes (*Podicepediformes*); cormorants (*Phalacrocoracidae*); Herons, Storks, Ibis and Spoonbills (*Ciconiforms*); Flamingos (*Phoenicopteriformes*); Ducks and geese (*Anseriformes*); Moorhen and coots (Gruiformes); Waders and Terns (*Charadriformes*) and Gulls (*Laridae*).

3. RESULTS

Unfortunately, data for winter 2023 were not available yet, as work is currently being done to update the information from 2017 to 2023. For this reason, no results can be shown. However, the number of wintering waterbirds in Spain each winter depends on the flood situation of the main wetlands. The average is around 1,900,000 individuals (1,982,481 during 2009-2016, and 1,828,422 during 2014-2016).

4. DISCUSSION

Despite not having updated data, very general information can be indicated on the trend of wintering waterfowl. The number of individuals in winter is highly variable every year, probably reflecting movements made that depend on changes in habitat availability, as well as movements towards North Africa after reproduction and depends quite a bit on the level of flooding of the wetlands. Monitoring of waterfowl species in winter points to a general positive trend, although with fluctuations that appear to be closely linked to water levels in each period. In general, a general increase or stability has been detected in the most common aquatic birds, however very scarce species such as the Marbled Teal, Crested Coot and White-headed duck remain in a critical situation, despite the efforts made to conserve them. The Glossy Ibis has gone from being a rare species in some wetlands, such as the Ebro Delta, to becoming one of the most abundant birds in rice fields, and reaches high numbers in the Guadalquivir marshes, the wetland that houses the largest population.

Other species pending evaluation with recent censuses are the Greylag Goose, which showed negative trends, as well as the Common Pochard, the Tufted Pochard and the European Wigeon. Others, such as the Common Shelduck, continue to show a very positive trend.

Acknowledgements

The list of collaborators, volunteers and local groups would be very long as there are more than 2,300 people who have participated in these censuses, but we would like to mention are: EBD-CSIC (Doñana's Singular Scientific-Technical); Parc Natural del Delta de l'Ebre and Parque Natural de L´Albufera, as well as all the Autonomous Communities that carry out these censuses and the local SEO/BirdLife groups. Apologies to those whose names do not appear on this paragraph.

16. Mauritania



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Comptage des oiseaux d'eau à la janvier 2023 en Mauritanie

Parc National du Banc d'Arguin (PNBA), Réserve de Biosphère Transfrontalière du Bas Delta du fleuve Sénégal, rive droite (RBT-RIM) et Lac d'Aleg et Lac de Mâl

Amadou KIDE[1], Zeine El Abidine SIDATY[2], Boubacar Mamadou EL ABASS[2] et Amady NDIAYE[3], [1] Parc National du Banc d'Arguin, [2] Parc National du Diawling, [3] Nature Mauritanie

1. INTRODUCTION

La Mauritanie possède plusieurs types d'écosystèmes qui constituent des réservoirs de biodiversité floristique et faunistique très diversifié, notamment pour l'avifaune migratrice. Au total 302 zones humides sont répertoriées en Mauritanie, dont 4 sites Ramsar. Les sites décomptés lors du DIOE de 2023 sont le Parc national Banc d'Arguin, la Réserve de Biosphère Transfrontalière du Bas Delta du fleuve Sénégal (RBT-RIM) et les lacs d'Aleg et de Mâl.

Créé en 1976 par le Gouvernement Mauritanien par décret présidentiel n° 76-147 du 24 Juin 1976, le Parc National du Banc d'Arguin (PNBA) est la plus grande Aire Protégée en Afrique de l'Ouest avec une superficie de 12 000 km² dont 6 300 km² en zone maritime et 5 700 km² en zone terrestre. Il est classé site Ramsar en 1982, puis Patrimoine mondial de l'Humanité par l'Unesco en 1989 et don à la terre en 2001 par WWF. Cette vaste zone se compose plus d'une quinzaine d'îles et îlots, des baies, des lagunes qui abritent un nombre important d'oiseaux d'eau.

La RBTDS couvre une superficie totale de 641 768 ha dont 186 908 ha du côté du bas delta mauritanien. Elle est constituée de 4 régions écologiques subdivisées en plusieurs unités écologiques de caractéristiques différentes qui sont aussi des sites potentiels d'oiseaux. Le Parc National du Diawling (Site Ramsar) avec ses trois bassins (Diawling-Tichilitt, le Bell et le Gambar) couvre une superficie de 16 000 ha et est inclus dans une entité écologique duquel il ne peut être dissocié compte tenu de

l'étroite complémentarité des différents écosystèmes du bas delta.

Les deux zones humides couverts lors du dénombrement international des oiseaux d'eau (lac de Mâl et lac d'Aleg) se situent au Sud-Ouest du pays dans la région du Brakna. Ce sont des espaces de transition entre le milieu sahélienne et proche du fleuve Sénégal et les marges du Sahara. Ce sont des lacs alimentés chaque année pendant « l'hivernage », ou saison des pluies, de juillet à septembre. Du point de vue bioclimatique, le lac de Mâl est permanant alors que le lac d'Aleg et semi permanant. Le lac d'Aleg est de 6 040 ha à sa plus grande superficie la plus fréquente (MDRE, 1998), se situe à l'extrémité orientale du bassin sénégalo-mauritanien. Quant au lac de Mâl, plus petit, est localisé sur la chaîne des Mauritanides arasée. Il occupe également une dépression inter dunaire endoréique alimentée par un bassin versant de taille plus réduite (1 200 km²).

Ce comptage a pour objectif d'évaluer la taille et la tendance des oiseaux d'eau du PNBA, de la RBT-RIM et des lacs d'Aleg et de Mâl.

Cette année le dénombrement est particulier avec un comptage global de 78 unités de comptage pour le PNBA, de 6 sites principaux constitués de 11 circuits au RBT-RIM et 2 lacs (Aleg et Mâl) (voire Fig.1, Fig.2 et Fig.3).

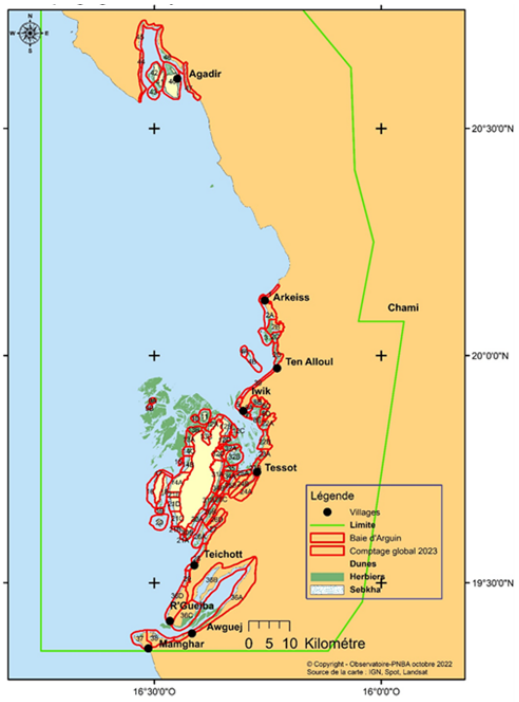


Figure 1. Banc d'Arguin

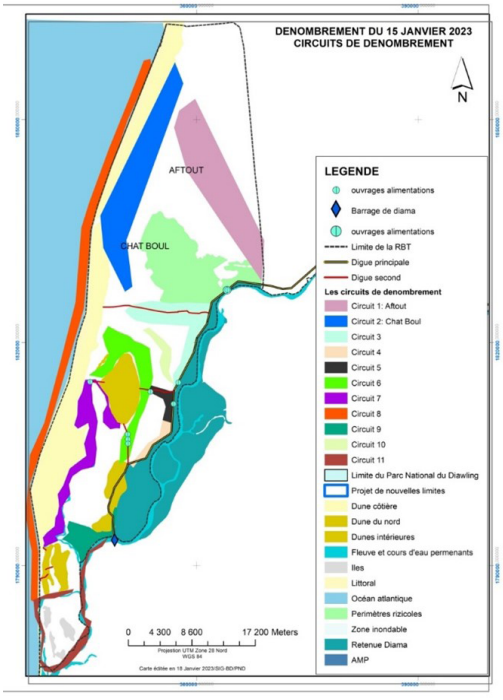


Figure 2. Parc National du Diawling et périphérie

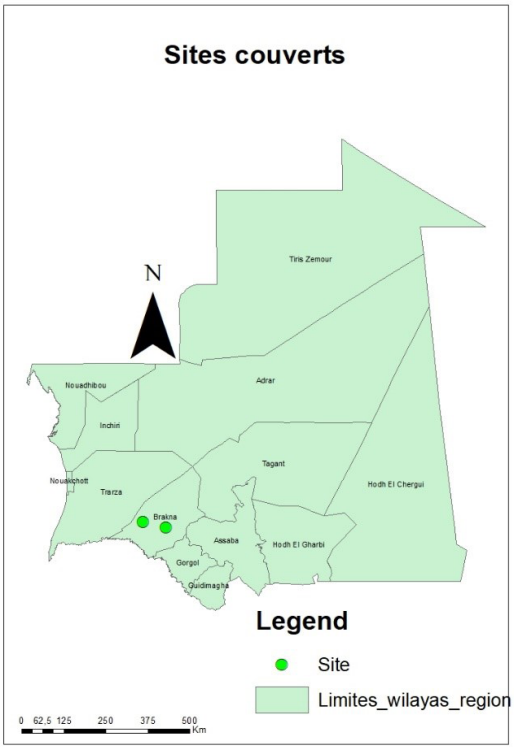


Figure 3. Lac de Mâl et lac d'Aleg

2. METHODOLOGIE DU TRAVAIL

La période des grandes marées a été choisie pour le comptage du PNDB, qui a nécessité une division des sites complexes ou de grandes dimensions en sous-sites qui constituent des unités de comptage séparées. Les équipes de comptage ont profité de ces instants de forte concentration en haute marée pour effectuer les identifications et comptages des différents groupes d'oiseaux hivernants et sédentaires. Les oiseaux restent sur les îles au minimum quatre heures. C'est dans cet intervalle de temps que les équipes procèdent à l'identification des espèces et le comptage des différents groupes. Il a été constaté qu'en la période de grandes marées (au-delà de 1,42 m) au Banc d'Arguin toutes les vasières sont submergées. Le comptage a duré 9 jours et a mobilisé 46 personnes.

Le dénombrement de janvier 2023 s'est déroulé sur deux jours, et a concerné l'ensemble des entités écologiques (11 circuits) de la RBTDS : les trois bassins du Parc National du Diawling, le ChatTboul, l'Aftout et la zone périphérique du parc (Annexes).

Pour le comptage des lacs Aleg et Mâl, les équipes sont constitués de deux observateurs et 02 rapporteurs.

3. RESULTAT

Parc National Banc d'Arguin (PNBA)

Les résultats obtenus durant les 9 journées du comptage se répartissent comme suit: au total 1 285 949 individus dont 1 182 392 individus de limicoles qui représentent 92% de l'effectif total, suivi du groupe d'échassiers avec 82 029 individus et représentent 6%, les laridés représentent 2% avec un effectif de 21 258 individus, en suite les rapaces avec 246 individus et autres avec 21 individus.

Le groupe le plus représenté est les Limicoles avec 1 182 392 individus comptés. Les nicheurs représentent 97% des effectifs d'échassiers décomptés, le total d'échassiers est de 82 029 individus. Les laridés sont représenté par 13 espèces dont 7 espèces qui nichent au PNBA, l'effectif total des laridés dénombré est de 21 258 individus.

Les rapaces sont représentés par 5 espèces avec 246 individus, le Balbuzard pêcheur (*Pandion haliaetus*) est le plus représentatif avec 60% de l'effectif des rapaces.

Tableau 1. Récapitulatif des du dénombrement des oiseaux d'eau au PNBA

Nom scientifique	Effectif
Actitis hypoleucos	1
Ardea cinerea	3 441
Arenaria interpres	9 944
Bubulcus ibis	5
Calidris alba	26 978
Calidris alpina	613 803
Calidris canutus	129 832
Calidris ferruginea	45 603
Calidris minuta	8 055
Casmerodius albus	1
Charadrius alexandrinus	3 380
Charadrius hiaticula	34 211
Circus aeruginosus	30
Circus macrourus	2
Egretta garzetta	1 950
Egretta gularis	2 414
Falco peregrinus	9
Falco tinnunculus	57
Gelochelidon nilotica	893
Haematopus ostralegus	9 516
Larus audouinii	100
Larus cirrocephalus	137
Larus dominicanus	11
Larus fuscus	5 507
Larus genei	6 136
Larus ridibundus	84
Limosa lapponica	196 623
Numenius arquata	1 865
Numenius phaeopus	22 564
Pandion haliaetus	151
Pelecanus onocrotalus	4 571
Phalacrocorax africanus	11 738
Phalacrocorax carbo	18 766
Phoenicopterus minor	160
Phoenicopterus roseus	30 281
Platalea leucorodia	8 702
Pluvialis squatarola	17 304
Sterna albifrons	559
Sterna bengalensis	15
Sterna caspia	5 231
Sterna hirundo	63
Sterna maxima	1 335
Sterna sandvicensis	1 187
Sula bassana	21
Tringa erythropus	1
Tringa nebularia	2 962
Tringa totanus	59 749
Xenus cinereus	1
Total général	1 285 949

Réserve de Biosphère Transfrontalière du Bas Delta du fleuve Sénégal, rive droite (RBT-RIM)

Le dénombrement international des oiseaux d'eau du 15 janvier 2023 effectué dans toute la RBTDS: PND, Aftout Es Saheli, Chat TBoul et Annexes (N'Tiallakh+ Lac de N'Ter et le littoral) a donné un effectif global de 115 245 individus représentant 110 espèces contre 251 957 individus représentant 116 espèces en 2022 et 88 964 individus représentant 106 espèces en 2021.

Tableau 2. Récapitulatif du dénombrement des oiseaux d'eau au PND et sa zone périphérique

Nom scientifique	Nom vernaculaire	TOTAL
Haliaeetus vocifer	Aigle pêcheur	6
Egretta gularis	Aigrette à gorge blanche	118
Egretta ardesiaca	Aigrette ardoisé	55
Egretta garzetta	Aigrette garzette	2 509
Mesophyx intermedia	Aigrette intermédiaire	176
Ceryle rudis	Alcyon pie	104
Anhinga rufa	Anhinga d'afrique	65
Recurvirostra avosetta	Avocette élégante	394
Pandion haliaetus	Balbuzard pêcheur	45
Limosa limosa	Barge à queue noire	168
Limosa lapponica	Barge rousse	6
Calidris ferruginea	Bécasseau cocorli	714
Calidris canutus	Bécasseau maubèche	29
Calidris minuta	Bécasseau minute	6 612
Calidris alba	Bécasseau sanderling	2 381
Calidris alpina	Bécasseau variable	2 392
Gallinago gallinago	Bécassine des marais	10
Lymnocryptes minimus	Bécassine sourde	4
Nycticorax nycticorax	Bihoreau gris	143
Circus aeruginosus	Busard des roseaux	64
Sarkidiornis melanotos	Canard à bosse	417
Anas acuta	Canard pilet	8 430
Anas clypeata	Canard souchet	4 208
Tringa nebularia	Chevalier aboyeur	370
Tringa erythropus	Chevalier arlequin	124
Tringa ochropus	Chevalier culblanc	31
Tringa totanus	Chevalier gambette	888
Tringa hypoleucos	Chevalier guignette	84
Tringa stagnatilis	Chevalier stagnatile	151
Tringa glareola	Chevalier sylvain	76
Ciconia nigra	Cigogne noire	4
Philomachus pugnax	Combattant varié	1 255
Phalacrocorax africanus	Cormoran africain	1 317
Numenius phaeopus	Courlis corlieu	6
Dendrocygna bicolor	Dendrocygne fauve	83
Dendrocygna viduata	Dendrocygne veuf	8 431
Himantopus himantopus	Echasse blanche	929
Phoenicopterus minor	Flamant nain	3 862
Phoenicopterus roseus	Flamant rose	14 795
Glareola pratincola	Glaréole à collier	1 316
Larus fuscus	Goéland brun	809
Larus genei	Goéland railleur	1 664
Phalacrocorax carbo	Grand Cormoran	8 053
Charadrius hiaticula	Grand Gravelot	2 022
Casmerodius albus	Grande aigrette	1 121
Char. Alexandrinus	Gravelot à collier interrompu	515
Charadrius pecuarius	Gravelot pâtre	27
Tachybaptus ruficollis	Grèbe castagneux	48
Balearica pavonina	Grue couronnée	24
Chlidonias leucopterus	Guifette leucoptère	14
Chlidonias hybridus	Guifette moustac	74
Chlidonias niger	Guifette noire	167
Ardea cinerea	Héron cendré	1 043
Ardeola ralloides	Héron crabier	1 639
Bubulcus ibis	Héron gardeboeuf	2 577
Adeola melaocephala	Héron Melanocéphale	3
Ardea purpurea	Héron pourpré	68
Butorides striatus	Héron vert	1
Plegadis falcinellus	Ibis falcinelle	937
Threskiornis aethiopicus	Ibis sacré	67
Actophilornis africana	Jacana à poitrine dorée	518
Corythornis cristatus	Martin pêcheur Hyppé	2
Ispidina picta	Martin-pêcheur pygmée	90
Larus cirrocephalus	Mouette à tête grise	976
Larus ridibundus	Mouette rieuse	169
Burhinus senegalensis	Oedicnème du Sénégal	44
Plectropterus gambensis	Oie de Gambie	1 015
Alopochen aegyptiacus	Oie d'Egypte	285
Pelecanus onocrotalus	Pélican blanc	4 891
Pelecanus rufescens	Pélican gris	7
Charadrius dubius	Petit Gravelot	214
Pluvialis squatarola	Pluvier argenté	175
Charadrius tricollaris	Pluvier patre	484
Gallinula chloropus	Poule d'eau	71
Gallinula angulata	Poule d'eau africaine (Petite)	4

Nom scientifique	Nom vernaculaire	TOTAL
Porphyrio porphyrio	Poule sultane	71
Amaurornis flavirostra	Râle noir	192
Nettapus auritus	Sarcelle à oreillons	82
Anas querquedula	Sarcelle d'été	9 039
Platalea leucorodia	Spatule blanche	7 039
Platalea alba	Spatule d'Afrique	10
Sterna caspia	Sterne caspienne	2 283
Sterna sandvicensis	Sterne caugek	220
Gelochelidon nilotica	Sterne hansel	485
Sterna albifrons	Sterne nain	264
Sterna maxima	Sterne royale	122
Mycteria ibis	Tantale ibis	152
Vanellus armatus	Vanneau armé	1 648
Vanellus spinosus	Vanneau éperonné	78
Vanellus armatus	Vanneau armé	1 648
Vanellus spinosus	Vanneau éperonné	78
	Total géneral	115 245

Lacs Aleg et Mâl

Au total 46 680 individus, repartis en 42 espèces ont été dénombrés au lac Mâl. Les canards dominent avec 38 013 individus.

Le lac d'Aleg est un peu complexe par rapport au lac de Mâl en termes de volume d'eau et accessibilité. Aussi, en tenant compte de la complexité

Tableau 3. Récapitulatif du dénombrement des oiseaux d'eau dans les lacs Aleg et Mâl

Nom scientifique	Nom vernaculaire	Lac Aleg	Lac Mâl
Microparra capensis	Jacana nain	0	1
Nettapus auritus	Anserelle naine	0	6
Ardea purpurea	Héron pourpré	1	0
Ardea cinerea	Héron cendré	770	200
Gallinago gallinago	Becassine de marais	1 027	19
Bubulcus ibis	Héron garde bœuf	515	158
Ardeola ralloides	Crabier chevelu	58	110
Egretta alba	Grande aigrette	202	95
Egretta garzetta	Aigrette garzette	0	5
Plegadis falcinellus	Ibis falcinelle	3 995	0
Threskiornis aethiopica	Ibis sacré	150	0
Platalea alba	Spatule d'Afrique	30	0
Butorides striatus	Héron strié	0	45
Dendrocygna viduata	Dendrocygne veuf	12 410	21 000
Dendrocygna bicolor	Dendrocygne fauve	2 317	9 500
Sarkidiornis melanotos	Canard casqué	25	142
Anas acuta	Canard pilet	0	6
Alopochen aegyptiacus	Oie d'égypte	120	0
Plectropterus gambensis	Oie de gambie	23	55
Anas querquedula	Sarcelle d'été	7 007	7 513
Porphyrio porphyrio	Poule sultane	4 555	523
Gallinula chloropus	Poule d'eau	2 225	4 881
Fulica atra	Foulque macroule	55	63
Himantopus himantopus	Echasse blanche	4 304	249
Vanellus spinosus	Vanneau armée	634	300
Actophilornis africana	Jacana à poitrine dorée	25	910
Tachybaptus ruficollis	Grébe castagneux	0	23
Amaurornis flavirostris	Rale noir	0	160
Philomachus pugnax	Combattant varié	35	12
Tringa nebularia	Chevalier aboyeur	45	10
Tringa totanus	Chevalier gambette	52	16
Tringa stagnatilis	Chevalier stagnatile	15	0
Actitis hypoleucos	Chevalier guignette	2 250	52
Tringa glareola	Chevalier sylvain	580	13
Tringa ochropus	Chevalier culblanc	0	26
Calidris alba	Bécasseau sanderling	85	75
Nycticorax nycticorax	Bihoreau gris	0	1
Circus aeruginosus	Busard des roseaux	0	2
Calidris alpina	Bécasseau variable	140	45
Calidris minuta	Bécasseau munite	550	56
Glareola pratincola	Glareole à collier	335	135
Charadrius hiaticula	Grand gravelot	100	23
Gelochelidon nilotica	Sterne hansel	10	0
Chlidonias niger	Guifette noire	60	0
Pandion haliaetus	Balbuzard pêcheur	0	13
Total géneral		44 881	46 680

du site et pour ne pas avoir des données tronquées, ce lac a été décompté en mis mars, ceci pour a permis de couvrir le maximum du site et d'avoir un résultat fiable. Au total 44 881 individus repartis en 38 espèces ont été dénombrés.

4. DISCUSSION

Il y'a une forte diminution des oiseaux de 25% du comptage de 2020 par rapport en 2023, en 2020 il y a 1 707 178 individus et en 2023 se sont 1 285 949 individus qui sont dénombrés au niveau du PNBA.

Au RBTDS, les sites regroupant le plus d'individus sont l'Aftout, le bassin de Diawling et le bassin de Bell, représentant à eux seuls plus des 3/4 de l'effectif total. Les bassins de Bell et du Diawling ont enregistré les effectifs les moins élevés depuis 2016. Pour le site de l'Aftout, l'effectif dénombré en 2023 est le plus important depuis le décompte de 2018. Le nombre d'individus et d'espèces ont diminués cette année comparativement à janvier 2022 surtout les anatidés. Au niveau de Chat TBoul le nombre d'individus et d'espèces dénombré cette année est plus important qu'en janvier 2023.

Malgré l'écart important entre le nombre d'individus dénombrés entre janvier 2023 et janvier 2022, le nombre d'espèce dénombré est resté invariable au niveau du bassin de Diawling-Tichilitt.

L'analyse de ces résultats a montré que seuls les oies et canards n'ont pas été observés lors du décompte de janvier 2023 avec un gap de 168 765 individus par rapport à 2022.

Ces résultats ont aussi montré le changement d'habitat pour certaines espèces qui ont trouvé des cuvettes de la réserve de Chat Boul, l'Aftout Es Sahli des lieux de repos et de nidification. Ce changement supposé d'habitat concerne principalement les espèces suivantes : le Canard pilet, le Canard souchet, le Grand Cormoran, le Pélican blanc, la Sarcelle d'été, la Dendrocygne veuf, la Spatule blanche.

Au lac Mâl, l'espèce dominante est le Dendrocygne veuf avec 21 000 individus suivi de Dendrocygne fauve avec 9 500 individus. Au lac Aleg, l'espèce dominante est le Dendrocygne veuf avec un effectif total de 12 410 individus suivi de la Sarcelle d'été qui est de 7 001 individus, ensuite de la Poule sultane qui occupe la troisième place avec 4 555 individus

Remerciements

Nos remerciements à nos partenaires financiers d'avoir financé cette activité à travers Wetlands International, BirdLife international et PRCM ainsi qu'aux communautés locales pour avoir facilité la réalisation de cette mission; mais aussi aux partenaires techniques Wadden Sea Flyway Initiative, PND, l'Institut Mauritanien de Recherche Océanographique et des Pêches, les ONG locales Nature Mauritanie, NAFORE, AMISO, sans oublier l'équipe du PNBA.

ANNEXE

Liste des participants

PNDB: Amadou KIDE, Yacouba Diakhité, Mohamed Camara, Ahmed Boubout, Abdoulaye Soumaré, Zeine Abidine, Diop Ibrahima, Ahmed Amarejeyat, Niang Alioune, Mohamed Ndiaye, Marc van Roomen, Albert de Jong, Klaus Guenther, Hans Schekkerman, Morten Bentzon Hansen, Jan van Dijk, Nathalie Gibau, Mohamed Abdel Haye Sidi Boubacar, Ahmedou Mohameden, Mohamed Salem Mohameden Yebe, Sid'Ahmed Guewad, Nagi Heybety, Sedoum Bahah, Hamady Rassoul.

RBT-RIM: Abou Gueye, Geoffroy Citegetse, Fodé Diawara, Zeine El Abidine Sidaty, Frederick Marret, Oumar Adama Ba, Djibril Diallo, Moctar Daddah, Md Avelwat / El Bakaye, Aminata Sall, Saer Khaer Diagne, Amadou Ba, Plus une vingtaine d'autres compteurs.

Lacs Aleg et Mâl: Amady Ndiaye, Sidi Diawara, Ibrahim Traore, Souleymane Ould Seny.

17. Senegal



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Comptage des oiseaux d'eau à la janvier 2023 en Sénégal

Abdoulaye Ndiaye

1. INTRODUCTION

Le Sénégal est un pays sahélien qui couvre une superficie d'environ 196 722 km^2.

Le pays présente une côte de plus de 700 km, dispose d'une diversité d'écosystèmes favorables à la fréquentation des oiseaux d'eau. On distingue ainsi:

Les écosystèmes fluviaux, lacustres, marins et côtiers qui se caractérisent par une grande diversité d'habitats et les écosystèmes dits particuliers (les Niayes et la dépression du Djoudj).

La Direction des Parcs Nationaux (DPN), point focal RAMSAR et AEWA coordonne le DIOE avec la participation de plusieurs partenaires techniques et financiers comme la Direction des Aires Marines Communautaires Protégées (DAMCP), la Direction des Eaux et Forêts Chasse et Conservation des Sols (DEFCCS), Wetlands International, BirdLife International, le PRCM, la Fondation MAVA, l'Association Nature Communautaires Développement (NCD), les universitaires, les éco-guides et éco-gardes, etc.

Les objectifs principaux de l'activité annuelle de comptage sont de: (i) estimer la taille des populations des espèces d'oiseaux d'eau observées au Sénégal; (ii) établir les tendances évolutives des différentes populations d'espèces d'oiseaux d'eau observées au Sénégal; (iii) aider à la prise de décisions relatives à la gestion des zones humides; (iv) identifier les menaces qui pèsent sur les oiseaux d'eau et leurs habitats.

2. METHODES

Pour une meilleure organisation, le territoire national a été divisé en six (06) grandes zones de comptage subdivisées en 35 secteurs et environs 219 sites.

Le dénombrement se déroule suivant un dispositif conçu habituellement par la DPN. S'agissant de la collecte, les méthodes adoptées sont celles du comptage direct, à pied, en véhicule et/ou en pirogue et en point fixe. Le décompte démarre très tôt le matin et prend fin généralement en fin de journée pour la plupart des secteurs de décompte. Certaines zones font des jours supplémentaires

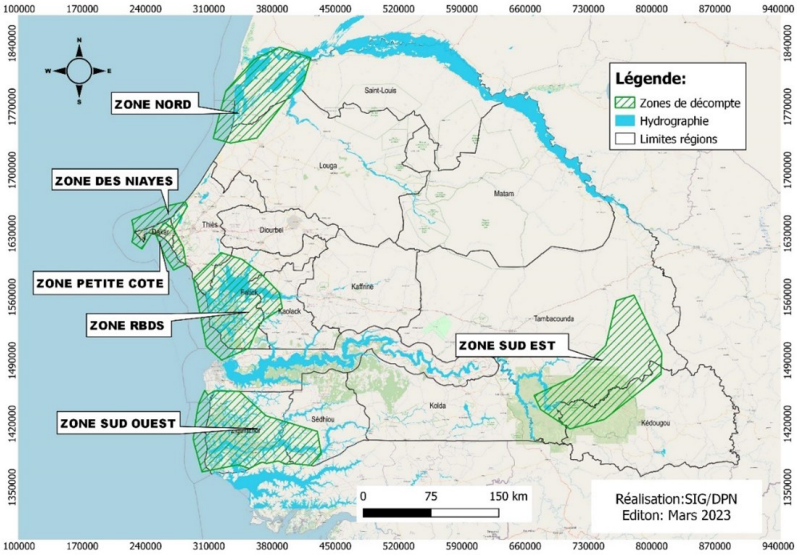


Figure 1. Répartition des zones de dénombrement au Sénégal

comme le Parc National du Delta du Saloum pour des raisons liées aux phénomènes de marées.

Le DIOE du 15 janvier 2023 s'est déroulé sur l'ensemble du territoire avec comme priorités sur les zones humides les plus importantes du pays, avec la participation de 401 personnes.

3. RESULTATS

Au niveau national, un total de 555 581 individus a été dénombré composés de 137 espèces. Celles-ci sont constituées de 14 Ordres réparties en 38 Familles répartie dans 22 Groupes.

Les résultats du DIOE montrent que les Dendrocygnes veuf et les Canards Pilet qui atteignent respectivement 112 024 et 105 734 sont les oiseaux d'eau les plus présents au niveau national et représentent 39% des effectifs (Tableau 1). Ils s'ensuivent les Flamants roses (30 374 ; 5,47%), les Bihoreaux gris (30 027; 5,41%), les Grands cormorans (21 072; 3.80%), les Pélicans Blanc (17 960; 3.24%) et les Sarcelles d'été (13 704; 2,47%). Les espèces les moins rencontrées durant ce décompte sont les Martins chasseur du Sénégal, les Rallidés, les Sarcelles d'hiver, les Sternes voyageuse etc. elles représentent moins de 1% de l'effectif total.

La carte 2 montre la répartition des effectifs d'oiseaux d'eau par zone au niveau national. La

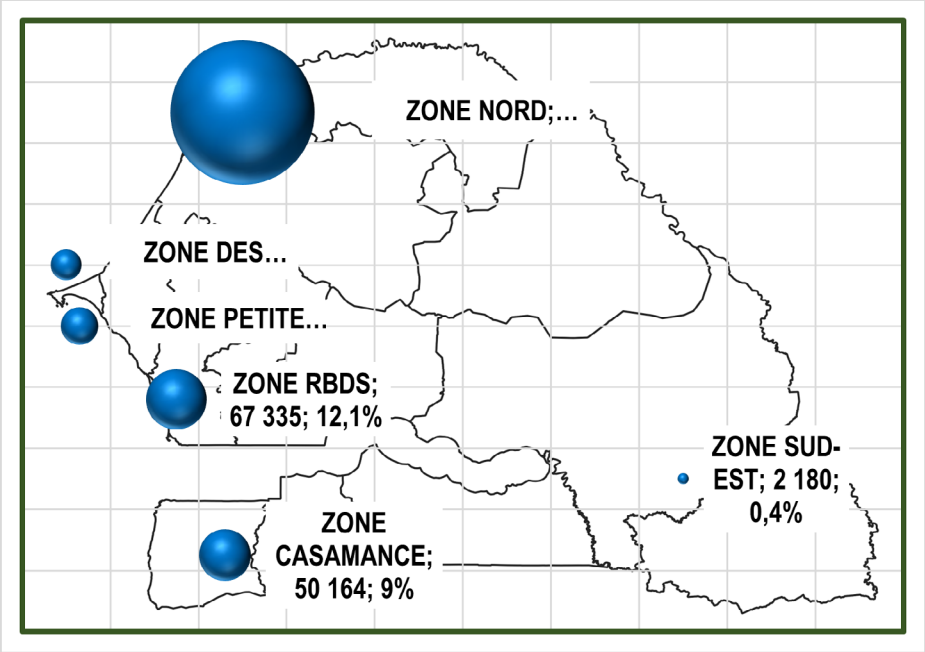


Figure 2. Répartition des effectifs d'oiseaux d'eau par zone au niveau national

zone nord, à l'image des années précédentes concentre le plus grand nombre d'oiseaux avec 392 137 individus soit près de 71% du total des individus décomptés. La RBDS vient en deuxième position avec 67 335 individus soit 12% des effectifs dénombrés. La zone de la Casamance s'ensuit avec un effectif de 50 164 soit 9%, puis s'en suit la Petite Côte avec un nombre d'individu de 26 107 soit 5% et celle des Niayes pour 17 177 soit 3%. La zone sud-est est la zone la moins riche avec seulement 2 180 individus soit moins de 1% de l'effectif national des oiseaux d'eaux.

4. DISCUSSION

Le DIOE 2023 a permis de visiter 157 sites humides fréquentés par les oiseaux d'eau regroupés en 5 zones de décompte à travers le Sénégal et d'estimer le nombre qui a fréquenté le pays durant cette campagne de 2023.

Principales menaces sur les sites

- La multiplication des espèces envahissantes susceptible de perturber les équilibres écologiques naturels ou la modification des écosystèmes;
- Les activités illégales telles que le braconnage, la pêche illégale, la coupe de bois non autorisée etc. constituent également des menaces sur la biodiversité des aires protégées;
- Les futures exploitations pétrolières et gazières en face des aires protégées dans la zone nord et au Delta du Saloum sont susceptibles de causer des dommages graves sur les aires protégées et compromettre durablement leur biodiversité.

Perspectives et points d'amélioration

- Faire un plaidoyer pour le classement des sites fréquentés par les oiseaux d'eau et sans statut de protection comme les lacs côtiers de Thiourour, Warouwaye, Ouye, Mbeubeuss, lac Rose etc.
- Cartographier les plans d'eau qui doivent faire l'objet de décompte et aménager des circuits pour le suivi écologique;
- Explorer de nouveaux sites de décompte vers la zone Est du pays et le Ferlo;
- Renforcer les équipes de compteurs dans certaines zones pour que les activités puissent se dérouler au même moment afin d'éviter le double comptage des individus ou d'ignorer d'autres sites fréquentés par les oiseaux d'eau;
- Renforcer le matériel de terrain (les jumelles, les télescopes, les guides en quantité et en qualité, les appareils photos);
- Développer une approche plus participative associant les acteurs locaux (collectivités territoriales, OCB et OSC sensibles à l'environnement, occupants du site, privés ayant un intérêt pour le site) et les sensibiliser sur l'importance de conserver les oiseaux d'eau et leurs habitats;
- Renforcer la formation des agents et écoguides qui participent régulièrement aux activités de décompte;
- Nettoyer les cours d'eau des plantes envahissantes dans les aires protégées de la zone nord.

Remerciements

Au terme de ce travail, il me parait important d'adresser ces quelques mots de remerciement, à l'endroit des autorités et institutions qui sans leurs appuis déterminants, ce travail n'aurait certainement pas abouti. Il s'agit:

- Des partenaires privilégiés de la Direction des Parcs Nationaux pour leur contribution financière et technique, la Direction des Aires Marines Communautaires Protégées, Wetlands International, Wadden Sea Flyway Initiative, Bird Life international, NCD, la Fondation MAVA, PRCM etc.;
- Des Communautés locales périphériques des sites, représentées par les associations d'éco gardes, pour leur participation effective;
- Des agents sur le terrain pour leur professionnalisme notamment les agents de la DPN, DEFCCS des Parcs, Réserves et AMP;
- Enfin, tous ceux qui ont participé à la réussite de cette activité.

Tableau 1. Résultat des DIOE de janvier 2023 au Sénégal

Nom scientifique	Nom vernaculaire (FR)	Total 2023
Dendrocygna viduata	Dendrocygne veuf	112 024
Dendrocygna bicolor	Dendrocygne fauve	2 456
Anser anser	Oie cendrée	20
Alopochen aegyptiaca	Ouette d'Égypte	622
Plectropterus gambensis	Oie-armée de Gambie	1 869
Sarkidiornis melanotos	Canard à bosse	1 815
Nettapus auritus	Anserelle naine	194
Marmaronetta angustirostris	Marmaronette marbrée	7
Spatula querquedula	Sarcelle d'été	13 715

Nom scientifique	Nom vernaculaire	Total 2023
Spatula clypeata	Canard souchet	3 195
Mareca penelope	Canard siffleur	1
Anas acuta	Canard pilet	105 734
Anas crecca	Sarcelle d'hiver	1
Tachybaptus ruficollis	Grèbe castagneux	417
Phoenicopterus roseus	Flamant rose	30 295
Phoeniconaias minor	Flamant nain	5 441
Zapornia flavirostra	Marouette à bec jaune	243
Porphyrio porphyrio	Talève sultane	376
Gallinula chloropus	Gallinule poule-d'eau	245
Paragallinula angulata	Gallinule africaine	73
Balearica pavonina	Grue couronnée	265
Mycteria ibis	Tantale ibis	7 164
Ciconia ciconia	Cigogne blanche	64
Platalea alba	Spatule d'Afrique	837
Platalea leucorodia	Spatule blanche	3 216
Threskiornis aethiopicus	Ibis sacré	589
Plegadis falcinellus	Ibis falcinelle	625
Nycticorax nycticorax	Bihoreau gris	30 027
Butorides striata	Héron strié	19
Ardeola ralloides	Crabier chevelu	738
Bubulcus ibis	Héron garde-boeufs	11 575
Ardea cinerea	Héron cendré	1 903
Ardea melanocephala	Héron mélanocéphale	45
Ardea goliath	Héron goliath	178
Ardea purpurea	Héron pourpré	430
Ardea alba	Grande Aigrette	2 866
Ardea brachyrhyncha	Héron a bec jaune	518
Egretta ardesiaca	Aigrette ardoisée	271
Egretta garzetta	Aigrette garzette	2 129
Egretta gularis	Aigrette à gorge blanche	4 845
Scopus umbretta	Ombrette africaine	197
Pelecanus rufescens	Pélican gris	4 117
Pelecanus onocrotalus	Pélican blanc	17 960
Microcarbo africanus	Cormoran africain	7 989
Phalacrocorax carbo	Grand Cormoran	21 071
Anhinga rufa	Anhinga d'Afrique	1 280
Haematopus ostralegus	Huîtrier pie	1 425
Recurvirostra avosetta	Avocette élégante	3 915
Himantopus himantopus	Échasse blanche	7 293
Pluvialis squatarola	Pluvier argenté	2 422
Charadrius hiaticula	Pluvier grand-gravelot	10 706

Nom scientifique	Nom vernaculaire	Total 2023
Charadrius dubius	Pluvier petit-gravelot	3 512
Charadrius pecuarius	Pluvier pâtre	116
Charadrius marginatus	Pluvier à front blanc	10
Charadrius alexandrinus	Pluvier à collier interrompu	1 853
Vanellus spinosus	Vanneau à éperons	3 347
Vanellus senegallus	Vanneau du Sénégal	395
Actophilornis africanus	Jacana à poitrine dorée	822
Numenius phaeopus	Courlis corlieu	7 367
Numenius arquata	Courlis cendré	714
Limosa lapponica	Barge rousse	3 145
Limosa limosa	Barge à queue noire	3 870
Arenaria interpres	Tournepierre à collier	860
Calidris canutus	Bécasseau maubèche	407
Calidris pugnax	Combattant varié	4 546
Calidris ferruginea	Bécasseau cocorli	5 875
Calidris alba	Bécasseau sanderling	2 270
Calidris alpina	Bécasseau variable	1 087
Calidris minuta	Bécasseau minute	10 892
Gallinago gallinago	Bécassine des marais	16
Actitis hypoleucos	Chevalier guignette	823
Tringa ochropus	Chevalier cul-blanc	122
Tringa erythropus	Chevalier arlequin	326
Tringa nebularia	Chevalier aboyeur	4 518
Tringa totanus	Chevalier gambette	1 498
Tringa glareola	Chevalier sylvain	180
Tringa stagnatilis	Chevalier stagnatile	76
Glareola pratincola	Glaréole à collier	161
Larus genei	Goéland railleur	7 903
Larus ridibundus	Mouette rieuse	1 138
Larus cirrocephalus	Mouette à tête grise	12 356
Larus audouinii	Goéland d'Audouin	230
Larus canus	Goéland cendré	3
Larus dominicanus	Goéland dominicain	9
Larus fuscus	Goéland brun	12 060
Larus argentatus	Goéland argenté	10
Larus michahellis	Goéland leucophée	52
Sternula albifrons	Sterne naine	607
Gelochelidon nilotica	Sterne hansel	4 368
Hydroprogne caspia	Sterne caspienne	12 744
Chlidonias niger	Guifette noire	88
Sterna hirundo	Sterne pierregarin	103
Thalasseus bengalensis	Sterne voyageuse	1
Thalasseus sandvicensis	Sterne caugek	2 762
Thalasseus maximus	Sterne royale	4 141

18. The Gambia



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Results of January 2023 counts of waterbirds in The Gambia

Sainabou Jallow, Nuha Jammeh & Abdoulie Sawo, Department of Parks and Wildlife Management, The Gambia.

REPUBLIC OF THE GAMBIA

1. INTRODUCTION

The wetlands of the country cover almost 20 percent of the total land area. This includes mangrove forests (6.4%), uncultivated swamps (7.8%) and cultivated swamps (3.2%). They are increasingly being used for rice cultivation and for dry season vegetable gardening as well as grazing for livestock. The Gambia is a signatory to various regional and international agreements and processes which are related to, or affect biodiversity such as the Convention on Biological Diversity, Convention on Climate Change, and the Convention on Desertification among others. The International Waterbird Census is a national inventorying and monitoring of waterbirds and their habitats for the past 22 years. International Waterbird Census 2023 was carried out during the period of 13th to 19th January 2023. The study covers main sites and subsites, comprising both marine and freshwater areas.

The Gambia is located in the Sahelian Upwelling Marine Ecoregion, where the nutrient-rich upwelling water enables a prevailing fisheries diversity and abundance. The mighty River Gambia has a freshwater with a gallery forest that supports a good diversity of freshwater birds. The mangrove-vegetated marine water system inhabits or supports more than one hundred and twenty waterbird species that are resident or winters in Gambia or use the country as a stopover. The influence of the upwelling system combined with the prevailing mangrove stands, mudflats, laterite reefs, and other components of our ecological system support annual wintering and over-wintering waterbirds from Europe.

2. METHODS

The census was carried through traveling across the country with two vehicles to various counting sites (Figure 1). The group is divided into two subgroups making it possible to count two sites or sub-site concurrently. Each team shares the task by assigning individuals to record, cite, identify, GPS coordinate taking, count, site description, etc

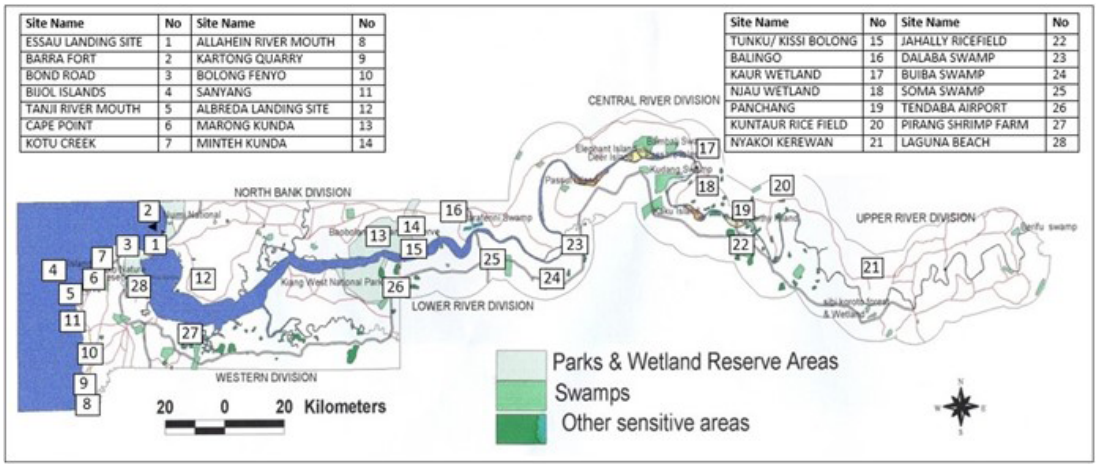


Figure 1. Sites counted and their regions

based on expertise. The counting method includes walking and in-boat counting.

3. RESULTS

See Table 1.

4. DISCUSSION

The following factors will have effected the quality of the counts:

- Access (poor roads) to some sites in the rice fields were difficult and resulted in low coverage.
- Weather condition was poor during some counts in particular at Bao bolong Wetland Reserve.

Many pressures are effecting the wetlands in the Gambia. In general the loss and fragmentation of the natural habitat due to deforestation, wetland drainage and unregulated infrastructural development, overgrazing, and bush fires having large effects. Other more specific effects are:

- Invasive species have colonized most of the wetlands,
- Some sites have dried up
- Salinization and acidification are a major challenge for the majority of the rice fields.

However, the Department will endeavour with other institutions to design projects and programs to deal with the invasive species problem affecting rice fields. Furthermore, the Department is designing a wetland policy that will support the management of the national wetland system.

Acknowledgements

The Department of Parks and Wildlife Management wishes to thank the West African Bird Study Association, Sahel Wetlands Concern, Park rangers, and local community members who contributed in one way or the other in making this year count a success. Also, thanks go to Wetlands International Dakar Office, BirdLife International and the Wadden Sea Flyway Initiative for their coordination and support. Special thanks go to The National Park Wadden Sea Niedersachsen in Germany for the financial, technical, and material support being provided within our cooperation over the years. This is very important not only for the water bird count but for the effective management of our national protected areas system. Finally, we wish to thank the team members for their valuable contributions throughout the count.

ANNEX

List of observers and their Institutions:

Sainabou Jallow (DPWM HQ), Nuha Jammeh (DPWM HQ), Jerreh Njie (DPWM TBR), Sarjo NN Manneh (DPWM NNP), Omar Jarjue (DPWM KWNP), Kalilu Kolley (Driver) (DPWM HQ), Fagimba Camara (WABSA), Amadou Darboe (Driver) (DPWM HQ), Abdoulie Sawo (DPWM HQ), Peter Sudbeck (NP WADDEN SEA NIEDERSACHSEN), Rune Michaelis Peter (NP WADDEN SEA NIEDERSACHSEN).

Table 1. Individual species counted and their total populations

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	4,536
Plectropterus gambensis	Spur-winged Goose	731
Nettapus auritus	African Pygmy-goose	50
Spatula clypeata	Northern Shoveler	200
Anas acuta	Northern Pintail	135
Tachybaptus ruficollis	Little Grebe	16
Phoenicopterus roseus	Greater Flamingo	17
Zapornia flavirostra	Black Crake	23
Porphyrio porphyrio	Purple Swamphen	2
Gallinula chloropus	Common Moorhen	19
Balearica pavonina	Black Crowned-crane	7
Mycteria ibis	Yellow-billed Stork	50
Platalea alba	African Spoonbill	443
Platalea leucorodia	Eurasian Spoonbill	38
Threskiornis aethiopicus	African Sacred Ibis	30
Nycticorax nycticorax	Black-crowned Night-heron	7
Butorides striata	Green-backed Heron	9
Ardeola ralloides	Squacco Heron	147
Bubulcus ibis	Cattle Egret	2,522
Ardea cinerea	Grey Heron	129
Ardea melanocephala	Black-headed Heron	146
Ardea goliath	Goliath Heron	14
Ardea purpurea	Purple Heron	25
Ardea alba	Great White Egret	314
Ardea brachyrhyncha	Yellow-billed Egret	185
Egretta garzetta	Little Egret	64
Egretta gularis	Western Reef-egret	343
Scopus umbretta	Hamerkop	36
Pelecanus rufescens	Pink-backed Pelican	225
Pelecanus onocrotalus	Great White Pelican	20
Microcarbo africanus	Long-tailed Cormorant	487
Phalacrocorax carbo	Great Cormorant	1,260
Anhinga rufa	African Darter	142
Haematopus ostralegus	Eurasian Oystercatcher	29
Recurvirostra avosetta	Pied Avocet	24
Himantopus himantopus	Black-winged Stilt	457
Pluvialis squatarola	Grey Plover	168

Scientific name	Common name (EN)	Total 2023
Charadrius hiaticula	Common Ringed Plover	1,185
Charadrius dubius	Little Ringed Plover	2
Charadrius pecuarius	Kittlitz's Plover	3
Charadrius alexandrinus	Kentish Plover	23
Vanellus spinosus	Spur-winged Lapwing	925
Vanellus senegallus	Wattled Lapwing	157
Actophilornis africanus	African Jacana	2,575
Numenius phaeopus	Whimbrel	316
Numenius arquata	Eurasian Curlew	4
Limosa lapponica	Bar-tailed Godwit	45
Limosa limosa	Black-tailed Godwit	216
Arenaria interpres	Ruddy Turnstone	125
Calidris canutus	Red Knot	2
Calidris pugnax	Ruff	102
Calidris ferruginea	Curlew Sandpiper	671
Calidris alba	Sanderling	867
Calidris alpina	Dunlin	144
Calidris minuta	Little Stint	447
Gallinago gallinago	Common Snipe	9
Actitis hypoleucos	Common Sandpiper	70
Tringa nebularia	Common Greenshank	194
Tringa totanus	Common Redshank	70
Tringa glareola	Wood Sandpiper	156
Glareola pratincola	Collared Pratincole	1,043
Larus genei	Slender-billed Gull	2,067
Larus cirrocephalus	Grey-headed Gull	4,580
Larus audouinii	Audouin's Gull	90
Larus dominicanus	Kelp Gull	2
Larus fuscus	Lesser Black-backed Gull	2,008
Sternula albifrons	Little Tern	34
Gelochelidon nilotica	Common Gull-billed Tern	127
Hydroprogne caspia	Caspian Tern	1,557
Sterna dougallii	Roseate Tern	8
Sterna hirundo	Common Tern	46
Thalasseus bengalensis	Lesser Crested Tern	5
Thalasseus sandvicensis	Sandwich Tern	879
Thalasseus maximus	Royal Tern	948

19. Guinee-Bissau



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Comptage des oiseaux d'eau à la janvier 2023 en Guinee-Bissau

Joaozinho SA[1] et Aissa REGALLA DE BARROS[2].
[1]Coordinateur National, GPC and Wetlands International Guinea Bissau,
[2] Coordonnatrice d'Archipel Bijagos, IBAP

1. INTRODUCTION

Dénombrement mondiale d'oiseaux d'eau est un exercice reconnu pour estimer la population des oiseaux d'eau le long de la voie migratoire. La Guinée-Bissau a rejoint ce réseau des experts, et participe d'une forme active dans ces événements de caractère global.

C'est dans ce contexte que le pays a bénéficié d'appui technique et financière des partenaires bilatéraux et multilatéraux, comme: Wetlands International, Fondation MAVA, Secrétariat Trilatéral de la Mer de Wadden (WSFI). A niveau interne la synergie du Bureau de la Planification Côtière (GPC), de l'Institut de la Biodiversité et des Aires Protégées (IBAP) et de l'Organisation pour la Défense et Développement des Zones Humides a permis d'organiser la campagne dans les grands deux sites (Littoral et Archipel Bijagos).

A côté de tous les pays comme Parties de la Convention de Ramsar, le mois de janvier de cette année, a servi à la réalisation de dénombrement comme un exercice de recyclage pour le réseau national des compteurs nationaux d'oiseau d'eau, leur permettant d'être en contact avec le terrain, d'exercer les pratiques de comptage et d'estimation des oiseaux. En Guinée-Bissau, cette activité de l'échelle restreinte aux certaines sites clés, a eu lieu du 15 au 22 du mois de janvier 2023.

Cette année l'objectif principal est d'effectuer un comptage global des oiseaux d'eau, mais aussi de continuer pour tester le niveau de connaissance des éléments du réseau et de renforcer leurs capacités surtout sur la nouvelle méthode de comptage des limicoles et autres espèces des oiseaux d'eau.

- Compter quelques sites principaux au littoral et Archipel Bijagós;
- Rapporter séparément d'une unité de comptage à une autre les données des unités de comptage.

La République de Guinée-Bissau est un petit pays situé en Afrique de l'Ouest. Possède une superficie de 36 125 Km², avec une population

un peu plus de 1 600 000 habitantes, dont 80% vivent dans la zone côtière. Il est limité au nord par le Sénégal, à l'est et au sud par la Guinée-Conakry et à l'ouest par l'Océan Atlantique. Elle est formée d'une partie continentale, entaillée par plusieurs fleuves et des lagunes (permanentes, ex : Lac Cufada, site RAMSAR et temporaires) et une partie insulaire, l'Archipel des Bijagos.

2. METHODOLOGIE

Les méthodes utilisées dans les deux grandes zones humides (zone littorale et Archipel des Bijagos, Figure 1) sont celles du dénombrement direct des oiseaux d'eau. Le groupe est divisé en deux sous-groupes permettant de compter simultanément deux zones. Chaque équipe partage la tâche en affectant des individus pour enregistrer, citer, identifier, prendre les coordonnées GPS, compter, décrire le site, etc. en fonction de leur expertise. La méthode de comptage comprend le comptage à pied et en bateau.

3. RESULTATS

Dans toutes les deux grande zone géographique: Litorale (Nord, Centre et Sud) et Archipel Bijagos, les résultats de cette campagne sont positifs, bien qu'on a continué à travailler avec méthode de comptage avec deux grands groupes des espèces des oiseaux d'eau: groupe des limicoles et le reste des espèces d'oiseau d'eau. Pendant le comptage mondiale 2023, en Guinéé-Bissau on a réussi à recenser un total de 88 969 individus des oiseaux d'eau sur un total de 86 espèces. Seulement au Archipel Bijagos sont comptés 44 037 (51%) du total des individus comptés), un peu plus que les individus totaux enregistrés dans toute les trois zones du litoral. Juste pour signaler que le littoral centre a comptabilisé les nombres des individus du Parc Naturel de Cufada.

Le groupe prédominant d'espèces d'oiseaux d'eau pendant le comptage mondial 2023 en Guinée-Bissau était pratiquement les limicoles, bien que seulement 21 espèces aient été enregistrées, mais le nombre d'individus correspondait à 40 257, ce qui équivaut à 45% du total de 86 espèces enregistrées.

Les dix espèces plus abondantes enregistrés en 2023, que corresponde à 48% du total comptés. *Cadris ferruginea* continue dans la première place comme les années précédents et les *Calidris canutus* continue à diminuer progressivement au rapport les dénombrements précédentes.

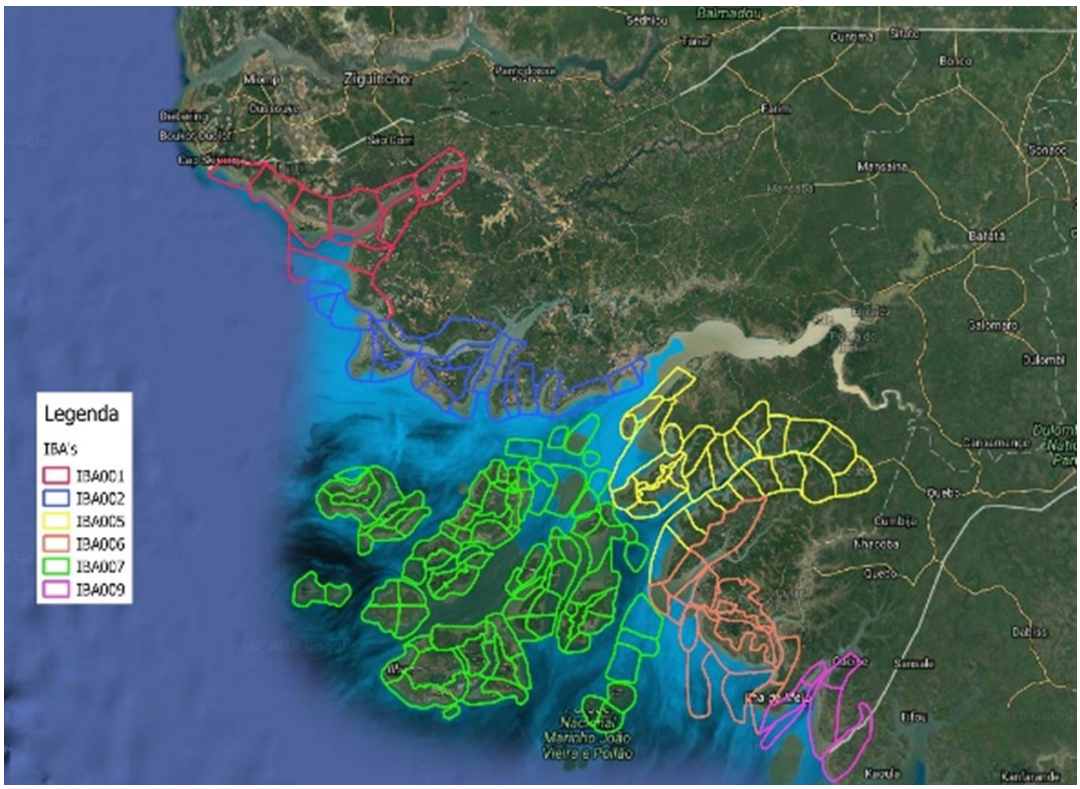


Figure 1. Les différents sites principaux (IBA's) et les unités de comptage

Tableau 1. Nombre de comptages par espèce sur la côte en Guinée-Bissau, janvier 2023

Nom scientifique	Nom vernaculaire	Total 2023
Phoenicopterus roseus	Flamant rose	729
Mycteria ibis	Tantale ibis	201
Platalea alba	Spatule d'Afrique	1 189
Threskiornis aethiopicus	Ibis sacré	808
Butorides striata	Héron strié	2
Bubulcus ibis	Héron garde-boeufs	101
Ardea cinerea	Héron cendré	397
Ardea goliath	Héron goliath	137
Ardea alba	Grande Aigrette	581
Ardea brachyrhyncha	Héron a bec jaune	19
Egretta ardesiaca	Aigrette ardoisée	197
Egretta garzetta	Aigrette garzette	123
Egretta gularis	Aigrette à gorge blanche	1 174
Pelecanus rufescens	Pélican gris	2 531
Pelecanus onocrotalus	Pélican blanc	46
Microcarbo africanus	Cormoran africain	131
Phalacrocorax carbo	Grand Cormoran	371
Anhinga rufa	Anhinga d'Afrique	203
Haematopus ostralegus	Huîtrier pie	1 223
Recurvirostra avosetta	Avocette élégante	19
Pluvialis squatarola	Pluvier argenté	1 496
Charadrius hiaticula	Pluvier grand-gravelot	5 393
Charadrius marginatus	Pluvier à front blanc	89
Charadrius alexandrinus	Pluvier à collier interrompu	163
Vanellus spinosus	Vanneau à éperons	40
Numenius phaeopus	Courlis corlieu	5 432
Numenius arquata	Courlis cendré	392
Limosa lapponica	Barge rousse	6 249
Arenaria interpres	Tournepierre à collier	312
Calidris canutus	Bécasseau maubèche	2 864
Calidris ferruginea	Bécasseau cocorli	7 650
Calidris alba	Bécasseau sanderling	5 179
Calidris alpina	Bécasseau variable	23
Calidris minuta	Bécasseau minute	102
Actitis hypoleucos	Chevalier guignette	2 204
Tringa ochropus	Chevalier cul-blanc	1
Tringa erythropus	Chevalier arlequin	1
Tringa nebularia	Chevalier aboyeur	411
Tringa totanus	Chevalier gambette	2 040
Larus genei	Goéland railleur	133
Larus cirrocephalus	Mouette à tête grise	1 218
Larus dominicanus	Goéland dominicain	7
Larus fuscus	Goéland brun	5
Sternula albifrons	Sterne naine	2 670
Gelochelidon nilotica	Sterne hansel	6 438
Hydroprogne caspia	Sterne caspienne	11 542
Chlidonias niger	Guifette noire	527
Sterna hirundo	Sterne pierregarin	2 797
Thalasseus bengalensis	Sterne voyageuse	408
Thalasseus sandvicensis	Sterne caugek	4 671
Thalasseus maximus	Sterne royale	5 723

4. DISCUSION

Les principaux menaces specifiques aux sites

- Les effets de changements climatiques, liés aux érosion et inondations, sont des facteurs majeures pour les modifications des habitats d'oiseaux d'eau;
- À propos des conflits existent entre ces espèces et l'homme, été très facile de constater chez les pêchers et les femmes que récolte les mollusques, que partagent les mêmes endroits, et parfois ils font la ramasse des œufs dans es colonies de nichoirs;

Difficultés rencontrées, qualité e couverture du dénombrement

- D'une manière globale les dénombrements se sont bien déroulés. Les equipes constituent par nationaux et expatriats ont bien travaillé en ambience de groupe et ont obtenus de bons résultat;
- Les plus grandes difficultés étaient liées aux questions logistiques légères (quelques problèmes avec les embarcations, insuffisant des ressources financières pour couvrir tous le polygones);
- Il existe aussi toute une nécessité de redéfinir certains polygones, qui sont inaccessibles étant donnée leur localisation;
- Un autre aspect est lié à la marée, les sites sont très éloignés les uns des autres et avec la marée, au début d'après-midi, a permis de couvrir très peu les sites avant que la nuit tombe.

Points d'améliorations et d'apprentissage pour le futur / avenir

- Améliorer la connaissance du terrain, systématiser les comptages dans les mêmes polygones et les mêmes tracés;
- Renforcer tous les coordonateurs des sites, avec interpretations de la cartographie des polygones à travers des differents équipements disponibles (GPS, Tablet, Cellulaire, etc.).
- Dans toutes les zones de comptage on ne pas couvert tous les sites planifié, surtout dans les iles de Bijagos et littoral sud, raison par laquelle on a enregistrer le nombres des individus moins que le dénombrement mondiale précédente ;
- Pour connaitre l'occurrence des oiseaux dans les tous sites potentiels, est recommandé de promouvoir les dénombrements mensuels dans les sites clés;

- Pour le renforcement des capacités le réseau de compteurs nationaux il faut équiper les membres avec les moyens et instruments nécessaires pour le dénombrement des oiseaux.

Remerciements

Cette campagne de dénombrement des oiseaux d'eau a été appuyé financcerement par Fondation MAVA, donc c'est une ocasion de remercier cette institution pour le role jué dans la domaine de la conservation des oiseaux d'eau. Wetlands International Africa et BirdLife International (WIACO), Bureau de la Planification Côtière, Institut de la Biodiversité et des Aires Protégées (IBAP) et l'Organisation pour le Défense et Développement des Zones Humides, dont nous remercions.

Spéciaux remerciements sont adressés à WIACO et à IBAP qui a mis à disposition co-financement monétaire et logistique dans le processus de dénombrement.

ANNEX

Listes de compteurs/observateurs

Fernando Tamizo[1], Joãozinho Sáchefe d'équipe[2], Luis Gomes[3], Willian Intepe[3], Ramalho Da Silva[4], Merjan da Silva[4], Hamilton Monteiro[5], Menno Hornman[6], Agostinho Infanda[7], Nelson Antonio Cabral[7], Benicio Nanque Co[8], Tomé Mereck[9], Josh Nightingale[10], Zeca Djú[11], Armando João Nancassa[12], Braima Sedja[11], Úmaro Bari[11], Mamadú Djaló[11], Aissa Regalla de Barros[9], Antonio Pires[5], Carlitos Francisco Sedja, Peter de Boer[6], Fernando Preto[3], Junior Domingos Alves[13], Marcelino Fernandes[13], Quintino Tchantchalam[14], Ramalho Sá[7], Santinho Joaquim da Silva[5], Tomé Bandeira, Afonso Rocha[10], Floor Arts[15]

[1]Djotchetchenglar/ODZH, [2]GPC/WIA, [3]PNTC/IBAP, [4]DJOTCHETCHENGLAR, [5]PNMJVP/IBAP, [6]SOVON/WSFI, [7]ODZH, [8]WIACO-GB, [9]IBAP, [10]WSFI, [11]PNC/IBAP, [12]PND/IBAP, [13]PNO/IBAP, [14]RBBB/IBAP, [15]DMP/WSFI

20. Guinea



L'équipe de comptage de la gauche vers la droite: Colonel Namory Keita, Kadiatou Soumah, Fatou Conte, Djenabou Doubouya, Marc van Roomen, N'valy Sanoh,Djenaba Diallo, N'Goné Diop, Roger Doré et Aissatou Yvette Diallo. © Aissatou Yvette Diallo

Comptage des oiseaux d'eau à la février 2023 en Republique de Guinee

Kadiatou Soumay, Direction Parc Nationaux et Reserve de Faune (OGPNRF), Guinee-Conacry

1. INTRODUCTION

Chaque année au mois de janvier ou février, les zones humides font l'objet de dénombrement partiel o u global des oiseaux d'eau.

En Guinée, c'est la deuxième fois que nous effectuons le dénombrement global des oiseaux d'eau. Cette activité, coordonnée par le Ministère de l'environnement et du Développement Durable (MEDD) à travers la Direction Générale du Corps des conservateurs de la Nature (DNCCN). Pour cette année 2023, le dénombrement a été réalisé par les agents de ladite Direction, de l'Office Guinéenne des Parc Nationaux et Reserve de Faune (OGPNRF), de l'ONG Guinée Ecologie avec une assistance technique de BirdLife International et de WSFI.

Le présent rapport du dénombrement international des oiseaux d'eau 2023 comporte les résultats de décompte pour (5) sites du pays qui sont : îles de Tristao, Rio de kapatchez, Rio de Konkouré, l'estuaire de Melakoré et Toguiron.

2. ZONES ET SITES INVENTORIÉS

Les activités du dénombrement des oiseaux d'eau ont couvert l'ensemble de la côte Guinéenne qui s'étend environ 300 km de Boké à Forécariah avec un focus sur les sites les plus importants pour les oiseaux d'eau. Ainsi, 7 sites mère et subdivisés en des unités de comptage ont fait l'objet de comptages (voir carte 1).

3. MÉTHODOLOGIE ET MATÉRIEL DE COMPTAGE

Avant les activités de terrain, un mini-atelier regroupant les agents compteurs nationaux et

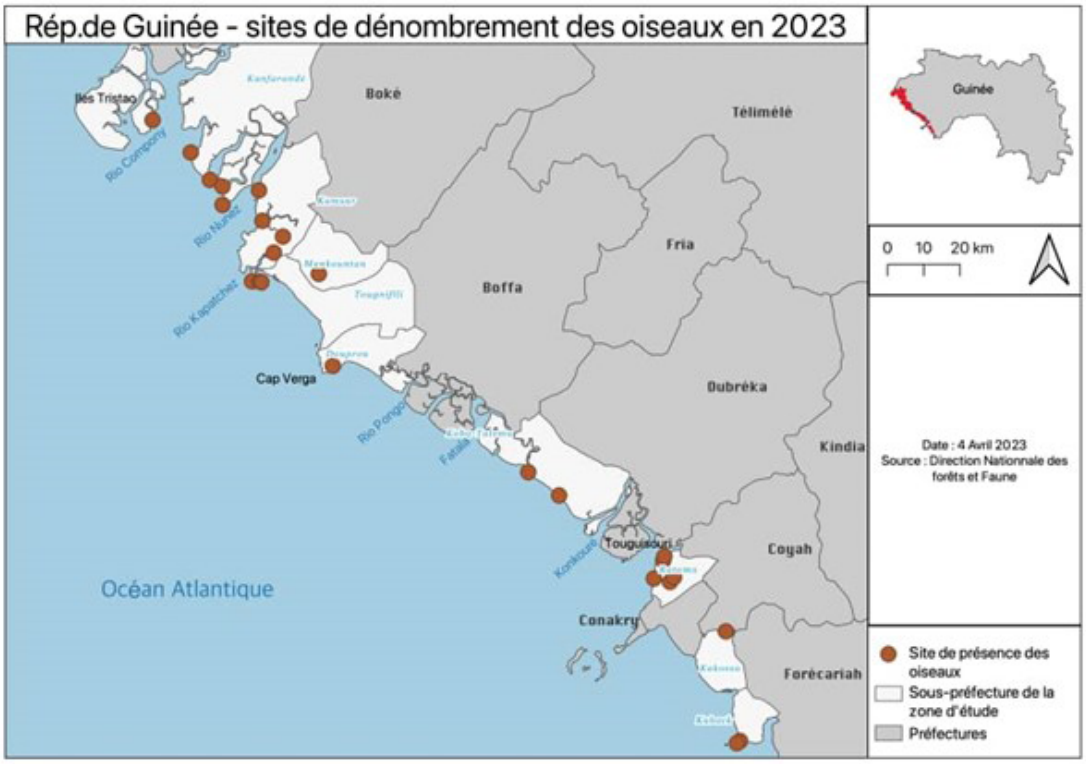
experts internationaux a été tenu dans une salle de réunion à Conakry. Cette réunion a consisté à planifier le comptage et à s'approprier des méthodes et outils de comptage des Oiseaux d'eau. A l'issue de cette réunion, deux équipes ont été constituées pour couvrir l'ensemble des sites définis. Ces équipes composées d'experts nationaux et internationaux ont commencé les décomptes du Nord vers le Sud de la côte guinéenne.

Elle a été celle du comptage direct à pied, en véhicule et ou /en pirogue. La technique a consisté d'abord à l'identification de l'espèce ensuite, au comptage réel ou estimatif selon la taille du groupe. La plupart des observations ont été effectuées dans les vasières au niveau des chenaux, des mares, des plages, dans la plaine rizicole et le long de la mangrove. Les activités de décompte ont tenu compte des habitats et du programme de la marée. Ainsi, les marées basses descentes ont été réservées pour les vasières et les plaines rizicoles. Par contre, les hautes marées et marées montantes ont été utilisées pour la mangrove et les chenaux.

Le matériel utilisé pour faciliter le comptage comprennent un compteur, GPS, des jumelles, un registre, des fiches techniques, un crayon, un guide, un bateau, des véhicules, des cartes, un télescope, un appareil photo numérique, matériel de camping, etc.

4. RÉSULTAT ET ANALYSE DES DONNÉES

Le dénombrement global des oiseaux d'eau réalisé en 2023, a permis de trouver un effectif de 27 736 individus pour 76 espèces, par rapport à l'année 2020 qui fait un effectif de 52 277 individus. Cela montre qu'u bout de trois ans, le nombre d'individus à chute de 24 541 d'individus. Cela pourrait être est due à la dégradation poussée de certains habitats, à la diminution des disponibilités alimentaires associé aux effets du changement climatique.



Carte 1. localisation des différents sites du dénombrement

Tableau 1. liste des espèces répertoriées

Nom scientifique	Nom vernaculaire (FR)	Total 2023
Dendrocygna viduata	Dendrocygne veuf	482
Phoenicopterus roseus	Flamant rose	2 100
Phoeniconaias minor	Flamant nain	4 500
Zapornia flavirostra	Marouette à bec jaune	4
Mycteria ibis	Tantale ibis	32
Platalea alba	Spatule d'Afrique	42
Threskiornis aethiopicus	Ibis sacré	152
Butorides striata	Héron strié	8
Ardeola ralloides	Crabier chevelu	19
Bubulcus ibis	Héron garde-boeufs	679
Ardea cinerea	Héron cendré	388
Ardea melanocephala	Héron mélanocéphale	82
Ardea goliath	Héron goliath	8
Ardea purpurea	Héron pourpré	7
Ardea alba	Grande Aigrette	723
Ardea brachyrhyncha	Héron a bec jaune	93
Egretta ardesiaca	Aigrette ardoisée	527
Egretta garzetta	Aigrette garzette	369
Egretta gularis	Aigrette à gorge blanche	307
Scopus umbretta	Ombrette africaine	14
Pelecanus rufescens	Pélican gris	366
Pelecanus onocrotalus	Pélican blanc	22
Microcarbo africanus	Cormoran africain	237
Anhinga rufa	Anhinga d'Afrique	2
Haematopus ostralegus	Huîtrier pie	29
Recurvirostra avosetta	Avocette élégante	1 626
Himantopus himantopus	Échasse blanche	88
Pluvialis squatarola	Pluvier argenté	597
Charadrius hiaticula	Pluvier grand-gravelot	3 052
Charadrius marginatus	Pluvier à front blanc	7
Vanellus spinosus	Vanneau à éperons	51
Vanellus senegallus	Vanneau du Sénégal	14
Actophilornis africanus	Jacana à poitrine dorée	91
Numenius phaeopus	Courlis corlieu	2 262
Numenius arquata	Courlis cendré	63
Limosa lapponica	Barge rousse	1 184
Arenaria interpres	Tournepierre à collier	13
Calidris canutus	Bécasseau maubèche	325
Calidris ferruginea	Bécasseau cocorli	2 777
Calidris alba	Bécasseau sanderling	228
Calidris minuta	Bécasseau minute	123
Actitis hypoleucos	Chevalier guignette	255
Tringa ochropus	Chevalier cul-blanc	4
Tringa nebularia	Chevalier aboyeur	875
Tringa totanus	Chevalier gambette	2 111
Tringa glareola	Chevalier sylvain	82
Glareola pratincola	Glaréole à collier	29
Larus genei	Goéland railleur	74
Larus cirrocephalus	Mouette à tête grise	254
Sternula albifrons	Sterne naine	273
Gelochelidon nilotica	Sterne hansel	802
Hydroprogne caspia	Sterne caspienne	126
Thalasseus bengalensis	Sterne voyageuse	16
Thalasseus sandvicensis	Sterne caugek	679
Thalasseus maximus	Sterne royale	1 071

4. DISCUSSION

Au terme des travaux de comptage allant de la période du 03 au 10 février 2023, nous avons dénombré 74 espèces d'oiseaux sur un total de nombre d'individus de 27 736 répartis sur 8 grands sites de comptage. Le site Soty dans-Kapatchez s'est révèle être très riche en effectif de certaines espèces, dont - *Phoeniconaias minor* 4 500 individus suivi de *Calidris ferrugenea* avec 2 837 individus et *Charadrius hiaticula* avec 2 829 individus et les espèces les plus faible- en effectif sont : *Limosa limosa*, *Anhinga rufa* et *Sula* capensis respectivement 3,2,1 individus. Lors du dénombrement, l'équipe de comptage a répertorié quelques menaces sur les sites. Il s'agit: L'abandon des résidus du filet monofilament, la coupe abusive des bois de mangrove, le défrichement des nouvelles surfaces de mangrove pour les fins de rizicultures, l'agriculture extensive constitue aussi une grande menace sur ces habitats, l'abattage de certains oiseaux, les pélicans par exemple.

Remerciements

Nous remercions le Ministère de l'environnement et du Développement Durable (MEDD) à travers la Direction Générale du Corps des conservateurs de la Nature (DNCCN) les agents de la Direction, de l'Office Guinéenne des Parc Nationaux et Reserve de Faune (OGPNRF), de l'ONG Guinée Ecologie, Wetlands International, avec une assistance technique de BirdLife International et de Wadden Sea Flyway Initiative (WSFI)

ANNEX

Liste des compteurs

Marc Van Roomen, Assatou Yvette Diallo, N'Gone Diop, Kadiatou Soumah, Roger Doré, Djenabou Doumbouya, Djeinabou Diallo, N'Valy Sanoh, Alphonse Sonomy, Mohamed Soumaoro, Fatou Conté.

21. Sierra Leone



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Results of February 2023 counts of waterbirds in Sierra Leone

Abdulai Dauda, Conservation Society of Sierra Leone

1. INTRODUCTION

Sierra Leone has an extensive coastline, of which a large part can be characterized as coastal wetlands. The coastal wetlands of Sierra Leone are very diverse in types of habitats ranging from rivers and their estuaries to shallow mangroves and lagoons along the entire coast. In total, the entire coastline wetlands of Sierra Leone cover about 4,840 km² including intertidal mudflats, sandbanks, mangrove forests, coastal swamps, cultivated wetlands (rice fields), flood plains and lakes. The coastal zone has four main estuary systems. These are, from North to South: the Scarcies Estuary, Sierra Leone River Estuary, Yawri Bay, and Sherbro Island Estuary (including Turtle Island) with a total of 578,600 hectares of mangroves around 1985 and 17,750 hectares of intertidal mudflats (Altenburg 1987, and Bah 1994).

The first bird counts of some parts (less than 10% of the total area) of these wetlands were carried out in the period 1982 – 1984. The first comprehensive total count of waterbirds of the coast of Sierra Leone was carried out in 2005 (van der Winden et al. 2008). The results were indicating a high proportion of international flyways- numbers of species like Ringed Plover, Curlew Sandpiper and Redshank. From that census to date, several efforts have been made to conduct waterbird censuses in different parts across the coastal wetlands. From 2018 to 2022, there has been a tremendous effort by the Conservation Society of Sierra Leone to carry out the counting of waterbirds in two of the major Estuaries (Yawri Bay and Sierra Leone River Estuary). However, the counting did not cover the entire coastal wetlands.

The aim of the 2023 census is to:

- Determine birds' abundance at all sites (the Scarcies Estuary, Sierra Leone River Estuary, Yawri Bay, and Sherbro Island Estuary (including Turtle Island);
- investigate threats associated with the sites;
- raise the profile of the wetlands through awareness-raising and education programs.

2. METHODS

Sites counted (Yawri Bay, Sherbro, Scarcies, Turtle Island and Sierra Leone River Estuary, see figure 1) were visited using small boats with outboard engines and waders were counted during low tides when they were present on the mudflats. For every day of counting, counting ended before high tide when the birds started flying to roost in the mangroves or on the inland plains. Counting was effective when birds were counted from the boat as it was driven along the shores of the mudflats (see also van der Winden et al. 2008, Trolliet & Fouquet 2004, Tye & Tye 1987). Large mudflats areas that could not be accessed by boat were counted by leaving the boat and walking along the shore. Important mudflat areas and large sandbanks were always visited during low tide.

In Yawri Bay, an alternative counting method was used as large parts of this extensive area consist of extremely soft mud, which makes it extremely difficult for observers to walk with telescopes, even over a short distance. In some parts of the areas, counting was started two hours before high tide and the strategy was to approach the shore with the boat and drop off the observers in shallow water. This way birds were counted when already concentrating near the mangroves, but before they flew to roast. Nevertheless, the observers found it difficult to keep in a stable position for counting because of sinking into the soft mud. Creeks in the mangroves were counted from the boat and in such cases, only the banks were covered, not the forest interior.

3. RESULTS

A total of 44,083 individuals belonging to 63 species including unidentified terns and waders were recorded during the survey across the sites. Based on the IUCN Red List categorization, 10 species of conservation importance were recorded. Most important species and numbers are summarized in table 1. Figure 1 shows the abundance of birds counted across different sites during the survey. Yawri Bay and Sherbro river are most important in terms of bird numbers but direct comparison with the other sites is not really possible because the other sites were not completely counted.

4. DISCUSSION

Composition varies across sites. However, bird composition was higher for Sherbro River Estuary which indicated that 51 (26%) species were recorded while the least records were obtained for

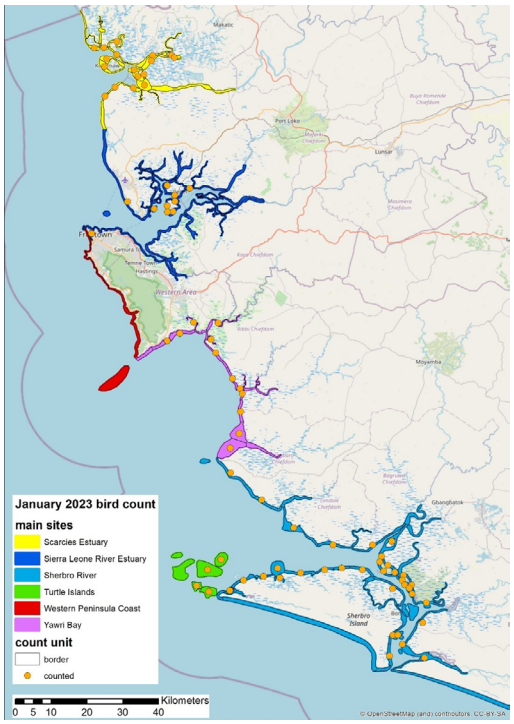


Figure 1. Overview of main sites, counting units and count coverage in 2023

Sierra Leone River Estuary with a total of 28 (14%) species recorded. Further records of 44 (23%), 41 (21%) and 30 (16%) species were recorded for Yawri Bay, Scarcies River Estuary and Turtle Island respectively.

Of the total 63 species recorded across the sites during the assessment, 10 species of conservation interest were recorded. Of the 5 species that are of conservation importance, Eurasian Oystercatcher, Bar-tailed Godwit, Black-tailed Godwit, Curlew Sandpiper, Eurasian Curlew and Red Knot are listed as Near Threatened. The occurrence of these birds in Yawri Bay is therefore evidence of the importance of Yawri Bay for its maintenance and conservation and underscores the potential of this site to be designated as a Ramsar site.

Several cases of mangrove harvesting sold for cash and the use of inappropriate fishing tools such as the monofilament were observed during this survey. Also, fishing activity in these communities was observed to be inherited from parents as children age between the ages of 12 to 15 were noticeably observed going out in the sea to fish with their parents. Mangrove harvesting was not observed to be frequent at the edge of the shoreline but was predominantly observed occurring in the interior of the mangroves. Furthermore, the collection of cockles and clams by women is maybe a significant threat to the bird populations.

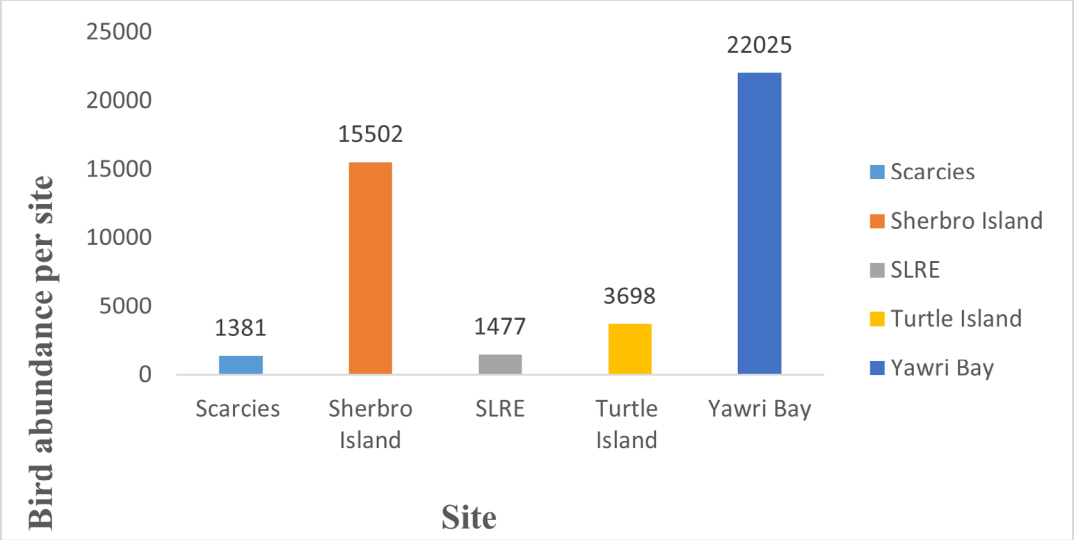


Figure 2. Differences in bird abundance across sites

However, despite the intense pressure posed on the mangroves in the study area, some areas still appear to be intact. The reported cases of shoreline erosion also appeared to be having considerable effects on the environment of Yawri Bay as some parts of the environment is undergoing alteration.

The increasing pressure on resources across the sites might be because residents along the coastal communities are dependent on the sites for their food and as a result of their activities the resources are faced with tremendous pressure which in turn is contributing to habitat alteration in this area. Also, the lack of awareness among edge communities might be a contributing factor as the majority of the communities do not know about the conservation importance of Yawri Bay and other wetland sites. The management strategy put in place, especially by the Ministry of Fisheries and Marine Resources, is not effective as most of the vegetation seems to be undergoing rapid deterioration. These areas must be managed and protected from the increasing pressure for unsustainable exploitation of its wetland resources that looks likely to increase as the population continues to grow. Continued and sustained engagement and awareness programs with the surrounding host community. Additionally, investment in the protection of these sites and the restoration of other currently degraded habitats are therefore recommended as a measure to mitigate this potentially increasing pressure. It is also important that an ornithological (and biodiversity) monitoring program has to be put in place to provide long-term data which is often needed to determine the effectiveness of management interventions.

ANNEX

List of participants

Abdulai Dauda, Papanie Bai-Sesay, Jessy Kanu, Kathrine Prinzing, Tina Schulze, Momoh Bai-Sesay, Andrea Haffner, Moses Luseni, Santigie Sesay, Joost van Bruggen, Rinse van der Vlietrn

Table 1. Total numbers of waterbirds counted at the coast of Sierra Leone in February 2023

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	502
Mycteria ibis	Yellow-billed Stork	60
Platalea alba	African Spoonbill	686
Platalea leucorodia	Eurasian Spoonbill	5
Threskiornis aethiopicus	African Sacred Ibis	151
Nycticorax nycticorax	Black-crowned Night-heron	1
Butorides striata	Green-backed Heron	81
Bubulcus ibis	Cattle Egret	268
Ardea cinerea	Grey Heron	352
Ardea goliath	Goliath Heron	2
Ardea alba	Great White Egret	1,074
Ardea brachyrhyncha	Yellow-billed Egret	55
Egretta ardesiaca	Black Heron	93
Egretta garzetta	Little Egret	371
Egretta gularis	Western Reef-egret	936
Scopus umbretta	Hamerkop	7
Pelecanus rufescens	Pink-backed Pelican	561
Pelecanus onocrotalus	Great White Pelican	84
Microcarbo africanus	Long-tailed Cormorant	666
Haematopus ostralegus	Eurasian Oystercatcher	77
Recurvirostra avosetta	Pied Avocet	204
Pluvialis squatarola	Grey Plover	2,723
Charadrius hiaticula	Common Ringed Plover	4,869
Charadrius dubius	Little Ringed Plover	68
Numenius phaeopus	Whimbrel	2,413
Numenius arquata	Eurasian Curlew	101
Limosa lapponica	Bar-tailed Godwit	4,234
Limosa limosa	Black-tailed Godwit	263
Arenaria interpres	Ruddy Turnstone	167
Calidris canutus	Red Knot	82
Calidris ferruginea	Curlew Sandpiper	6,825
Calidris alba	Sanderling	693
Calidris alpina	Dunlin	14
Calidris minuta	Little Stint	8
Actitis hypoleucos	Common Sandpiper	373
Tringa nebularia	Common Greenshank	524
Tringa totanus	Common Redshank	2,100
Rynchops flavirostris	African Skimmer	317
Larus cirrocephalus	Grey-headed Gull	26
Larus fuscus	Lesser Black-backed Gull	220
Sternula albifrons	Little Tern	1,989
Gelochelidon nilotica	Common Gull-billed Tern	460
Hydroprogne caspia	Caspian Tern	87
Chlidonias niger	Black Tern	17
Sterna hirundo	Common Tern	816
Thalasseus bengalensis	Lesser Crested Tern	37
Thalasseus sandvicensis	Sandwich Tern	1,418
Thalasseus maximus	Royal Tern	6,318

22. Liberia



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Results of January 2023 counts of waterbirds in Liberia

Emmanuel M. Loqueh-Research Officer-SCNL,
Society for the Conservation of Nature in Liberia

1. INTRODUCTION

Many African and European nations, including Liberia's neighbors Sierra Leone, Guinea, and Ivory Coast, have been participating in the international water bird census along the African-Eurasian flyway as a national initiative. The census of water birds has only been occasionally and in a few locations in Liberia. Although Liberia has created the national strategy for the water bird census, she has chosen some RAMSAR sites for counting operations based on the existence of water birds. Since 2014, SCNL has been conducting a waterbird count at some locations that Wetlands International and the national coordinator had identified. In particular, the newly discovered site in Grand Bassa County in Edina is crucial for the water bird count because it is where three other rivers—the Benson, ST. John, and Melclin rivers—meet and flow into the ocean. We appreciate Wetlands International and Wadden Sea Flyway Initiative for helping to make the international waterbird census in Liberia possible.

For this year, the count ran from January 13 to February 4 of 2023, and five coastal zones in Liberia were monitored during the International Waterbird Census. In addition to the Lake Piso site in Grand Cape Mount County, the Lofa River Mouth in Bomi County, the Monrovia Coastal Lagoon and the Mesurado site in Montserrado County, the Marshall wetland in Margibi County, and the Edina wetland in Grand Bassa County are among these coastal zones. Due to the significance of the total count for this year, all sites including the new site in Grand Bassa County were visited. The total count was performed by a team of ten people. The team was led by a research officer from SCNL, a research technician from the same organization, a volunteer from Robertsport , a member of the Site Support Group (Piso Conservation Forum (PCF), and two employees of the Forestry Development Authority from the Lake Piso Multiple Use Reserve. The aim of the census was to keep track of the waterbird population density along the coast



Figure 1. Map of the sites in white and names in red

and the relevant site environmental variables. This year's overall bird count included 56 different bird species and 1,685 unique birds. In areas where there were water bodies, the count was carried out on foot and with the use of a boat.

Objective

The International Waterbirds Census is a global initiative that has been running in many countries since the 60s including Liberia. The initiative works through partnerships with organizations and professional groups. Every January, the Society for Conservation of Nature of Liberia (SCNL) conducts the International Waterbird Census every year, with support from Wetland International, BirdLife International and the Wadden Sea Flyway Initiative.

One of the main objectives of the 2023 total count is to generate a data-set on Liberia's water birds and other migratory birds along the coast and wetlands. In addition to this objective, it also aims to have waterbird data in the world Bird Data Base (WBDB) and as well as capacitate and equip Liberians in water birds identification, counting, and field survey techniques and to assess the threats at various IBAs and feed Wetland International with these data-sets annually.

Overview of the country and the covered zones/sites

The Census was conducted in the wetlands along the coast of Liberia. These Wetlands were identified in the past by wetland International and the Country coordinator (see figure 1).

2. METHODOLOGY

This year was a total count, so all the sites that were identified by Wetland International and the Country coordinator were counted for the total count, this year waterbird count was comprised of SCNL staff, Site support Group Forestry Development Authority (FDA), and FDA volunteer/ Eco guard at the Lake Piso along with RSPB staff. Before the start of the count, the head of the team conducted a refresher training for the team in the area of bird identification and how to fill in the environmental monitoring form and count form, the waterbird census lasted for 19 out of the 21 days from January 13 to February 4 2023 due to the institution retreat that was held during the time of the count which members of the team needed to be a part of.

3. RESULTS

There are 1,685 individual birds that were counted in this year's total count, which was conducted at seven parent sites and included 56 different bird species, came from seven different sites. Due to its size, Lake Piso in Robertsport has four sub-counting units. These are RSPO-1, RSPO-2, RSPO-3, and RSPO4. This site is one of the larger ones that we always count first during the waterbird census because it is the mean flyway of waterbirds in Liberia.

A total of 595 birds were counted at the Lake Piso parent site belonging to 31 bird species in Grand Cape Mount County while at the Mafa River mouth in Grand Cape Mount County, a total of 200 individuals birds were counted belonging to

24 bird species at the parent site of Mafa River Mouth. After the team completed Grand Cape Mount County, the team proceeded to the Lofa River Mount in Bomi County, where a total of 70 individual birds were counted belonging to 15 bird species. At the Monrovia coastal Lagoon which has two count units MON-1 and MON-2, a total of 419 individual birds were counted belonging to 32 bird species, and a total of 109 individual birds were counted on the Mesurado wetland belonging to 18 bird species.

Table 1. List of waterbird species and their numbers recorded

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	34
Zapornia flavirostra	Black Crake	2
Gallinula chloropus	Common Moorhen	25
Paragallinula angulata	Lesser Moorhen	1
Butorides striata	Green-backed Heron	17
Ardeola ralloides	Squacco Heron	7
Bubulcus ibis	Cattle Egret	118
Ardea cinerea	Grey Heron	15
Ardea purpurea	Purple Heron	3
Ardea alba	Great White Egret	7
Ardea brachyrhyncha	Yellow-billed Egret	34
Egretta ardesiaca	Black Heron	93
Egretta garzetta	Little Egret	71
Egretta gularis	Western Reef-egret	118
Microcarbo africanus	Long-tailed Cormorant	203
Himantopus himantopus	Black-winged Stilt	2
Pluvialis squatarola	Grey Plover	30
Charadrius hiaticula	Common Ringed Plover	1
Charadrius dubius	Little Ringed Plover	9
Actophilornis africanus	African Jacana	18
Numenius phaeopus	Whimbrel	20
Numenius arquata	Eurasian Curlew	3
Arenaria interpres	Ruddy Turnstone	4
Calidris pugnax	Ruff	1
Calidris ferruginea	Curlew Sandpiper	8
Calidris alba	Sanderling	30
Calidris minuta	Little Stint	48
Actitis hypoleucos	Common Sandpiper	105
Tringa ochropus	Green Sandpiper	5
Tringa nebularia	Common Greenshank	30
Tringa totanus	Common Redshank	18
Tringa glareola	Wood Sandpiper	2
Tringa stagnatilis	Marsh Sandpiper	2
Sternula albifrons	Little Tern	53
Gelochelidon nilotica	Common Gull-billed Tern	1
Chlidonias niger	Black Tern	83
Thalasseus sandvicensis	Sandwich Tern	120
Thalasseus maximus	Royal Tern	135

Marshall wetland has two counting units: MSH-1 and MSH-2; a total of 143 individual birds were counted in Marshall wetland belonging to 28 bird species, at Edina wetland, a total of 149 individual birds were counted belonging to 27 bird species at the Edina wetland.

4. DISCUSSION

Specific threats to the sites

The threats to these sites vary from area to area, but in general, fishing, sand mining, and encroachment on wetlands due to overfishing at these sites pose the greatest threats. Additionally, there are pressures on the forest along the coast due to the cutting down of the forest for firewood for the drying of fish. There are enormous piles of woods all around the site in Robertsport Grand Cape Mount County, which is home to one of the major fishing communities. Encroachment, creating wetlands for habitation, and removing mangroves to make more space for settlements in the wetlands are the three main threats to the two sites in Monrovia. At the Marshall wetlands, sand mining and settlement expansion are the major threats that are facing the site; additional threat to the Marshall wetland is the construction of a 2.0km road in the wetland by East International the the drying and in Grand Bassa County the major threats are charcoal production and sand mining.

Table 2. Most important pressures/threats to wetlands per sites

Lake Piso	Fishing and cutting firewood
Mafa River Mouth	Fire Woodcutting
Lofa River Mouth	Farming and fishing
Monrovia Coastal Lagoon	Encroachment in wetlands
Mesurado Wetland	Encroachment in wetlands
Marshall Wetland	Sand mining and fishing
Edina Wetland	Charcoal production

Difficulties encountered, quality and coverage of the count

Many previously accessible locations were now blocked by buildings during this year's waterbird census, making it challenging to see the birds at a distance. The researchers had trouble observing species that were flying past the binocular's field

of view. The majority of the locations where we once stood to watch birds have been encroached upon, and even locations that were once easily accessible require you to take a longer path. Due to the difficulty in getting to the other sites, the team members who come from Robertsport Lake Piso during the break in the water bird count for the SCNL retreat that took place during the Waterbird census, the Robertsport team had to take a taxi to Monrovia to continue the International Waterbird census.

By comparing the results of this year's census, which show a total of 1,685 birds belonging to 56 bird species, with the results of last year's annual count, which shows a total of 1,298 birds belonging to 44 bird species, it can be concluded that the total number of water birds in 2023 will be higher than in the previous year.

Improvements and learning points for the future

SCNL needs to train more Site Support Group in the field of bird identification at these sites especially in Lake Piso and Marshall city in Marbigi County so that during the International Water bird count we will not take monitors from Robertsport to Monrovia. At the office level, most SCNL research technicians need to create more interest in water bird monitoring so that SCNL can identify training for staff for future monitoring of the International Water bird Census.

Acknowledgement

This year's total count for the International Waterbirds Census would have not been possible without funding from Wetlands International and the Warden Flyway Initiative.

We also recognized the collaboration of the Forestry Development Authority (FDA) role played by ensuring the use of the patrol boat in Lake Piso and the contribution of their staff during the total count; a big thank you to the RSPB Liberia staff for their effort by joining the team in Monrovia, Marshall and Edina (Tarik Bodasing, Alade Adeleke and Bunmie Jegede) and PAPFor regional Coordinator (Marc Languy) and for his beautiful bird's photos taken during the count. We appreciate the dedicated efforts of all the SCNL staff that participated in the International Waterbird Census in 2023.

ANNEX

List of the observers involved during the 2023 IWC: Emmanuel M. Loqueh, Abraham B. Flomo, Hussein Pusah, Prince Momo, Momo Sambolleh, Rebecca Wleh, Tarik Bodasing, Alade Adeleke, Bunmie Jegede, Marc Languy

23. Côte d'Ivoire



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Comptage des oiseaux d'eau à la janvier 2023 en Côte d'Ivoire

KOUAME Kouassi Firmin, UASSA
Kouassi Félix

1. INTRODUCTION

La Côte d'Ivoire est située en Afrique de l'Ouest et s'étend sur 322 462 km². Le pays fait frontière avec le Mali et le Burkina Faso au nord, la Guinée et le Libéria à l'ouest, le Ghana à l'Est et au sud par l'océan Atlantique dans la partie occidentale du golfe de Guinée. Le pays dispose d'un bassin littoral de 500 km et quatre grands bassins fluviaux qui couvrent 265 000 km². A ces principaux fleuves et ce bassin littoral, s'ajoutent plusieurs affluents. Ceux-ci forment plusieurs zones humides qui hébergent des oiseaux d'eau migrateurs et résidents. Cette année, un nouveau site a été visité à l'ouest de la Côte d'Ivoire: le Parc National du Mont Sangbé.

Le DIOE de janvier 2023 a porté sur vingt-un (21) sites, dont huit (08) sites côtiers et treize (13) sites non côtiers.

L'objectif du DIOE est de calculer les tendances et décrire la distribution des espèces; d'estimer la taille des populations d'espèces d'oiseaux d'eau; d'évaluer les facteurs environnementaux et les menaces qui pèsent sur les zones humides et les oiseaux d'eau qui y vivent.

2. METHODOLOGIE

Le DIOE a débuté par la mobilisation du personnel, la constitution des équipes de terrain et le rappel des objectifs de comptage. Au total, treize (13) équipes de cinquante-neuf (59) personnes (agents forestiers, Ornithologues, membres d'ONGs, volontaires et agents de parcs nationaux ont été constituées. Ensuite, les équipes ont été mises en mission du 15 au 20 janvier 2023 pour réaliser le comptage des oiseaux d'eau.

Les équipes ont visités au total 21 sites avec des véhicules. Sur le terrain, les équipes ont fait le comptage par la méthode directe à pied, en véhicule et à bord de bateau ou de pirogue motorisé.

3. RESULTATS

Le DIOE de 2023 a montré une hausse des effectifs avec 24 747 individus de 79 espèces et 20 familles recensées contre 17 672 individus en 2022. Cette hausse du nombre d'individus pourrait s'expliquer par le plus grand nombre de sites visités cette année. Soit 21 sites cette année 2023 contre 15 en 2022. Aussi, faut-il signaler, une forte population des espèces Dendrocygna viduata (11 460), Bubulcus ibis (4 636) et Actophilornis africanus (1 191) qui représente respectivement 46%, 19% et 5% de l'effectif total des oiseaux dénombrés.

Le Lac de Buyo s'est montrée plus abondant en termes d'individus d'oiseaux et en diversité spécifique. 6330 oiseaux de 32 espèces ont été recensés. Ensuite, vient la zone humide de Guessabo, puis Abidjan et le barrage de soubré ayant respectivement des éffectifs de 2 809, 2 759 et 2 460 oiseaux. Les plus faibles éffectifs ont été observés dans les barrages de Korhogo et Ferkéssédougou avec 55 et 166 individus d'oiseaux respectivement (Figure 2). Depuis 2020, les plus faibles effectifs d'oiseaux ont été observés dans ces mêmes sites.

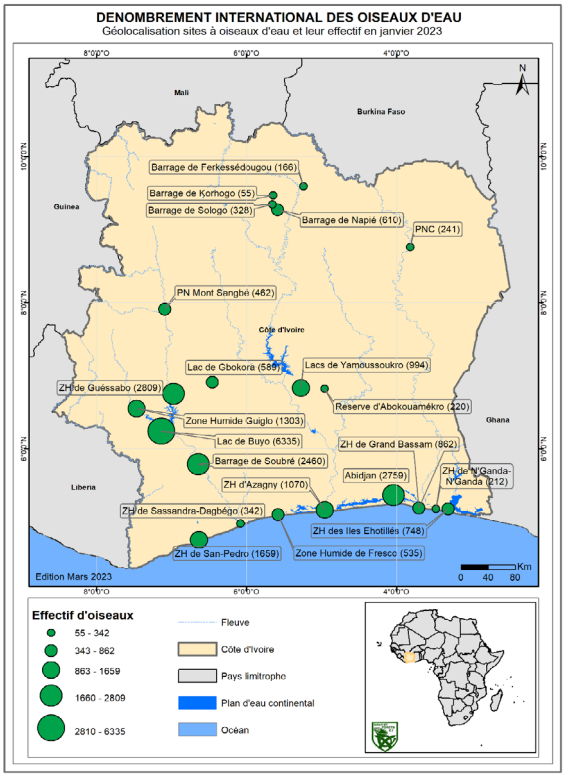


Figure 1. Situation Géographique des sites visités pendant le DIOE de 2023 et le numéro d' oiseaux d'eau

4. DISCUSSION

Difficultés

Parmi les difficultés rencontrées nous pouvons citer l'insuffisance de matériel, car toutes les équipes ne disposent pas toutes des appareils photos pour les prises de vue. Aussi, le besoin de formation : le DIOE a montré un besoin continu de former les nouveaux compteurs qui ont rejoint le réseau des compteurs en Côte d'Ivoire. La Côte d'Ivoire dispose des Ornithologues professionnels venus des universités et des techniciens issus des ministères et qui sont capables d'assurer la formation des nouveaux compteurs. Il est nécessaire de soutenir financièrement cette formation.

Acquis

Le DIOE 2023 a permis de visiter un (01) nouveau site à oiseaux d'eau (Parc National du Mont Sangbé); de voir la participation des nouvelles ONGs (Afrique verte environnement, SOS Forêts) et d'autres volontaires ; de visiter un site de pépinière de palétuvier mis en place par l'ONG Afrique verte environnement dans le zone humide de Sassandra Dagbego ; de renforcer le réseau national des compteurs des oiseaux d'eau en Côte d'Ivoire.

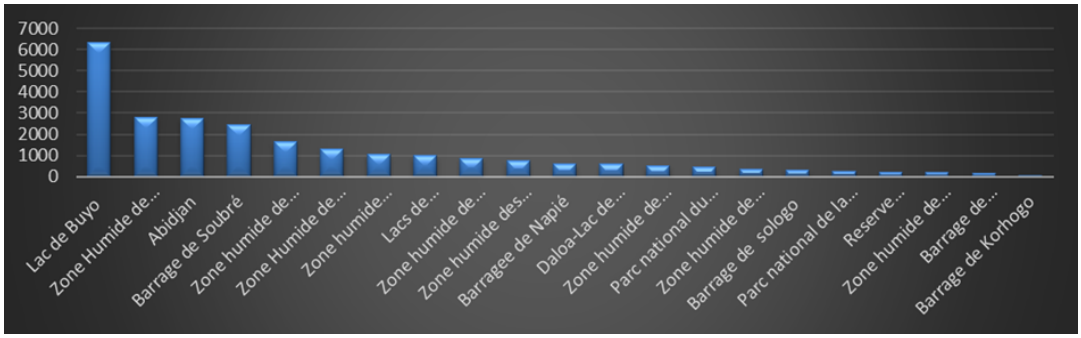


Figure 2. Repartition spartiale des espèces par site

Tableau 1. Liste des espèces observées pendant le DIOE de janvier 2023

Nom scientifique	Nom vernaculaire (FR)	Total 2023
Dendrocygna viduata	Dendrocygne veuf	11 460
Plectropterus gambensis	Oie-armée de Gambie	20
Nettapus auritus	Anserelle naine	477
Pteronetta hartlaubii	Ptéronette de Hartlaub	102
Zapornia flavirostra	Marouette à bec jaune	77
Porphyrio porphyrio	Talève sultane	8
Porphyrio alleni	Talève d'Allen	26
Gallinula chloropus	Gallinule poule-d'eau	195
Mycteria ibis	Tantale ibis	3
Nycticorax nycticorax	Bihoreau gris	96
Butorides striata	Héron strié	177
Ardeola ralloides	Crabier chevelu	356
Bubulcus ibis	Héron garde-boeufs	4 636
Ardea cinerea	Héron cendré	172
Ardea melanocephala	Héron mélanocéphale	21
Ardea goliath	Héron goliath	1
Ardea purpurea	Héron pourpré	13
Ardea alba	Grande Aigrette	282
Ardea brachyrhyncha	Héron a bec jaune	386
Egretta ardesiaca	Aigrette ardoisée	188
Egretta garzetta	Aigrette garzette	312
Egretta gularis	Aigrette à gorge blanche	192
Scopus umbretta	Ombrette africaine	28
Microcarbo africanus	Cormoran africain	687
Anhinga rufa	Anhinga d'Afrique	7
Himantopus himantopus	Échasse blanche	9
Pluvialis squatarola	Pluvier argenté	6
Charadrius hiaticula	Pluvier grand-gravelot	1
Charadrius dubius	Pluvier petit-gravelot	16
Charadrius alexandrinus	Pluvier à collier interrompu	8
Vanellus spinosus	Vanneau à éperons	576
Vanellus senegallus	Vanneau du Sénégal	131
Actophilornis africanus	Jacana à poitrine dorée	1 191
Microparra capensis	Jacana nain	58
Numenius phaeopus	Courlis corlieu	8
Numenius arquata	Courlis cendré	32
Arenaria interpres	Tournepierre à collier	3
Calidris canutus	Bécasseau maubèche	1
Calidris pugnax	Combattant varié	1
Calidris alba	Bécasseau sanderling	91
Calidris alpina	Bécasseau variable	1
Actitis hypoleucos	Chevalier guignette	275
Tringa ochropus	Chevalier cul-blanc	107
Tringa erythropus	Chevalier arlequin	3
Tringa nebularia	Chevalier aboyeur	73
Tringa totanus	Chevalier gambette	19
Tringa glareola	Chevalier sylvain	100
Tringa stagnatilis	Chevalier stagnatile	35
Sternula albifrons	Sterne naine	97
Thalasseus sandvicensis	Sterne caugek	181
Thalasseus maximus	Sterne royale	519

Recommandations

Pour une meilleure organisation du DIOE, il est judicieux:

- D'organiser des sessions de formation sur environ une (01) à deux (02) semaines pour certains compteurs sur la reconnaissance des espèces, le remplissage des fiches d'évaluation environnementale, la compilation des données au niveau des sites, l'utilisation du matériel de comptage ;
- De fournir suffisamment de matériel de comptage pour couvrir les besoins des équipes de terrain.

Remerciements

La réalisation du DIOE 2023, a été rendu possible grâce à l'aide de Wetlands International et ses partenaires notamment Wadden Sea Flyway Initiative (WSFI), BirdLife International et l'appui technique de plusieurs structures (Universités, ONG, institutions nationaux, société civile).

ANNEXE

Liste des compteurs DIOE 2023 (observateurs): Yapi Yapi Vanes, Sarambe Bogue Léontine, Ahon Dibie Bernard, Gbahan Arnaud, N'goran Hervé, Kouakou Kan Dieudonné, Niamien Coffi Jean Magloire, Konan Ekoun Michael, Konan Mouassi Paul, Douagouri Elvis, Gitte Affessi Alain Jiani, Sigui Abraham, Coulibaly Idriss, Gueye Frédéric, Kouame Kouassi Firmin, Touboui Bi Guessan Félix, Kouassi Zewauh, Aristide, Gala Bouanga Aimé, Zean Maxime, Beda Ange Alex, Koffi Yves, Kone Daouda, Sougohi Serge, Pkassokro Adji Hermann, Gasson Loua Constant, KONE, KOFFI, Koffi Konan Fulgence, Kouadio Damo Edmond, N'gbani Charlène, N'da Badie Brice, Zrehon Michel, Ella yao henry Michel, Lozo Roméo N'Guessan, SIA, Tra Bi, Guifoho Appolinaire, Vanga Franck, Adoueni Adoueni, Tia Michel, Zou bi Noel, Nagui Ange, Able aime Éric, Mamadou Beno, Tiedoue M. Roland, Assie Djeyao Roy Hartman, Bolla Tanguy, Coulibaly Chonkodjiriki, Ouraga Audrey Ozoua, Bayer Alex, Yaokokore Beibro, Konan Roger, Hugues Martial Zago, Amara Ouattara, Diabate Maboridjon, Ouassa Kouassi Félix, Odoupke Guillaume, Mone Souleymane, Bamba Bakaramoko.

Tableau 2. Récapitulatif des principales menaces sur les sites

Sites	Principales menaces
Zone humide des Iles Ehotilé	• Forte trafic de bateaux motorisés à des fins touristiques;
Zone humide de N'Ganda-N'Ganda	• Pollution due aux résidus des pesticides; • Lotissement dans la zone humide
Zone humide de Grand-Bassam	• Dragage de sable; • Prolifération des plantes envahissantes
Abidjan	• Travaux de construction de pont dans la baie de Cocody; • Pollution due aux déchets ménagers; • Travaux d'aménagement dans la baie du Banco
Barrage de Sologo	• Pollution des eaux due à l'utilisation excessive des pesticides et engrais
Zone Humide de Guessabo	• Pollution des eaux due à l'utilisation excessive des pesticides et engrais ainsi que la pratique de la pêche illégale; • Forte activité de pêche et perturbation des oiseaux due au trafic sur le plan d'eau
Barrage de Soubré	• développement des plantes envahissantes dans le site; • Pollution des eaux due aux activités de l'orpaillage clandestin
Barrage de Ferkessédougou	• Pollution des eaux due à l'utilisation excessive des pesticides et engrais
Lac de Buyo	• Pollution des berges due aux issus des filets de pêche
Zone humide de San-Pedro	• Pollution des eaux due aux déversements des déchets industriels et ménagers; • Utilisation excessive des pesticides et engrais pour l'agriculture dans la zone humide; • Dragage de sable
Zone humide de Sassandra Dagbego	• Forte érosion due à l'avancé de la mer; • Forte activité de pêche

24. Ghana



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Results of January 2023 counts of waterbirds in Ghana

Emmanuel Nii Attram Taye, Alfred Ali Nuoh, Prof. Yaa Ntiamoa-Baidu & Mr Dickson Agyemang

1. INTRODUCTION

The 550 km coastline of Ghana is dotted with over 100 wetlands of varying sizes and types. There are lagoons, estuaries, salt pan complexes, rocky shores and stretches of sandy beaches. These sites serve as habitat for several wetland biodiversity, notably waterfowl species. Since 1985, a select number of key wetlands along the coast of Ghana have been monitored to record the species and population status of the waterfowls they support. Long-term analysis of monthly waterbird surveys has shown that peak numbers are observed along the coast of Ghana from September to November, ie. the northern autumn migration period. In some years, however, another peak may be observed between January and March during the northern spring migration. From May to July, there are relatively low numbers of waterbirds observed at all monitored sites along the Ghana coast.

As per each year, and in collaboration with its partners WSFI, BirdLife International and Wetlands International (WI) engaged the Wildlife Division (WD) of the Forestry Commission of Ghana, the government agency focal point for the Ramsar Convention, to undertake the Ghana counts as part of the WI's International Waterbird Census programme. Both WD and WI have collaboration agreements with the Centre for Biodiversity Conservation Research (CBCR) that call on the CBCR to assist with the Ghana counts.

For this 2023 edition, the field surveys were undertaken from 17th – 23rd January, 2023 along the Ghana coast. A total of 12 selected wetlands known to support significant waterbird populations were visited, starting from the west to the east of the Ghana coast (Figure 1). Five of these sites are designated wetlands of international importance under the Ramsar Convention, they are: Muni-Pomadze (Central Region of Ghana), Densu delta (Greater Accra Region), Sakumo (Greater Accra Region), Songor (Greater Accra Region) and Keta lagoons (Volta Region). The other sites currently receive minimal protection at the local/community level. Notable among the



Figure 1. Map of coastal wetland sites counted in the 2023 International Waterbird Census

other sites is the Esiama beach; a 13-kilometre sandy beach between the Ankobra and Amanzuri estuaries in the Western Region of Ghana, which also is known to regularly support internationally important numbers of Sanderling Calidris alba. Although the remaining sites do not normally support significant numbers of waterbirds to meet the threshold, they are still important collectively as waterbird habitats.

2. METHODOLOGY

Three research assistants from the CBCR with many years of experience in waterbird monitoring led the counts at all 12 sites. To ensure comparability of the count data with the historical data collected by the CBCR, the counts were conducted following the protocol used by CBCR for over three decades. Counts were normally undertaken in the early hours of the morning from 0700 to 1100 GMT. The CBCR team was accompanied by WD staff for the counts, to provide an opportunity for practical training of the WD staff. Appendix 2 presents the dates for the site visits and the personnel involved. The extent of coverage of the wetlands vary and so did the time it took to complete the counts. Counts of waterbirds on the larger sites (Keta/Songor Ramsar sites) lasted for longer periods. For ease of the count, the larger sites have been divided into smaller count units; with Songor consisting of four units (Pute, Totope, Kablevu and Lolonya); while Keta has 10 count units (Adina, Afiadenyigba, Anloga, Anyako, Denu, Dudu Island, Fiahor, Keta, Srogbe-Fiahor and Tegbi). Counts were done on foot along the same pre-defined transects used in previous years by field personnel. Existing observation posts and/ or natural hilly areas, e.g. Sakumo Ramsar site were used as count spots as these presented a broader view that facilitated counting large flocks of roosting or foraging birds. Bird counts were conducted using a Swarovski 25-50 x 80 spotting telescope, a pair of 8 x 10 binoculars, and analogue counters. Individual birds sighted were identified, counted and documented. Large flocks were estimated and documented. The count data were compiled for each site and computed into the standardized excel sheets provided by the IWC.

Following the format provided for the IWC, an environmental assessment was carried out for each of the selected sites. Pollution, especially plastic pollution and encroachment remain the main pressures faced at the various sites surveyed.

3 RESULTS & DISCUSSION

Total of 86,864 individual waterbirds were recorded at the twelve selected sites during the 2023 IWC counts. These belonged to eight waterbird groups (Cormorants, Ducks, Grebes, Gulls and Terns, Herons and egrets, Rails, Storks and Waders), 58 species, and 16 waterbird families.

The family *Scolopacidae* had the highest number of individuals birds, accounting for 27% of the total count. The families *Charadriidae* and *Phalacrocoracidae* followed with 17% and 14% respectively. The families *Scolopacidae*, *Phalacrocoracidae*, *Charadriidae*, *Ardeidae*, *Laridae*, *Recurvirostridae*, and *Accipitridae* were recorded at the five Ramsar sites.

The five most abundant species during the January 2023 count were *Phalacrocorax africanus* (17%), *Charadrius hiaticula* (13%), *Dendrocygna viduata* (11%), *Calidris ferruginea* (10%), and H*imantopus himantopus* (6%).

About 73% of all waterbirds observed during the survey occurred in the five Ramsar sites (Table 1). The Keta lagoon recorded the highest number of species (42) as well as the highest number of individual waterbirds (39,814). Sakumo recorded the lowest number of individuals (597) and Esiama

beach recorded the lowest number of species (Table 1).

The Keta Lagoon recorded the only sighting of the Anastomus lamelligerus, and supported the highest numbers of *Calidris ferruginea* (75%), *Actophilornis africanus* (78%), *Ardea cinereal* (66%), *Casmerodius albus* (80%), *Charadrius hiaticula* (62%), *Dendrocygna viduata* (93%), *Limosa limosa* (92%), *Himantopus himantopus* (52%), *Egretta gaezetta* (83%), *Egretta gularis* (59%), *Phalacrocorax africanus* (78%), and *Tringa nebularia* (59%) individuals recorded. The Songor lagoon supported the highest numbers of *Sterna albifrons* (71%) while the Muni-Pomadze wetland recorded the highest numbers of *Chlidonias niger* (54%). The Densu Delta supported the highest numbers of *Calidris alba* (45%). *Calidris minuta* (47%), *Ceryle rudis* (55%), *Glareola pratincola* (58%), *Egretta Ardesiaca* (52%), *Numenius arquata* (95%), *Numenius phaeopus* (57%), and *Sterna sandvicensis* (75%) individuals recorded (Table 2).

Threats to the sites

The pressures on the environment, particularly of the six key sites, persist. Some sites have experienced increasing pressures since the last assessment. There has been increases in built-up areas at the Muni-Pomadze, Densu Delta and Sakumo sites. The presence of aquatic weeds poses a challenge to the use of the site as a habitat by the waterbirds. The Keta and Songor lagoons have not experienced much change since the last assessment.

With urbanization increasing the pressures at the sites, efforts must be taken to enforce conservation legislation at the sites, particularly the designated Ramsar wetlands, to guarantee that these wetlands continue to provide habitats for waterbirds and ecosystem services that are so valuable for the communities who live within and around the wetlands.

ACKNOWLEGMENT

Our gratitude goes to BirdLife International, Wetlands International, Wadden Sea Flyway Initiative, and Sovon who make it possible to undertake this survey. Our appreciation also goes to the many communities we visited to count birds and carry out habitat assessments. We are indebted to the traditional rulers who welcome us into their jurisdictions and support the work we do.

Table 1. Number of species and individual waterbirds encountered at the 12 coastal sites during the 2023 waterbird census.

Site	Status	No. of waterbird species recorded	No. of individual waterbirds counted
Densu Delta	Protected	41	16,128
Keta Lagoon	Protected	42	39,814
Muni-Pomadze	Protected	38	3105
Sakumo Lagoon	Protected	26	597
Songor Lagoon	Protected	38	3734
Amisa Lagoon	Unprotected	24	979
Elmina Salt Pans	Unprotected	31	5799
Esiama Beach	Unprotected	21	2867
Lalui Lagoon	Unprotected	24	4414
Narkwa Lagoon	Unprotected	22	1424
Ningo Salt Pans	Unprotected	32	6180
Whin Mouth	Unprotected	28	1823
Total			86,864

Table 2. Species and numbers recorded on the six key sites along the Ghana coast in the January 2023 counts

Scientific name	Densu Delta	Esiama	Keta	Muni-Pomadze	Sakumo	Songor	**Total**
Actitis hypoleucos	52	23	66	132	8	26	**307**
Actophilornis africanus			69	4	14	1	**88**
Amaurornis flavirostra						1	**1**
Anastomus lamelligerus			1,127				**1,127**
Ardea cinerea	194		455	30	1	8	**688**
Ardea melanocephala				1			**1**
Ardea purpurea	4		19	3			**26**
Ardeola ralloides	19		37	6	34		**96**
Arenaria interpres	2	6	22				**30**
Bubulcus ibis		2	47	83	101		**233**
Burhinus senegalensis			1	2	3	1	**7**
Butorides striatus	2	1	20	3	3	1	**30**
Calidris alba	413	1,528	252			254	**2,447**
Calidris ferruginea	1,302	18	5,040	303		56	**6,719**
Calidris minuta	984		915	26		135	**2,060**
Casmerodius albus	200		1,027	49	11	1	**1,288**
Ceryle rudis	312		146	78	12	17	**565**
Charadrius hiaticula	3,027	83	5,460	166	1	127	**8,864**
Charadrius marginatus			18	2		1	**21**
Charadrius pecuarius			164			64	**228**
Chlidonias niger	67	40		115		31	**253**
Corythornis cristatus	3		1			2	**6**
Dendrocygna viduata	287		6,502	70		118	**6,977**
Egretta ardesiaca	252		196	32	4		**484**
Egretta garzetta	455	6	2,749	50	6	54	**3,320**
Egretta gularis	478	34	1,164	132	2	185	**1,995**
Egretta intermedia	12			8	1		**21**
Gallinula chloropus	152		4	5	4		**165**
Glareola pratincola	662		250	179	43		**1,134**
Halcyon senegalensis					6		**6**
Himantopus himantopus	1,010	2	2,005	205	18	607	**3,847**
Larus argentatus/fuscus			167			160	**327**
Limosa lapponica	9	5	23	8		5	**50**
Limosa limosa	20		241				**261**
Milvus migrans parasitus	10	33	14	48	4	19	**128**
Numenius arquata	60	4	3				**67**
Numenius phaeopus	144	96	68	19		21	**348**
Nycticorax nycticorax	3						**3**
Phalacrocorax africanus	2,052	2	8,608	340	27	15	**11,044**
Pluvialis squatarola	89	139	70	18		20	**336**
Porphyrio porphyrio			3	2			**5**

Scientific name	Densu Delta	Esiama	Keta	Muni-Pomadze	Sakumo	Songor	**Total**
Sterna albifrons	130			195		801	**1,126**
Sterna dougallii	54					14	**68**
Sterna hirundo	712	213		146		93	**1,164**
Sterna maxima	557	377	54	168	1	163	**1,320**
Sterna sandvicensis	1,250	217	163		1	235	**1,866**
Tachybaptus ruficollis	2						**2**
Tringa glareola	201		183	111	48	1	**544**
Tringa nebularia	856	38	2,150	141	6	474	**3,665**
Tringa stagnatilis	26		51				**77**
Tringa totanus	6		37	4		5	**52**
Vanellus senegallus				4	7		**11**
Vanellus spinosus	58		223	217	231	18	**747**
Grand Total	16,128	2,867	39,814	3,105	597	3,734	**66,245**

25. Togo



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Comptage des oiseaux d'eau à la février 2023 en Togo

ATUTONU Amah, BAKAI Piwèlon, AGBETI Kossi Agbesime, DARE Gbati, AGBETI Afi Kafui Kpomonè, KLOLOE Kokou Seyram, Ministère de l'environnement et des ressources forestières

1. INTRODUCTION

Les Dénombrements Internationaux d'Oiseaux d'Eau (DIOE) constituent l'un des anciens programmes de suivi de la faune aviaire et se déroulent dans le monde entier. Ils couvrent près de 25 000 sites dans plus de 100 pays. A l'instar de tous ces pays, les oiseaux d'eau de certains milieux humides du Togo font l'objet d'identification et de comptage dans le cadre du suivi écologique et de la valorisation du capital biologique de ces milieux. Depuis 1999 le Togo a participé à quelques dénombrements internationaux des oiseaux d'eau (DIOE). Grâce à l'appui financier de Wetlands International et de l'Initiative de la voie de migration de la mer des Wadden et Birdlife et aussi, avec l'appui technique des partenaires nationaux (Direction des ressources forestières, l'association Renaissance des Femmes pour le Développement Durable), le dénombrement international des oiseaux d'eau de février 2023 a pu se réaliser.

L'objectif de ce suivi est de recenser les oiseaux d'eau dans certaines zones importantes de conservation des oiseaux du pays afin de contribuer à renseigner davantage la base de données internationales de comptage (IWC) d'oiseaux d'eau.

Spécifiquement, il s'agit de renforcer les capacités techniques des compteurs d'oiseaux d'eau du Togo; de conduire le recensement des oiseaux d'eau dans l'année 2023; d'identifier les facteurs de menaces qui affectent les oiseaux d'eau et leurs habitats.

2. METHODOLOGIE

Pour cause d'insuffisances de moyens, seules certaines zones importantes de conservation des oiseaux (ZICO) situées dans la bande côtière ont pu être prises en compte dans les opérations antérieures de dénombrement. Le dénombrement international des oiseaux d'eau 2023 a couvert les sites de la Lagune de Bè niveau Centre communautaire, le Torrent d'Agbalepedo, la Mare

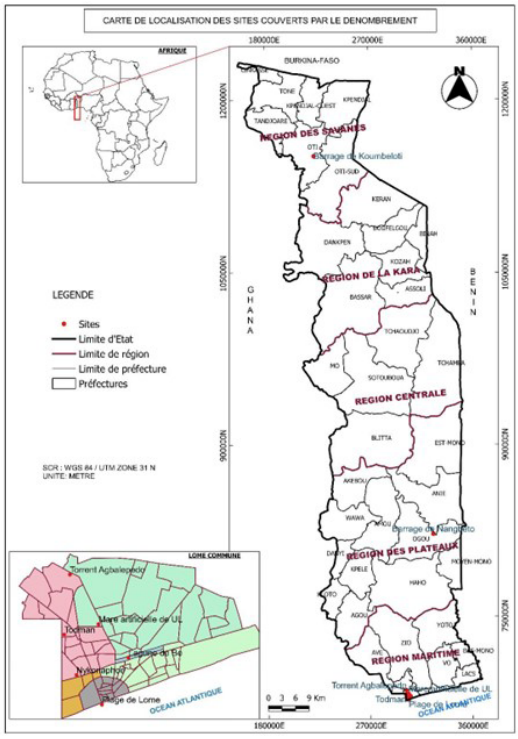


Figure 1. Carte du Togo avec indication sites visités dénombrés

artificielle de l'Université de Lomé, la lagune de Bè niveau Nyekonakpoe (T-Oil), le site de Todman, à l'ancien Warf sur la plage de Lomé, à la ZICO du lac artificiel du barrage hydro électrique de Nangbéto et la mare de Koumbeloti.

Le dénombrement s'est fait à pied. La technique a consisté d'abord à la détection, l'identification et ensuite l'estimation de l'effectif des espèces. Les données sont enregistrées sur les fiches de dénombrement et les activités anthropiques développées autour des sites sont notées. Il faut préciser que les fiches de dénombrement des oiseaux de chaque équipe sont réceptionnées, vérifiées, et analysées. Le présent rapport fait la synthèse des données collectées.

Deux groupes ont été constitués pour la phase pratique. Sous l'encadrement des formateurs, les participants ont procédé aux comptages dans six (06) ZICO de Lomé

3. RESULTATS

Un total de 28 espèces d'oiseaux d'eau appartenant à 25 genres et 16 familles ont été recensées sur les sites des zones importantes de conservation des oiseaux (ZICO) parcourus et du barrage de Koumbeloti. Aussi, un effectif total de 2 971 individus toutes espèces confondues a été dénombré au cours des opérations dont plus de 1 938 individus pour le seul site du barrage de Koumbeloti. La liste exhaustive des espèces d'oiseaux inventoriées est consignée dans le tableau 1.

4. DISCUSSION

Il est à noter que le Togo n'a pas pu organiser le DIOE dans les deux dernières années. Par contre, si nous comparons les résultats du DIOE de cette année 2023 à ceux de 2020, la tendance indique des résultats plus riches en individus comme en espèce par rapport à ceux des derniers DIOE au Togo. Cette différence est principalement due au résultat du site du barrage de Koumbeloti.

Les difficultés les plus importantes sont: l'insuffisance de moyens matériel et financier pour la couverture des opérations; le matériel d'observation notamment les jumelles utilisées ne sont pas assez performantes pour une meilleure observation et identification des oiseaux à une distance donnée; insuffisance de guides d'identification d'espèces d'oiseaux d'eau; le délai très court pour le dénombrement.

Table 1. Tableau récapitulatif global des espèces et le nombre d'individus comptés

Nom scientifique	Nom vernaculaire	Total 2023
Dendrocygna viduata	Dendrocygne veuf	1 500
Tachybaptus ruficollis	Grèbe castagneux	31
Zapornia flavirostra	Marouette à bec jaune	12
Gallinula chloropus	Gallinule poule-d'eau	5
Ciconia ciconia	Cigogne blanche	6
Nycticorax nycticorax	Bihoreau gris	60
Butorides striata	Héron strié	21
Ardeola ralloides	Crabier chevelu	50
Bubulcus ibis	Héron garde-boeufs	414
Ardea cinerea	Héron cendré	4
Ardea alba	Grande Aigrette	27
Egretta ardesiaca	Aigrette ardoisée	1
Scopus umbretta	Ombrette africaine	9
Microcarbo africanus	Cormoran africain	254
Vanellus spinosus	Vanneau à éperons	16
Actophilornis africanus	Jacana à poitrine dorée	18
Actitis hypoleucos	Chevalier guignette	18
Sterna hirundo	Sterne pierregarin	420
Thalasseus sandvicensis	Sterne caugek	40
Thalasseus maximus	Sterne royale	35

Table 2. Récapitulatif des principales menaces / pressions par site

Principales menaces / pressions	Site
Aménagement à des fins de construction d'habitations et de routes	Lagune de Bè, niveau station service T-oil Nyekonakpoe
Nuisances et pollutions	Lagune de Bè, niveau centre communautaire
	Lagune de Bè, niveau station service T-oil Nyekonakpoe
	Torent d'Agbalepedo
	ZICO de Todman
	ZICO de l'ancien Wharf / Plage de Lomé
Activités agricoles autour du site	Lac artificiel du barrage hydro électrique de Nangbéto
	Barrage de Koumbeloti
Changements climatiques	Lagune de Bè, niveau centre communautaire
	Lagune de Bè, niveau station service T-oil Nyekonakpoe
	Torent d'Agbalepedo
	ZICO de Todman
	ZICO de l'ancien Wharf / Plage de Lomé
	Lac artificiel du barrage hydro électrique de Nangbéto
	Barrage de Koumbeloti

Points d'améliorations et d'apprentissage pour le futur / avenir

- Doter la direction des ressources forestières et la Renaissance des Femmes pour le Développement Durable de moyens nécessaires et adéquats (financier, matériel tels que des télescopes, appareils photo-numériques, jumelles, GPS, chaussures de terrain appropriées aux zones humides, guides d'identification, etc.);
- Organiser des suivis écologiques mensuels des ZICO de la région Maritime;
- Organiser des suivis trimestriels des sites de dénombrement des oiseaux d'eau dans les autres régions du Togo;
- Organiser des rencontres semestrielles d'échanges d'expériences;
- Actualiser la liste des ZICO du Togo;
- Développer des partenariats en matière de dénombrement des oiseaux d'eau.

Remerciements

Le dénombrement international des oiseaux d'eau de février 2023 au Togo a été possible grâce à l'appui financier de Wetlands International, l'Initiative voie de migration de la Mer de Wadden et Birdlife international et la collaboration technique des partenaires nationaux (DRF et RFDD).

Nous adressons nos sincères remerciements aux trois partenaires financiers ci-dessus pour leurs appuis financiers renouvelés.

ANNEXE

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26. Benin



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Comptage des oiseaux d'eau à la janvier 2023 en Benin

Maximin DJONDO, Colonel Rémi HEFOUME, Daouda M. ALIOU, Sylvestre CHAFFRA, Joie D. E. SOSSOUKPE, Frédéric HOUNGA et Mariano HOUNGBEDJI. Benin Environment and Education Society et Direction Générale des Eaux-Forêts et Chasse

1. INTRODUCTION

Les zones humides constituent des habitats pour de nombreuses espèces d'oiseaux d'eau (Koukoudoui & Chidikofan, 2020). Ces oiseaux constituent l'un des composants les plus remarquables des écosystèmes humides du Bénin (Ahossi & Adjakpa, 2020).

Le Dénombrement International des Oiseaux d'eau (DIOE) permet de collecter des données sur les oiseaux d'eau. Les données collectées par Wetlands International au niveau de chaque pays contribuent à renseigner les statuts de conservation des populations biogéographiques d'oiseaux d'eau à travers le monde. Ces données constituent l'un des plus importants et précieux programmes de suivi, et alimentent les accords multilatéraux sur l'environnement pour la conservation des oiseaux d'eau et de leurs milieux. Elles sont également précieuses pour évaluer les politiques et la législation de conservation des populations d'oiseaux d'eau et de leurs milieux à l'échelon communautaire (Deceuninck & Quaintenne, 2016).

La Direction Générale des Eaux, Forêts et Chasse (DGEFC), point focal AEWA, au Bénin, coordonne les activités du dénombrement chaque année sur le plan national avec l'implication et la participation de plusieurs acteurs (Organisations Non Gouvernementales, Universitaires, spécialistes en environnement etc.) engagés dans la conservation des oiseaux d'eau et de leurs habitats. L'édition 2023 s'est déroulée du 28 au 30 janvier 2023 sur l'ensemble des sites Ramsar du Sud et Nord Bénin avec la participation de toutes les catégories d'acteurs impliquées dans la conservation des oiseaux au Bénin.

L'objectif général du DIOE a été d'identifier, de compter et de caractériser les oiseaux d'eau migra-

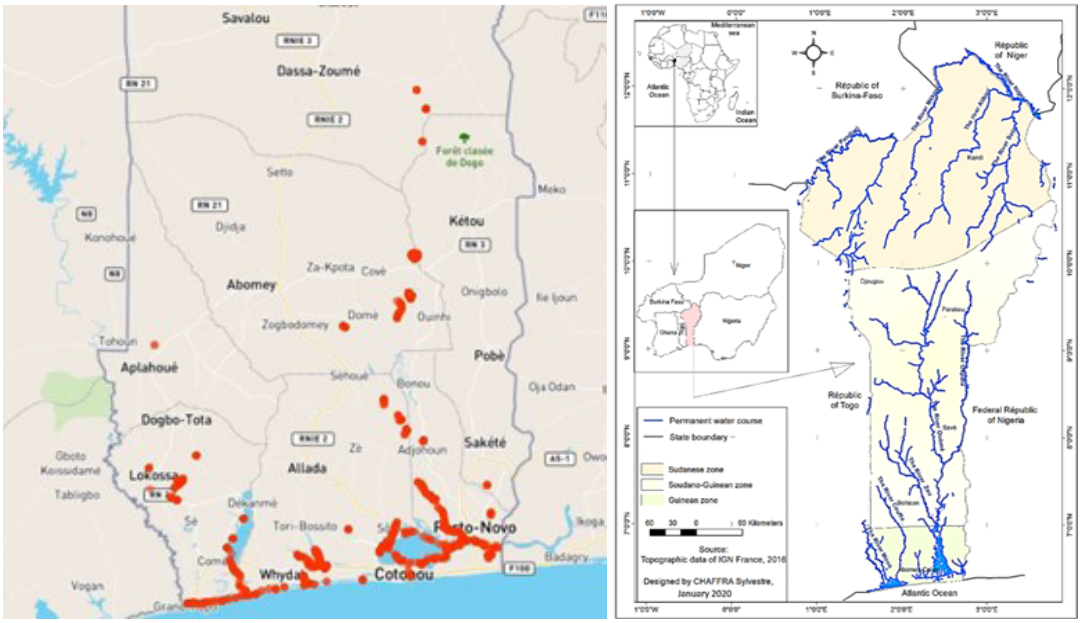


Figure 1. Cartes des sites de comptage et hydro-géographique du Bénin; Source : DIOE 2020 & Fond de carte IGN France, 2016

teurs et locaux ainsi que leur site de nidification. De manière spécifique, il s'est agi de:

- Inventorier les espèces d'oiseaux d'eau des zones humides du sud et du nord du Bénin;
- Caractériser les habitats de ces espèces d'oiseaux dans ces écosystèmes humides;
- Identifier les facteurs de pressions et menaces de ces espèces et de leurs habitats.

2. METHODOLOGIE

La méthodologie adoptée pour l'organisation de l'édition 2023 du DIOE suit trois étapes à savoir la réunion préparatoire, le comptage proprement dit et la réunion bilan. Le comptage proprement dit s'est déroulé les 28 et 29 janvier 2023. Les participants aux travaux du DIOE 2023 (Direction Générale des Eaux, Forêts et Chasse, Point Focal AEWA, Agence Béninoise pour l'Environnement, Directrice de la Production Halieutique et les ONGs) qui sont au nombre de 53, ont été répartis sur l'ensemble des sites identifiés afin de faire un décompte simultané sur l'ensemble des sites. Au total trente-deux (32) sites ont été parcourus dans le cadre de l'édition 2023 du DIOE au Bénin. Ces sites s'étendent du Sud au Nord du pays. Dans le Sud et le Centre du pays, les observations ont eu lieu sur vingt-huit (28) sites. Il s'agit entre autres :du Bas Delta du Mono, la carrière Gbakpodji, Chenal Aho, Cours d'eau Godro, Cours d'eau Sèdjè, Cours d'eau Tozamè, Fleuve Ouémé, Ganvié, lac Ahémé, lac Doukonta, Cours d'eau Godogba, lac Hlan, lac Nokoué, lac Togbadji, lac Toho, lagune ancienne, lagune côtière, lagune de Porto-Novo, rivière Gbadohouin, Vagnon Tokpa-Avrankou, rivière Sô et Tohouè. Cinq sites ont été pris en compte au Centre du pays: lac Sré, lac Tévèdji, lac Azili, Kôdogba-Ifangni, Cours d'eau Ninwé et le Confluent Fleuve Ouémé-Rivière Okpara. Dans le nord, les observations ont été faites sur quatre (04) sites à savoir: le fleuve Okpara, la rivière Bétérou, le barrage de Sepounga et le barrage de Oubérou

3. RESULTATS

L'édition 2023 du DIOE a permis de recenser au total 11 351 individus, issus de 82 espèces appartenant à 61 genres et 33 familles au niveau des principaux plans et cours d'eau des zones humides d'importances internationales du Sud au Nord. Les resultate pour les especes d'eaux á en tableau 1.

4. DISCUSSION

En comparaison aux résultats des DIOE précédents, ceux de 2023 sont légèrement supérieurs à ceux de 2022 en termes de richesse spécifique. Cependant, l'effectif total d'individu dénombré reste inférieur à ceux des deux années antérieures. Soit 11 351 individus en 2023 et 27 640 individus en 2022 et 17 757 individus en 2021.

La Lagune côtière est le site ayant le nombre d'espèces le plus élevé (31 espèces et 2 404 individus); suivi de la Lagune ancienne s'ensuit avec vingt-six (26 espèces et 667 individus) et du lac Nokoué avec vingt-cinq (25 espèces et

2 344 individus). Les sites présentant un effectif d'espèce considérablement faible sont le Cours d'eau Ninwé, Kôdogba-Ifangni et la Carrière Gbakodji avec 4 espèces et le Bas Delta du Mono (3) espèces seulement.

Principales menaces spécifiques aux sites

Les principales menaces enregistrées sur les différents sites se résument au développement incontrôlé des habitations humaines sur les berges des zones humides, le comblement du plan d'eau par les déchets solides et ménagers, la prolifération des plantes aquatiques envahissantes, l'installation non réglementée des pêcheries sédentaires, la petite chasse des oiseaux d'eau.

Difficultés rencontrées, qualité et couverture, du dénombrement

Depuis trois ans, la crise sécuritaire au Nord du Bénin est l'une des principales raisons pour lesquelles les sites Ramsar du Nord Bénin ne sont pas pris en compte lors des DIOE. Certains sites qui ont été pris en compte lors des éditions antérieures n'ont pas été sondés cette année. Par contre tous les autres itinéraires préétablis ont été respectés malgré quelques difficultés rencontrées. Ces difficultés sont liées à la prolifération des parcs à poissons « Acadja »; au comblement / envasement et faible profondeur du Lac rendant difficile la circulation des équipes; au brouillard obstruant la visibilité; à la forte anthropisation des habitats des espèces d'oiseaux; aux travaux de construction de route à Djègbadji avec fort pompage d'eau; aux averses de pluie survenues sur les sites du sud Bénin lors du dénombrement.

Tableau 1. Liste des espèces d'eau

Nom scientifique	Nom vernaculaire	Total 2023
Dendrocygna viduata	Dendrocygne veuf	3 434
Nettapus auritus	Anserelle naine	32
Tachybaptus ruficollis	Grèbe castagneux	20
Zapornia flavirostra	Marouette à bec jaune	71
Porphyrio porphyrio	Talève sultane	1
Gallinula chloropus	Gallinule poule-d'eau	25
Paragallinula angulata	Gallinule africaine	7
Anastomus lamelligerus	Bec-ouvert africain	1 071
Plegadis falcinellus	Ibis falcinelle	2
Nycticorax nycticorax	Bihoreau gris	89
Butorides striata	Héron strié	20
Ardeola ralloides	Crabier chevelu	50
Bubulcus ibis	Héron garde-boeufs	905
Ardea cinerea	Héron cendré	20
Ardea melanocephala	Héron mélanocéphale	1
Ardea purpurea	Héron pourpré	74
Ardea alba	Grande Aigrette	37
Ardea brachyrhyncha	Héron a bec jaune	207
Egretta ardesiaca	Aigrette ardoisée	251
Egretta garzetta	Aigrette garzette	181
Egretta gularis	Aigrette à gorge blanche	26
Scopus umbretta	Ombrette africaine	2
Microcarbo africanus	Cormoran africain	2 680
Himantopus himantopus	Échasse blanche	8
Charadrius hiaticula	Pluvier grand-gravelot	4
Charadrius dubius	Pluvier petit-gravelot	3
Charadrius marginatus	Pluvier à front blanc	2
Vanellus spinosus	Vanneau à éperons	81
Actophilornis africanus	Jacana à poitrine dorée	402
Numenius phaeopus	Courlis corlieu	4
Calidris pugnax	Combattant varié	2
Actitis hypoleucos	Chevalier guignette	38
Tringa nebularia	Chevalier aboyeur	7
Tringa glareola	Chevalier sylvain	9
Tringa stagnatilis	Chevalier stagnatile	2
Glareola pratincola	Glaréole à collier	1
Chlidonias niger	Guifette noire	1
Sterna hirundo	Sterne pierregarin	5
Thalasseus sandvicensis	Sterne caugek	3
Thalasseus maximus	Sterne royale	3

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27. Nigeria



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Results of January 2023 counts of waterbirds in Nigeria

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Nigerian Conservation Foundation (NCF)

1. INTRODUCTION

Nigeria has a landmass of about 923,770 sq.km that lies between the latitude 4° 10' to 60° 20' N and longitude 20° 45' to 80° 35' E. The habitat varies from north to south, on the boundary of the Atlantic Ocean, there is about 850km of coastline characterised by mangroves and swamp forests, this is followed by the low land rain forest that precedes the extensive guinea savanna. The major seasons are wet (April – October) and dry (November – March) seasons. Resident and migratory waterbirds utilise different habitats throughout the country and the regular winter waterbird counts is carried out to understand the changing habitat conditions and population trends.

The 2023 waterbird count was carried out to meet the following objectives:

- To monitor the population and threats facing birds as part of the global efforts during the winter water bird counts;
- To determine the current population of the waterbirds in the coastal areas of Nigeria.
- To monitor the areas identified as regular sites for waterbird monitoring and possibly identify new areas;
- To continue to raise awareness and educate the people on species and habitat protection across these sites.
- To build the capacities of local stakeholders in species and habitat monitoring.
- To promote the sustainable use of the wetlands by engaging the local communities while conserving critical habitats for migratory waterbirds.

2. METHODOLOGY

Twenty-one sites were surveyed across the country, this includes long-established sites that have been surveyed over 20 years and more recent southern coastal sites which have only been

regularly surveyed in recent years (see table 1). The sites in the southern region are characterised by a matrix of sandy beaches, muddy beaches, mangroves creeks, swamp forests, bays, mudflats, and residential areas. The sites in the northern region are wetlands characterised by seasonally fluctuating floodplains. It includes a RAMSAR, a UNESCO heritage site and a national park. The vegetation here mainly savannah, areas of marshy grassland and residential areas. The winter waterbird count was carried out from 15th through the 31st of January 2023. Individuals formed the different teams that surveyed different sites across the country. Movements between and within sites were done using cars, motorbikes, boats and feet depending on the nature of the habitat. Binoculars, telescope, cameras, field guide (ABC mobile field guide and Birds of Western African field guide), field notes and mobile phones with biodiversity gathering applications (Obsmap, Birdlaser) were used to identify and record birds. All birds sighted and heard were recorded and, in some cases, where birds are hidden within the vegetation, attempts were made to flush them to ensure proper counts.

3. RESULTS

Results from the northernmost sites shows a total abundance of 161,980 individual birds, and the presence of 75 bird species (water & landbirds). Dagona waterfowl sanctuary provided the highest number of individual birds with 61,708, followed by Gwayo complex with 37,848, Nguru lake with 25,912 and Baturia complex with 16,937, while in species richness, Gashua complex provided the highest record of diversity with 45 bird species followed by Dagona with 43 bird species. The total abundance recorded for all fourteen sites surveyed in southern Nigeria was 3,310 individuals of 55 species (water & landbirds). The site with the most species was Ologe lagoon which is in Lagos state and the most abundant species recorded was the African Jacana Actophilornis africanus. Table 2 gives the totals counted in Nigeria (North and South combined) for the most important waterbird species.

4.DISCUSSION

Nguru Lake is a designated RAMSAR site based on the 20,000 waterfowl criterion for three species (*Philomachus pugnax*, *Anas querquedula*, and *Dendrocygna viduata*). Floods in the wet season play a critical role in recharging groundwater in the northern wetland sites which are critically important for the local communities and birds. However, anthropogenic land use like agricultural intensification, overfishing and climate change are impacting these important habitats across all the sites (Gashua, Gwayo, Baturia complex, Hadejia complex). The extensive areas of invasive Typha australis is reducing habitat quality and size. The predominant species recorded include White-faced Whistling Duck (*Dendrocygna viduata*), Fulvous Whistling Duck (*Dendrocygna bicolor*), Reed Cormorant (*Phalacnoconax africanus*), Ruff

Table 1. List of sites assessed during the International Waterbird count.

Zone / Region / Department	Main site	Sites name	Geographical coordinates
North West	Hadeija Nguru Wetland Complex	Baturia Marma channel Hadeija barrage	N12.5839 E10.5379 N12.6465 E10.2277 N12.4364 E10.0333
North East	Hadeija Nguru Wetland Complex	Dagona waterfowl sanctuary Gashaua/Gwayo Katagum barrage Nguru Lake Complex	N12.4859 E10.4440 N12.4630 E10.4238 N12.3327 E10.3647 N12.5015 E10.2518
South West	Badagry Ibese Tarkwa bay Illaje	Badagry creek Ibese Tarkwa bay Ologe lagoon Manran abijo Illaje – bijimi Mahin canal	N6.2719 E3.1235 N6.2077 E3.2997 N6.2397 E3.2375 N6.2804 E3.0553 N6.1157 E4.4095 N6.0391 E4.4942 N6.1149 E4.4896
South East	Calabar	Calabar estuaries	N4.5208 E8.1626
South South	Ibeno Andoni Ikot abasi Akassa	Ibeno shoreline Ngo-creek Rivers Oyorokoto Rivers Obianga – shooter creek Palmpoint Sangana	N4.3401 E7.5869 N4.3059 E7.2766 N4.2795 E7.3166 N4.2914 E7.3666 N4.1646 E6.0504 N4.1942 E5.5979

Table 2. Total numbers counted per waterbird species in Nigeria, January 2023.

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	81,983
Dendrocygna bicolor	Fulvous Whistling-duck	15,735
Alopochen aegyptiaca	Egyptian Goose	132
Plectropterus gambensis	Spur-winged Goose	8,094
Sarkidiornis melanotos	African Comb Duck	11,041
Nettapus auritus	African Pygmy-goose	234
Spatula querquedula	Garganey	6,501
Zapornia flavirostra	Black Crake	729
Porphyrio porphyrio	Purple Swamphen	879
Porphyrio alleni	Allen's Gallinule	182
Gallinula chloropus	Common Moorhen	980
Paragallinula angulata	Lesser Moorhen	566
Anastomus lamelligerus	African Openbill	203
Threskiornis aethiopicus	African Sacred Ibis	49
Plegadis falcinellus	Glossy Ibis	410
Butorides striata	Green-backed Heron	11
Ardeola ralloides	Squacco Heron	3,295
Bubulcus ibis	Cattle Egret	8,813
Ardea cinerea	Grey Heron	1,836
Ardea melanocephala	Black-headed Heron	135
Ardea purpurea	Purple Heron	647
Ardea alba	Great White Egret	404
Ardea brachyrhyncha	Yellow-billed Egret	322
Egretta ardesiaca	Black Heron	639
Egretta garzetta	Little Egret	1,770
Egretta gularis	Western Reef-egret	317
Scopus umbretta	Hamerkop	29
Microcarbo africanus	Long-tailed Cormorant	5,244
Haematopus ostralegus	Eurasian Oystercatcher	1
Himantopus himantopus	Black-winged Stilt	481
Pluvialis squatarola	Grey Plover	5
Charadrius hiaticula	Common Ringed Plover	109
Charadrius dubius	Little Ringed Plover	17
Charadrius marginatus	White-fronted Plover	4
Charadrius alexandrinus	Kentish Plover	15
Vanellus spinosus	Spur-winged Lapwing	1,533
Actophilornis africanus	African Jacana	4,231
Microparra capensis	Lesser Jacana	338
Numenius phaeopus	Whimbrel	233
Numenius arquata	Eurasian Curlew	24
Limosa lapponica	Bar-tailed Godwit	58
Calidris pugnax	Ruff	14,462
Calidris ferruginea	Curlew Sandpiper	24
Calidris alba	Sanderling	6
Calidris minuta	Little Stint	140
Gallinago gallinago	Common Snipe	6
Actitis hypoleucos	Common Sandpiper	343
Tringa ochropus	Green Sandpiper	136
Tringa erythropus	Spotted Redshank	45
Tringa nebularia	Common Greenshank	36
Tringa glareola	Wood Sandpiper	47
Tringa stagnatilis	Marsh Sandpiper	139
Larus ridibundus	Black-headed Gull	119
Larus cirrocephalus	Grey-headed Gull	12
Sternula albifrons	Little Tern	16
Gelochelidon nilotica	Common Gull-billed Tern	13
Hydroprogne caspia	Caspian Tern	51
Sterna hirundo	Common Tern	30
Thalasseus sandvicensis	Sandwich Tern	14
Thalasseus maximus	Royal Tern	4

(*Philomachus pugnax*), African Jacana (*Actophilornis africanus*), Comb Duck (*Sarkidiornis melanotos*). Waders recorded include the Common sandpiper (*Actitis hypoleucos*), Green Sandpiper (*Tringa ochropus*), and Wood Sandpiper (*Tringa glareola*).

The sites surveyed in the southern part of the country are majorly coastal wetlands that lie on the East Atlantic Flyway. The natural habitat is a matrix of mangroves, sandy beaches, muddy beaches, sand marshes, marshlands, sand bars and mudflats. All these features are in a mix with human habitations and land use that impacts the habitats and the species that utilise them. Some of the economic activities recorded include mangrove exploitation for fuel, invasive Nypa spp that is colonising natural mangroves, overfishing, and sand dredging that is altering the ecosystem. Common species recorded include the Reed cormorant (*Microcarbo africanus*), Egrets (Great egret, cattle egret), waders like the Eurasian Whimbrel (*Numenius phaeopus*), Common sandpiper (*Actitis hypoleucos*), Wood sandpiper (*Tringa glareola*) etc.

Difficulties encountered included inaccessibility to some sites because of flooding and insecurity issues. Not all sites could be explored using telescopes or professional cameras, this may have impacted the species records from such sites. Aside from the Hadeija Nguru wetland complex where the waterbird count exercise is consistent, efforts in the other sites are being developed. The results from some sites varied significantly between 2022 and 2023. There is a need to develop the capacities of site support group to increase monitoring efforts at different sites, this will increase the quality of the data.

Acknowledgements

The project received financial support from Wetlands International, BirdLife International and the

Wadden Sea Flyway Initiative which has made it possible to sustain monitoring activities this year. The local communities support the survey efforts by approving the recruitment of members of the communities as guides. For the monitoring team at the Hadeija Nguru wetland complex which includes staff of the Federal University in Dutse. Support from the members of Akassa Development Fund and Ayetoro Youth Forum. We also thank the management of the under listed Institutions for their cooperation and release of their staff to participate in the exercise. (1), Federal University Dutse, (2), Jigawa State Ministry of Environment, (3), Yobe State Ministry of Environment, and (4), Chad Basin National Park. Our gratitude goes to all the participants for their time and pain-taking efforts to ensure the exercise was a huge success. Our appreciation also goes to the Site Support Groups (SSGs)/resource users in all communities within and around the surveyed sites for their cooperation and support during the 2023 water-bird census.

ANNEX

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28. Cameroon



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Results of January 2023 counts of waterbirds in Central Coastal Cameroon

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1. INTRODUCTION

Global attention has been given in recent times to the importance of water birds as they have been recognised as high-priority research indicators for wetland health (Leilowitz and Brown 1990, Furness and Greenwood 1993). Given their importance and the threat to their habitats and water birds themselves, there is a need for monitoring data necessary for the characterisation and determination of their status and trends on which to base sustainable use options, especially for local population. The collection of information is also of vital importance for the flyway perspective of waterbird conservation.

Cameroon's participation in the IWC has been through its network of volunteers coming from the government, NGOs, private sector and local communities. The system and periodicity of counts in the country have been heavily limited by accessibility and cost factors. Certain sites have been regularly counted, some counted annually while others are irregularly counted. Periodically or irregularly counted sites are located within the inland areas, especially around the Lake Chad, the lagoon and Shari basins, Noun basins and Dschang artificial lake.

The IWC with its accumulated database within Cameroon since its inception in 1999 has contributed to many policy changes worth of note including among others, the recognition of the Douala-Edea National Park and the accession of Cameroon to AEWA (African-Eurasian Water Bird Agreement.

2. METHODOLOGY

In line with the global objective and the draft national water bird & wetlands management plan, the January 2023 count in Cameroon in-

Table 1. Summary of January 2023 waterbird count at Cameroon coast giving totals for most important waterbird species

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	51
Pteronetta hartlaubii	Hartlaub's Duck	3
Anas undulata	Yellow-billed Duck	40
Tachybaptus ruficollis	Little Grebe	2
Phoeniconaias minor	Lesser Flamingo	550
Zapornia flavirostra	Black Crake	2
Porphyrio porphyrio	Purple Swamphen	6
Gallinula chloropus	Common Moorhen	16
Mycteria ibis	Yellow-billed Stork	410
Ciconia episcopus	African Woollyneck	406
Anastomus lamelligerus	African Openbill	593
Threskiornis aethiopicus	African Sacred Ibis	25
Nycticorax nycticorax	Black-crowned Night-heron	153
Butorides striata	Green-backed Heron	188
Ardeola ralloides	Squacco Heron	17
Bubulcus ibis	Cattle Egret	481
Ardea cinerea	Grey Heron	309
Ardea goliath	Goliath Heron	4
Ardea purpurea	Purple Heron	1
Ardea alba	Great White Egret	2,980
Ardea brachyrhyncha	Yellow-billed Egret	73
Egretta ardesiaca	Black Heron	4
Egretta garzetta	Little Egret	369
Egretta gularis	Western Reef-egret	1,645
Scopus umbretta	Hamerkop	25
Pelecanus rufescens	Pink-backed Pelican	1,552
Pelecanus onocrotalus	Great White Pelican	508
Microcarbo africanus	Long-tailed Cormorant	904
Anhinga rufa	African Darter	32

Scientific name	Common name (EN)	Total 2023
Haematopus ostralegus	Eurasian Oystercatcher	1
Recurvirostra avosetta	Pied Avocet	1,505
Himantopus himantopus	Black-winged Stilt	1
Pluvialis squatarola	Grey Plover	887
Charadrius hiaticula	Common Ringed Plover	4,310
Charadrius marginatus	White-fronted Plover	82
Vanellus spinosus	Spur-winged Lapwing	17
Actophilornis africanus	African Jacana	36
Numenius phaeopus	Whimbrel	185
Numenius arquata	Eurasian Curlew	31
Limosa lapponica	Bar-tailed Godwit	26
Arenaria interpres	Ruddy Turnstone	4
Calidris pugnax	Ruff	2
Calidris ferruginea	Curlew Sandpiper	20
Calidris minuta	Little Stint	14
Actitis hypoleucos	Common Sandpiper	296
Tringa nebularia	Common Greenshank	2,197
Tringa totanus	Common Redshank	74
Tringa glareola	Wood Sandpiper	507
Tringa stagnatilis	Marsh Sandpiper	245
Rynchops flavirostris	African Skimmer	788
Larus ridibundus	Black-headed Gull	3
Larus fuscus	Lesser Black-backed Gull	549
Sternula albifrons	Little Tern	5,313
Hydroprogne caspia	Caspian Tern	2
Chlidonias niger	Black Tern	5,050
Thalasseus sandvicensis	Sandwich Tern	28
Thalasseus maximus	Royal Tern	4,344

cluded counts in regularly counted sites within the coastal region. Thirty sites within the coastal areas and selected inland sites within 60 km were covered including West of Douala-Edea National Park (Moungo Bridge and Wouri basins), Douala-Edea (Wouri, Kwakwa and Sanaga Rivers estuaries), Upper Douala-Edea National Park (Upper Sanaga sand banks of Dizangué) and the inland site of Dschang artificial lake were counted partially or totally following standard bird census techniques (Bibby et al, 1992; Dodman et al, 1997; Girard, 1998).

The coastal Anglophone zone from Mt Cameroon Coast up to and including Ndian-Basin which has in the years before been confronted with socio-political armed conflicts was also counted this year.

The counts were conducted in January - February 2023. This year's count was quite spectacular with the participation of over dozens of people within the sites in addition to the regular participants.

The count exercise also assessed the pressure and environmental characteristics of major count sites.

3. RESULTS & DISCUSSION

Over 38,586 waterbirds and 175 kingfishers & other birds were countered in seven sites: Wouri, Douala-Edea National Park, Sanaga estuary & coast, Upper Sanaga (Dizangué), Mount Cameroon Coast and Ndian Basin. Most of the waterbirds were counted in the Ndian basin 31,378 (81%) followed by Douala-Edea National Park: 4,627 (12%) and upper Sanaga (Dizangué) 1,180 (3%). The waterbirds were distributed amongst 64 species and 14 species of kingfishers & other birds. The most abundant waterbird species group were gulls and terns (including skimmers) 16,093 (42%) followed by large waders 11,233 (29%). The most abundant species were Little Terns 5313, Black Terns 5,050 and Ringed Plovers 4,310. Skimmers could only be sighted in Upper Sanaga (567 birds) and Ndian basins (220 birds). Environmental data shows the perturbation of counts sites by mainly human factors especially infrastructural development and settlement.

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29. São Tomé and Príncipe



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Results of January 2023 counts of waterbirds in São Tomé and Príncipe

Ricardo Faustino de Lima, Abigail Varela, João Alves & Yodiney dos Santos

1. INTRODUCTION

São Tomé and Príncipe is an island country, internationally recognized for the endemic-rich forest avifauna (Melo et al. 2022). Even though the country also hosts an impressive diversity of aquatic ecosystems for its small size, its waterbirds are not well known. These include swamps, streams and rivers, coastal lagoons, mangroves, sandy beaches, rocky shores, and small offshore rocks and islets.

São Tomé and Príncipe has regionally important seabird colonies, including Sooty tern *Onychoprion fuscatus* and Brown booby *Sula leucogaster* (Bollen et al. 2017). It hosts small populations of resident freshwater and coastal species, including some endemics (e.g., Príncipe Blue-breasted Kingfisher *Halcyon malimbica dryas*, Príncipe Kingfisher *Corythornis nais*, São Tomé Kingfisher C. *thomensis*, and Dwarf Olive Ibis *Bostrychia bocagei*, a Critically Endangered Forest specialist), and a sparse but diverse community of migrant waterbird species (de Lima et al. 2021). Most of these follow the Eastern Atlantic migratory route and occur along the coast, including the regular migrants Common Sandpiper *Actitys hypoleucus*, *Whimbrel Numenius phaeopus*, and Common Greenshank *Tringa nebularia*.

The main objective of this census is to learn more about the waterbirds and wetlands of São Tomé and Príncipe, contributing to the 2023 International Waterbird Census

2. METHODS

The census took place in the main islands São Tomé and Príncipe (STP), but also in the Tinhosas Islets, which is STP's only Ramsar site. It covered 5 out of the 6 important bird areas in the country, and a diversity of aquatic habitats, including beaches, coastal lagoons, estuary zones, mangroves, rivers, and islets. The count lasted 8 days with 30 observers from 19 institutions were involved in the census.

We used standard census techniques and the sampling design defined in previous years to assess

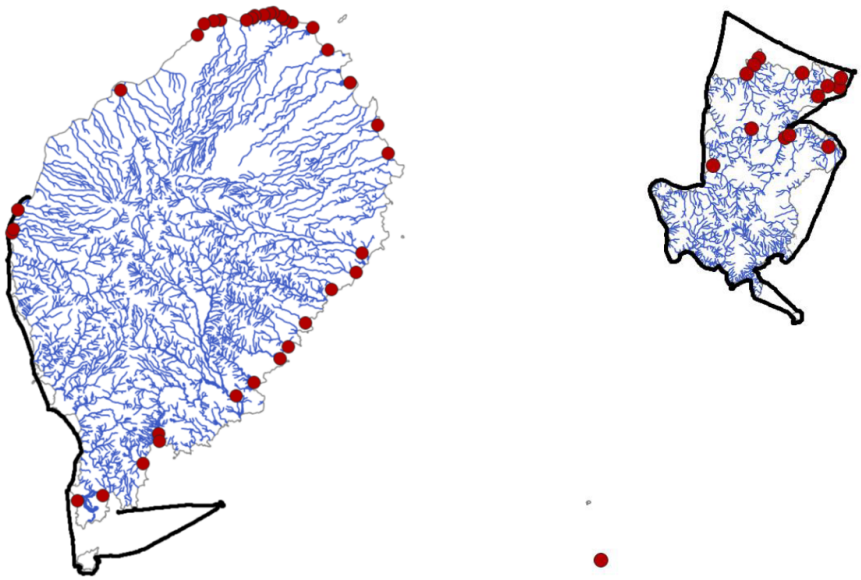


Figure 1. São Tomé (left) and Príncipe and Tinhosas (right) sites sampled during the 2023 waterbird census, including 10 minutes point counts (red circles) and boat transects (black lines).

the presence, abundance and trends of waterbirds species occurring in the country in January. Simultaneously, we used birdwatching to train, engage, and raise awareness of Santomeans for biodiversity science and conservation.

The 2023 census took place in São Tomé on January 10, 11, 12 and 18, in Príncipe on January 24, 25 and 26, and in Tinhosas on February 8. Areas accessible by car were sampled using 10-minute point counts (37 in São Tomé and 13 in Príncipe), while islets and less accessible coastal areas were sampled using boat transects (around Príncipe and on the southwest of São Tomé). In the Tinhosas, estimates were applied based on a methodology previously developed for the site, which focuses mainly on breeding pairs (Bollen et al. 2017), Figure 1.

3. RESULTS

This survey totaled 409,093 individuals belonging to 21 species. It allowed confirming the presence of regularly occurring coastal and freshwater species on both islands (Tables 1).

It also allowed counting resident waterbird species that occur in only one of the islands, namely São Tomé Kingfisher *Corythornis thomensis* (33 individuals at 17 sites) in São Tomé, and Blue-breasted Kingfisher *Halcyon malimbica dryas* (13 individuals at 6 sites), and Príncipe Kingfisher *Corythornis nais* (21 individuals at 9 sites) in Príncipe.

In terms of seabirds, we registered five out of the six species known to breed regularly in oceanic islands of the Gulf of Guinea. Black Noddy *Anous minutus* was seen in the south of São Tomé (32 at Sete Pedras), and in Tinhosas (over 1 559 individuals), where breeding was confirmed (13 breeding pairs estimated). Brown Noddy *A. stolidus* was only detected in the south of São Tomé (96 between Porto Alegre, Sete Pedras and Ilhéu das Rolas). Unlike in previous years, Bridled Tern *Onychoprion anaethetus* was not detected, while Sooty Tern *O. fuscatus* was only recorded at Tinhosas (over 200,000 breeding pairs estimated). Finally, White-tailed Tropicbird *Phaeton lepturus* was recorded mostly close to coastal cliffs (60 at 12 sites) and Brown Booby *Sula leucogaster* close to rocky islets, including larger numbers at Boné de Jóquei (35 individuals), and Tinhosas (692 breeding pairs estimated).

During the census some less frequent coastal birds were also recorded, including one Ruddy Turnstone *Arenaria interpres* at Largo da Juventude, in Príncipe, and, in São Tomé, one Pied Kingfisher *Ceryle rudis* at Diogo Nunes (1st photographic record for the island), one Lesser Moorhen *Paragallinula angulata* at Praia Melão, and a Wood Sandpiper *Tringa glareola* at Praia do Governador.

4. DISCUSSION

The average number of species recorded at each site was 3.27, which is identical to previous years (3.29 in 2020, 3.18 in 2021 and 3.02 in 2022). The total number of species recorded was 22, the same as in previous years, except 2021, when 23 were

Table 1. Abundance of waterbird species in São Tomé and Príncipe during the 2023 waterbird census.the 2020 census.

Scientific name	São Tomé	Príncipe	Tinhosas
Actitis hypoleucos	17	23	
Anous minutus	32		1,559
Anous stolidus	96		
Anous sp.		8	
Arenaria interpres		1	
Bubulcus ibis	72	6	
Butorides striatus	28	10	
Ceryle rudis	1		
Corythornis nais		21	
Corythornis thomensis	33		
Egretta gularis	59	103	
Gallinula chloropus	6	4	
Halcyon malimbica		13	
Milvus migrans	253	75	
Numenius phaeopus	5	14	
Onychoprion fuscatus			405,080
Paragallinula angulata	1		
Phaeton lepturus	25	31	4
Phalacrocorax africanus	51	1	
Sula leucogaster	5	60	1,384
Tringa glareola	1		
Tringa nebularia	9	2	

recorded. There variations are not particularly meaningful, since there are 18 species that are recorded every year, while the remaining are mostly vagrants. Exceptionally, was that the Bridled Tern *Onychoprion anaethetus*, a regular migrant on the islands, was not recorded this year.

Brown Noddy had the biggest changes in abundance, dropping from an average of 16,435 individuals in previous years to 96 in 2023 (Table 1). This was mostly due to its absence at Tinhosas, where the estimated number of breeding pairs used to be in the thousands, even though there was also a significant reduction in the number of individuals in São Tomé. The São Tomé Kingfisher had the strongest positive trend, raising from an average of 21 individuals in previous years to 33 in 2023. This trend seems consistent throughout the period in analysis and is accompanied by an increase in frequency. Black Noddy and Whimbrel were the two other species with negative trends, while Cattle Egret, Green-backed Heron, Yellow-billed Black Kite, Sooty Tern, White-tailed Tropicbird, Reed Cormorant, and Greenshank showed positive trends.

These changes might reflect long-term trends or interannual variation, for instance related to the weather or climatic conditions, or to disturbance, which will only be possible to distinguish after obtaining a long series of temporal data for these counts in São Tomé and Príncipe.

Since most of the population on São Tomé and Príncipe lives by the coast, wetlands are under intense anthropogenic pressure. Important threats on the main islands include fishing, agricultural and urban expansion, and invasive alien species. In the Tinhosas, which are uninhabited and have no vegetation or freshwater supply, fishermen are likely to be the biggest threat, since they are known to harvest seabirds and their eggs. Since there are currently no biosecurity measures in place, the introduction of invasive predators is also of great concern for this particular site. It remains unknown whether the crabs found at Tinhosas, recorded to eat eggs and chicks, are having population-level impacts on the breeding success of seabirds.

The pressures recorded this year are similar to those of previous years, even though some local changes have been noticed, such as the ongoing construction of a road between the coastal lagoon and the sea at Micoló, and the destruction of the coastal lagoon at Praia Melão to build a market.

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ANNEX

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30. Gabon



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Comptage des oiseaux d'eau à la janvier 2023 en Gabon

Gabin NZAMBA,
Coordinateur national

1. INTRODUCTION

Avec plus de 800 km de côte ouverts sur l'océan atlantique et de nombreux cours d'eau, le Gabon abrite une diversité d'habitats, parmi lesquels de nombreuses zones humides. Neuf sites Ramsar sont répertoriés dans le pays, notamment les parcs nationaux de Pongara et d'Akanda, ce dernier ayant classé pour protéger les nombreuses espèces d'oiseaux d'eau qui viennent y séjourner chaque année, principalement en provenance d'Europe et d'Asie.

Le Dénombrement international des Oiseaux d'Eau (DIOE), lancé en 1967 par Wetlands International, est un programme de surveillance des populations d'oiseaux dans les zones humides à travers le monde. Ainsi, chaque année au mois de janvier, tous les types de zones humides (fleuves, marais, estuaires, lagunes, deltas, lacs, plaines inondées, etc.) sont visités par des équipes d'ornithologues et autres personnels afin de dénombrer toutes les espèces d'oiseaux d'eau présentes. A travers le suivi annuel de l'évolution des populations d'oiseaux, ce programme vise à:

- Connaître les populations d'oiseaux présentes chaque année sur les sites bien identifiés;
- Dégager des tendances sur les effectifs de ces populations d'oiseaux au fil des ans, afin de déceler des changements;
- Identifier les menaces pour les zones humides le plus tôt possible afin de prendre les mesures adaptatives.

Les oiseaux d'eaux étant de bons indicateurs de la qualité et de l'évolution des milieux naturels, leur dénombrement annuel et les informations générées constituent des éléments pertinents pour évaluer les mesures de gestion et de conservation dans les sites. Aussi, le Gabon, a rejoint le programme en 1999, et prend depuis lors une part active aux activités annuelles.

Pour le compte de l'année 2023, les opéra-

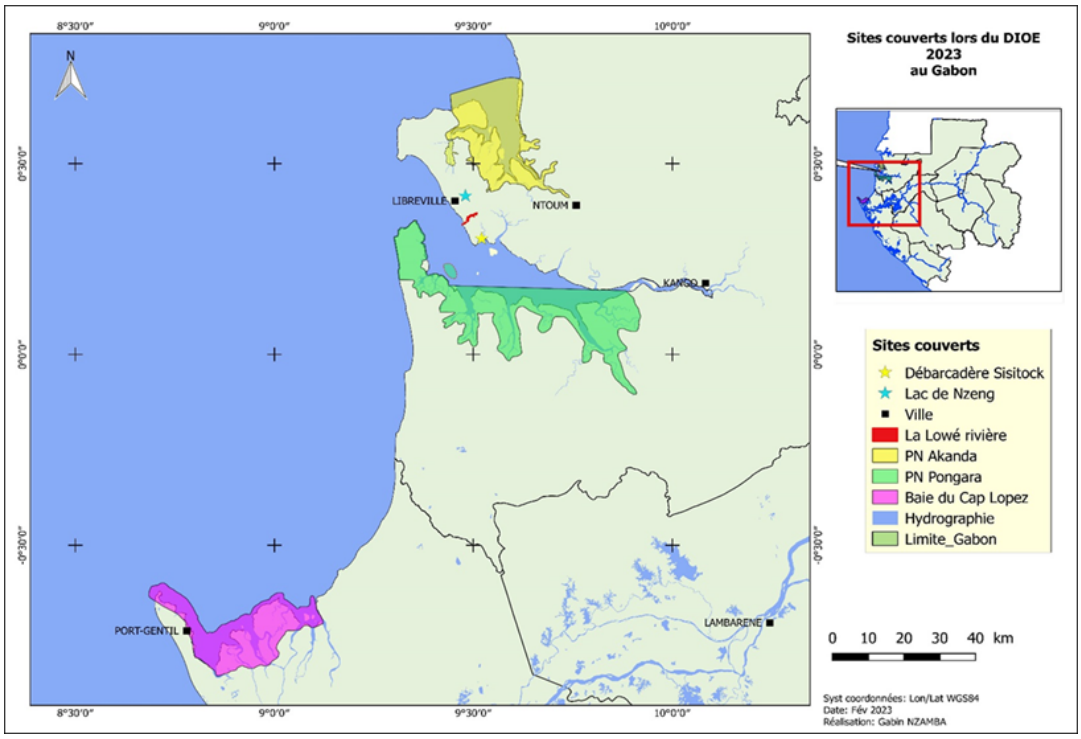


Figure 1. Cartes des sites de comptage et hydro-géographique du Gabon

tions du DIOE 2023 au Gabon, se sont déroulées dans les parcs nationaux d'Akanda et Pongara, tous deux situés dans la province de l'Estuaire, ainsi que dans des unités de comptage de leurs périphéries, notamment la Lowé, lac de Nzeng-Ayong et le débarcadère se Sisitock, dans la commune d'Owendo, au sud de Libreville. Par ailleurs, l'équipe s'est rendue dans la province de l'Ogooué-Martitime, où le site de la baie du Cap Lopez a été couvert (Figure 1).

2. METHODOLOGIE

Le dénombrement international des Oiseaux d'Eau au Gabon s'effectue selon les la méthodologie agréée par Wetlands International et ses partenaires.

Cette année, le dénombrement s'est déroulé du 18 au 24 janvier 2023, à travers les trois principaux sites que sont les parcs nationaux d'Akanda et Pongara dans la province de l'Estuaire, et la baie du Cap Lopez, dans la province de l'Ogooué-Maritime.

Sur le terrain, la méthode employée est celle du comptage direct, principalement depuis les embarcations, mais aussi à pieds. Les comptages commencent aussi tôt que possible en matinée, dès que le permet la marée, c'est-à-dire lorsqu'elle est basse ou descendante, et que les vasières et bancs de sable sont à découvert. Pour les sites d'Akanda et Pongara, deux équipes distinctes ont été constituées et se sont déployées sur les différentes unités de comptage afin de procéder aux dénombrements de manière simultanée. Pour la baie du Cap Lopez, une équipe unique de 4 membres s'est rendue dans la province de l'Ogooué-Maritime pour réaliser le dénombrement, à laquelle s'est jointe un agent local de l'ANPN. Chaque équipe comporte au minimum deux (2) observateurs expérimentés, qui identifient les espèces, puis comptent ou estiment es effectifs pour chacune d'elles. Les notes sur les décomptes sont prises par deux autres membres chargés de cette tâche, tandis qu'un autre se charge de collecter les données environnementales (ZICO). Tous les décomptes se sont faits depuis les bateaux, à l'exception de la grande vasière Moka, et de la baie du Cap Lopez qui ont été parcourus à pieds.

A la fin de chaque comptage, les membres chargés de la prise des données de décompte sont invités à les compiler, les vérifier, et les reporter sur les fiches standards. Les comptages se terminent en fin de matinée, ou un plus tôt en fonction de la montée de la marée.

Notons qu'avant le départ sur le terrain, une session de formation/recyclage a été organisée à l'endroit des participants le 13 janvier 2023, dans les locaux abritant les Ministère des Eaux et Forêts, précisément dans la salle de réunion de la Direction Générale de la Faune et des Aires Protégées.

3. RESULTATS

Pour le DIOE 2023 au Gabon, Au total, 4 597 individus appartenant à 19 familles et représentant 65 espèces ont été comptabilisés. Avec 18,8% des espèces recensées, la famille des scolopacidae est la plus représentée, suivie de celles des ardeidae et des alcedinidae avec respectivement 15,9 et 11,6%. En terme d'effectifs, c'est la famille des Laridae qui enregistre le plus grand nombre d'individus, soit 20,1% de tous les oiseaux dénombrés. Viennent ensuite les familles des scolopacidae (18,3%), des charadriidae (18,1%) et des pelecanidae (16,9%). Le tableau 1 ci-dessous présente les résultats globaux du DIOE cette année.

4. DISCUSION

Comparativement à l'année 2022, on enregistre une hausse du nombre d'oiseaux (+20%), et du nombres d'espèces (+12%) recensés. Par contre, une baisse du nombre total de familles (-9%) enregistrées au cours du DIOE 2023. L'augmentation du nombre d'espèces et d'individus (5 597 contre 3 838), pourrait s'expliquer simplement par l'effort de couverture plus important cette année. Tandis que l'amélioration de la diversité résulterait de la visite du site de la baie du Cap Lopez qui renferme des habitats d'eau douce (mares, marécages, prairies inondées, etc) avec une partie importante d'autres espèces qu'on rencontre difficilement dans les autres habitats, notamment les anatidae et rallidae. Par ailleurs et comparativement à l'année 2022, moins d'espèces non aquatiques ont été intégrées dans les dénombrement. L'accent a été mis sur les oiseaux d'eau, même si quelques espèces telles que les guêpiers (Meropidae) ou le Gonolek à ventre blanc (Malaconotidae) ont été prises en compte.

Bien qu'ayant un double statut de protection (parcs nationaux et sites Ramsar), la pression urbaine, les activités touristiques et l'insalubrité sont les principales menaces sur les sites d'Akanda et Pongara, à cause de leur localisation à proximité de grand centre urbain qu'est Libreville. Ces menaces sont principalement concentrées dans les zones où la surveillance par les agents des parcs est moins efficiente, à cause d'une forte proximité avec les activités anthropiques urbaines. Si les oiseaux ne sont directement visés, la pression sur leur habitat (notamment la mangrove) et l'insalubrité sont les principaux soucis dans ces deux sites.

Remerciements

Les équipes ayant réalisé le DIOE sont essentiellement constituées des membres du réseau national des compteurs d'oiseaux d'eau, constitué

Tableau 1. Résultats du dénombrement 2023

Nom scientifique	Nom vernaculaire	Total 2023
Dendrocygna viduata	Dendrocygne veuf	3
Nettapus auritus	Anserelle naine	6
Zapornia flavirostra	Marouette à bec jaune	2
Porphyrio alleni	Talève d'Allen	1
Gallinula chloropus	Gallinule poule-d'eau	18
Mycteria ibis	Tantale ibis	48
Platalea alba	Spatule d'Afrique	21
Threskiornis aethiopicus	Ibis sacré	11
Nycticorax nycticorax	Bihoreau gris	111
Butorides striata	Héron strié	44
Ardeola ralloides	Crabier chevelu	2
Bubulcus ibis	Héron garde-boeufs	92
Ardea cinerea	Héron cendré	154
Ardea melanocephala	Héron mélanocéphale	2
Ardea goliath	Héron goliath	1
Ardea purpurea	Héron pourpré	3
Ardea alba	Grande Aigrette	113
Egretta garzetta	Aigrette garzette	78
Egretta gularis	Aigrette à gorge blanche	4
Scopus umbretta	Ombrette africaine	21
Pelecanus rufescens	Pélican gris	523
Pelecanus onocrotalus	Pélican blanc	258
Microcarbo africanus	Cormoran africain	62
Pluvialis squatarola	Pluvier argenté	77
Charadrius hiaticula	Pluvier grand-gravelot	34
Charadrius pecuarius	Pluvier pâtre	1
Charadrius marginatus	Pluvier à front blanc	173
Actophilornis africanus	Jacana à poitrine dorée	18
Numenius phaeopus	Courlis corlieu	255
Numenius arquata	Courlis cendré	8
Limosa lapponica	Barge rousse	96
Limosa limosa	Barge à queue noire	1
Calidris canutus	Bécasseau maubèche	5
Calidris ferruginea	Bécasseau cocorli	113
Calidris alba	Bécasseau sanderling	171
Calidris minuta	Bécasseau minute	10
Actitis hypoleucos	Chevalier guignette	50
Tringa nebularia	Chevalier aboyeur	88
Tringa totanus	Chevalier gambette	18
Tringa glareola	Chevalier sylvain	1
Tringa stagnatilis	Chevalier stagnatile	26
Rynchops flavirostris	Bec-en-ciseaux d'Afrique	152
Sternula albifrons	Sterne naine	42
Sterna hirundo	Sterne pierregarin	15
Thalasseus sandvicensis	Sterne caugek	210
Thalasseus maximus	Sterne royale	605

des agents du Ministère des Eaux et Forêts, spécifiquement ceux de la Direction Générale de la Faune et des Aires Protégées (DGFAP), de l'Agence Nationale des Parcs Nationaux (ANPN) de l'ONG Aventures Sans Frontières (ASF), de stagiaires de l'Ecole Nationale des Eaux et Forêts (ENEF), ainsi que de volontaires passionnés par les oiseaux et leur conservation.

L'équipe de dénombrement des oiseaux d'eau au Gabon tient à exprimer sa profonde gratitude à l'endroit de Wetlands International, Wadden Sea Flyway Initiative et Birdlife international, pour leur contribution multiforme à la réalisation de cette activité dans notre pays. Leur contribution financière, leurs orientations techniques et leur disponibilité ont rendu cette campagne 2023 possible au Gabon.

Que nos partenaires locaux, l'ONG ASF, les conservateurs des parcs nationaux d'Akanda et Pongara, le conservateur des aires marines protégées de Port-Gentil, les populations riveraines des différents sites trouvent ici notre reconnaissance pour leur aide. Enfin à ceux qui partagent régulièrement leurs observations et photographies sur les oiseaux, donc certaines ont été utilisées dans le présent rapport, notamment Lionel SINIEU et Michèle SIBERT.

ANNEXE

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31. Republique Democratique du Congo (RDC)



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Comptage des oiseaux d'eau à la février 2023 en République Démocratique du Congo

Pierre MAVUEMBA TUVI,
Élisabeth MUILA-YA-LUSILA &
Zacharie LELO SAMBIANDI

1. INTRODUCTION

Le présent dénombrement concerne les oiseaux d'eau ayant fréquenté les différents sites du Parc Marin des Mangroves, le long de la côte atlantique de la République Démocratique du Congo (RDC) sur près de 35 km et les zones humides avoisinantes, au mois de Février 2023. Avec une vaste zone humide sur la côte Est-Atlantique, comprenant une grande forêt de mangroves immergée, la RDC constitue un site de repos et de reproduction de plusieurs oiseaux migrateurs. Si cette zone est perturbée, ces migrateurs auront des difficultés pour aller de l'Afrique du Nord vers le sud. Comme pour les années précédentes, le dénombrement de cette année 2023 a eu pour objectifs:

- Comptage visuel et réel des oiseaux d'eau du Parc Marin des Mangroves et ses environs.
- Relevé de l'état environnemental des sites parcourus.
- Compilation, analyse et présentation des résultats du dénombrement.

Les opérations de cette année se sont déroulées dans le Parc Marins des Mangroves (Muanda – Congo central) au niveau d'une douzaine de sites présentés ci-dessous (Figure 1).

2. METHODOLOGIE

Les opérations de dénombrement de 2023 ont été menées du 21 au 24 février 2023. Elles ont été précédées par un l'organisation d'un atelier de pré comptage pour une mise à niveau des compteurs et une sensibilisation de des populations riveraines. Les parcours et sites à visités sont définis et répartis entre les équipes / groupes de compteurs.

Les méthodes standards d'observation et de comptage ont été utilisées avec des visites de sites soit à pied, soit à bord de voitures, à bord de bateaux hors-bord ou encore à bord de pirogues. Les matériels à disposition sont principalement des 10 paires de jumelles, 2 télescopes, 2 GPS et 2 appareils photo-numériques. Outre les matériels divers



Figure 1. Localisation du Parc Marin des Mangroves en RDC.

de prises de notes quelques guides d'identification des oiseaux ont aussi mis à profit (Borrow et Demey, 2008 ; Barlow et Dodman, 2016).

Il est utile de noter qu'en terme d'implication institutionnelle, des agents du Parc Marin des Mangroves (PMM) ainsi que des volontaires de l'Association « Sauvons nos Côtes » (SANOCO – ONGD) se sont joints aux éléments de l'Institut Supérieur de Navigation et de Pêche (ISNP/Muanda) pour conduire les opérations de dénombrement sur les différents sites retenus

3. RESULTATS & DISCUSSION

Nous avons dénombré en février 2023 un total de 1 492 oiseaux d'eaux pour 57 espèces contre 2 160 individus pour 34 espèces en 2022, et 3 734 oiseaux d'eau pour 51 espèces en 2021, 4 123 oiseaux d'eau pour 53 espèces en 2020, et 3 978 oiseaux d'eaux pour 47 espèces en 2019. Bien que le nombre d'espèces soit plus élevé, cette année est la moins abondante en nombre d'individus d'oiseaux d'eau dénombrés.

Le nombre plus élevé d'espèces peut s'expliquer par le fait que depuis quelques années plusieurs rapaces comme le faucon crécerelles, ainsi que certains cisticolidae comme la cisticole des joncs et autres motacillidae comme la bergeronnette pie, ont été pris en compte. Ce mauvais score en nombre d'individus est à mettre en grande partie, si pas entièrement, du moins pour cette année, aux mauvaises conditions climatiques.

Les principales menaces spécifiques aux sites: Ainsi l'érosion côtière, une forte urbanisation non réglementaire, un déboisement anarchique et une pollution aux déchets plastiques sont notés comme menaces au niveau des lagunes de Ngoyo et de Tonde. A Banana et dans les presqu'îles de Km3, Km4 et Km5 se sont les constructions non contrôlées qui constituent la grande pression aux sites, tandis que dans les îles Tompo et Bulambembo les menaces sont à travers les déchets plastiques, la pollution aux hydrocarbures, la pêche et le le déboisement. On note aussi desmenaces liées au developpment de fermes agricoles ainsi et aux feux de brousse (Lukunga et Ile de Mateba) de même qu'à l'exploitation pétrolière et au déboisement.

Remerciements

Nos remerciements à Wetlands International et ses partenaires Wadden Sea Flyway Initiative et BirdLife International, aux responsables du Parc Marin des Mangroves, à SANOCO/ ONGD, et à tous les bénévoles qui nous ont accompagné dans ce travail.

ANNEXE

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Tableau 1. Listes et effectifs des oiseaux d'eau dénombrés, par espèce

Nom scientifique	Nom vernaculaire	Total 2023
Dendrocygna viduata	Dendrocygne veuf	159
Nettapus auritus	Anserelle naine	59
Tachybaptus ruficollis	Grèbe castagneux	1
Anastomus lamelligerus	Bec-ouvert africain	12
Platalea alba	Spatule d'Afrique	4
Threskiornis aethiopicus	Ibis sacré	8
Nycticorax nycticorax	Bihoreau gris	4
Butorides striata	Héron strié	14
Ardeola ralloides	Crabier chevelu	55
Bubulcus ibis	Héron garde-boeufs	348
Ardea cinerea	Héron cendré	2
Ardea melanocephala	Héron mélanocéphale	2
Ardea goliath	Héron goliath	1
Ardea purpurea	Héron pourpré	20
Ardea alba	Grande Aigrette	26
Ardea brachyrhyncha	Héron a bec jaune	3
Egretta garzetta	Aigrette garzette	68
Egretta gularis	Aigrette à gorge blanche	2

Nom scientifique	Nom vernaculaire	Total 2023
Scopus umbretta	Ombrette africaine	12
Microcarbo africanus	Cormoran africain	107
Anhinga rufa	Anhinga d'Afrique	28
Himantopus himantopus	Échasse blanche	1
Pluvialis squatarola	Pluvier argenté	9
Charadrius hiaticula	Pluvier grand-gravelot	2
Charadrius marginatus	Pluvier à front blanc	3
Actophilornis africanus	Jacana à poitrine dorée	23
Numenius phaeopus	Courlis corlieu	71
Arenaria interpres	Tournepierre à collier	8
Calidris alba	Bécasseau sanderling	19
Calidris alpina	Bécasseau variable	11
Actitis hypoleucos	Chevalier guignette	18
Tringa nebularia	Chevalier aboyeur	15
Rynchops flavirostris	Bec-en-ciseaux d'Afrique	56
Chlidonias niger	Guifette noire	30

32. Angola



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Results of January 2023 counts of waterbirds in Angola

José Dala, Filipe Kodo, José Dianguessa, Sango Sá & Martin Poot

1. INTRODUCTION

Since 2016, waterbird counting activities have become a regular activity in Angola. The waterbird counting activity is an important tool and constitutes an important action in the implementation of the national strategy on the conservation of biodiversity, regarding the strengthening of knowledge and monitoring of coastal and marine biodiversity of Angola as well as in the implementation of the actions of conventions and multilateral agreements signed by Angola on migratory bird species and their habitats.

The waterbird counts of this year 2023 were conducted in north Angola by the NGO BIOCONSERV and INBC (National Institute for Biodiversity and Conservation) and counted with the participation of NGO members and Institute technicians. In south Angola, the counts were carried out by technicians of Iona National Park and an expert ornithologist from the Netherlands.

The objectives are: a) To carry out bird counts along the coast of Luanda, Zaire and Bengo in the north and along the coast of Namibe including the island Baia dos Tigres in the south; b)- To identify the birds observed to the highest taxonomic level possible, and c)- To record human threats to the birds and their habitats.

Objectives

- Proceed the monitoring of water birds along the Angolan coast;
- Increase the coverage of coastal wetlands, including the locations of Soyo and Nzeto;
- Record human threats to birds and their habitats in the selected areas.

2. SITES AND METHODOLOGY

Angola has an extensive coastline of 1650 km, from the Cabinda region (Northern Angola) to the mouth of the Cunene River (Southern Angola). The counts took place along the coast of Namibe in south Angola (figure 1) and in the provinces of Luanda, Zaire and Bengo (figure 2) in north Angola.

In terms of methodology used in north Angola, the counting groups were assembled at a pre-

announced location and from there the groups were distributed to the counting sites. Each group was responsible for conducting the count at a fixed point or conducting transects using cars, motor boats and on foot, thus covering kilometres and kilometres.

In south Angola the counting group consisted of two - three persons and the operations started specially with the search for expected breeding locations of Damara terns in the northern part of Iona National Park. Transport was by 4WD along the coast of Tombwa and along the coast of Iona National Park as south as the sourthern tip of Baia dos Tigres. In order to reach the island Baia dos Tigres a suitable ship was hired.

From the participation and institutional involvement point of view, the counting operations mobilised, in north Angola, technicians from the National Institute for Biodiversity and Conservation of the Ministry of Environment in addition to voluntary members of the Association BIOCONSERV. While in south Angola, the counts were carried out by technicians from Iona National Park and an expert ornithologist from the Netherlands.

Counters in the north have mainly used the standard equipment being binoculars, cameras, telescopes, identification guides, notepads and GPS etc while in the south the app Obsmap/iObs was used in addition for the data collection. Doing like this, data is automatically stored with GPS location and when uploaded shared as open data to the GBIF international biodiversity database. Then after, data were downloaded for own use and processed for analysis and presentation.

3. RESULTS AND DISCUSSION

In north Angola, in the seven sampled counting areas a total of 34 species was recorded, making a total of 1,806 individuals, with the species Actitis hypoleucos being the most numerous with a total of 363 individuals in the lagoon of the wetland of Praia de São Tiago, Bengo province. Second numerous was Phoenicopterus roseus with a total of 200 individuals, the majority, of which 90.5% was recorded in the Integral Natural Reserve of Ilhéu dos Pássaros, Luanda province.

The greatest diversity of species was recorded in the Ilhéu dos Pássaros Integral Nature Reserve, Luanda with 16 species.

The coastal zone of southern Angola covers 200 km of coast up to the Namibian border and



Figure 1. Map of the location of the count sites in south Angola

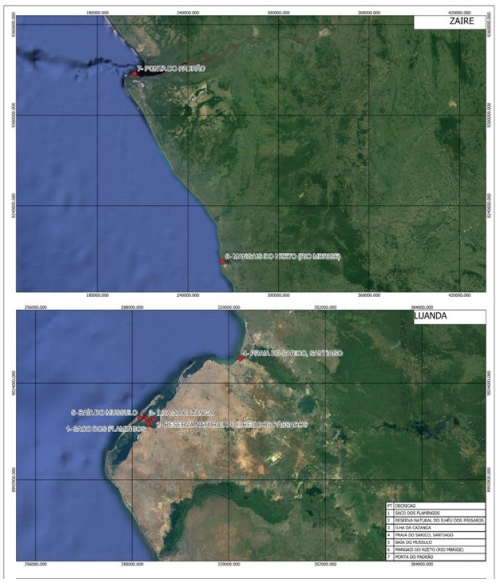


Figure 2. Map of the location of the count sites in north Angola.

is a scenically very spectacular area. Here lies a very extensive sandy desert area, part of which, about 80 km long, consists of dunes up to more than 100 m high. There are three large sand bars on this coast, within which there are mudflats teeming with many thousands of water birds. Besides many migratory birds, there are also many local African waterbirds there including, most prominently, pelicans, flamingos and the many tens of thousands of Cape cormorants. There is also the desert island Baia dos Tigres that has been visited by ship.

In table 1 the totals per waterbird species is given (Angola North and South combined). The importance of Angola for the globally rare species Phalacrocorax capensis is evident. Notable also was the large number of sanderlings counted, around 7,500. Also for the currently severly threatened Sandwich Tern over 3.5% of the biogeographical population stays along the south Angola coast. And it is clear that for both species this must be under estimated figures because not all suitable areas for these species along the coast of Angola have been covered. Remarkably, three groups of 25 knots were found, clearly of the long-billed subspecies Calidris c. canutus. This is the subpopulation that migrates all the way to southern Africa, but had not been observed for several years. As a 'by-catch', small colonies of Damara terns Sternula balaenarum were found on the island Baia dos Tigres and along the north coast of Iona National Park, the northernmost breeding events in Africa of this endemic species of the Namibian coast at present.

In the north part of the country, the major concerns about environmental degradation are the presence of large clumps of solid plastic waste on the beaches due to low waste collection activity in coastal cities, as well as the lack of environmental education of beach goers who leave waste generated during their recreation. In Saco dos flamingos (Luanda) the threats of land occupation for construction tend to increase every year. Another the greatest registered threat (São Tiago lagoon) has to do with the increase of artisanal and semi-industrial salt production in an uncontrolled way and the cutting of matebeira, a kind of palm tree (Hyphaene guineensis) to manufacture commercial handicraft and the collection of mabangas (Arca senilis) in the Ilhéu dos Pássaros Integral Nature Reserve.

Along the entire coast of southern Angola, fishing is a major threat to waterbirds. Baia dos Tigres were found several fishing villages. People living there not only fish in the protected coastal area including coastal bays, but also harvest eggs in the bird colonies. The extent of the impact of fishing activities is unknown. It involves not only taking away potential food for birds and affecting the ecosystem food chain, but also disturbing resting and foraging areas for birds.

Near Tombwa, the pressure of fishing activities in the bays and along the coast is even greater. Pollution of bays and beaches by rubbish also plays a role. In the mouth of the river Curoca, salt mining, agricultural activities and hunting specifically play a role.

Acknowledgements

Thanks to Wetlands International, BirdLife International and Wadden Sea Flyway Initiative whose financial support allowed us to carry out the counts and to all the members of the Association BIOCONSERV and INBC who, in the spirit of volunteerism and with their hands in conservation, were able to give their support to these counts. Iona National Park is sincerely thanked for all logistic support, including making available two 4WD's with experienced staff, support in arranging the visit by ship to the island Baia dos Tigres, board and lodging and many more, with special thanks to Pedro Monteroso and Bruce Bennet. Many thanks also to the crew of the ship Kiss for safe transport and good services on board.

Table 1. Totals per waterbird species counted in Angola in January-February 2023

Scientific name	Common name (EN)	Total 2023
Alopochen aegyptiaca	Egyptian Goose	2
Anas capensis	Cape Teal	9
Phoenicopterus roseus	Greater Flamingo	2,368
Phoeniconaias minor	Lesser Flamingo	58
Mycteria ibis	Yellow-billed Stork	1
Anastomus lamelligerus	African Openbill	8
Platalea alba	African Spoonbill	1
Threskiornis aethiopicus	African Sacred Ibis	22
Bubulcus ibis	Cattle Egret	13
Ardea cinerea	Grey Heron	103
Ardea melanocephala	Black-headed Heron	1
Egretta ardesiaca	Black Heron	2
Egretta garzetta	Little Egret	262
Pelecanus onocrotalus	Great White Pelican	441
Phalacrocorax carbo	Great Cormorant	428
Phalacrocorax capensis	Cape Cormorant	55,904
Haematopus moquini	African Oystercatcher	10
Recurvirostra avosetta	Pied Avocet	11
Himantopus himantopus	Black-winged Stilt	27
Pluvialis squatarola	Grey Plover	999
Charadrius hiaticula	Common Ringed Plover	830
Charadrius pecuarius	Kittlitz's Plover	6
Charadrius marginatus	White-fronted Plover	40
Numenius phaeopus	Whimbrel	68
Numenius arquata	Eurasian Curlew	38
Limosa lapponica	Bar-tailed Godwit	29
Arenaria interpres	Ruddy Turnstone	33
Calidris canutus	Red Knot	25
Calidris ferruginea	Curlew Sandpiper	627
Calidris alba	Sanderling	7,529
Calidris minuta	Little Stint	119
Actitis hypoleucos	Common Sandpiper	6
Tringa nebularia	Common Greenshank	45
Larus dominicanus	Kelp Gull	3,204
Larus fuscus	Lesser Black-backed Gull	14
Sternula balaenarum	Damara Tern	57
Hydroprogne caspia	Caspian Tern	252
Sterna hirundo	Common Tern	200
Thalasseus sandvicensis	Sandwich Tern	6,078
Thalasseus maximus	Royal Tern	868
Thalasseus bergii	Greater Crested Tern	206

Appendix

List of counters (observers):
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[3]Iona National Park
[4]Wadden Sea Flyway Initiative

33. South Africa



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Results of January 2023 counts of waterbirds in East Atlantic South Africa

Giselle Murison & Bronwyn Maree

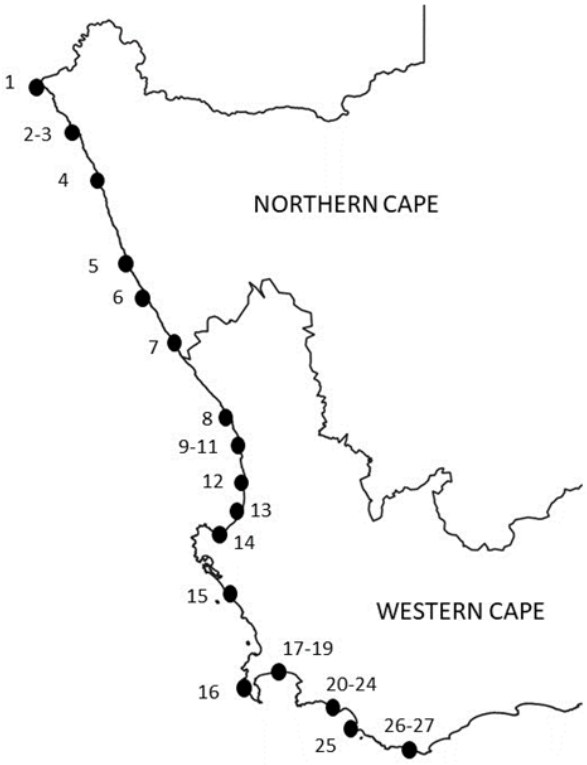
BirdLife SOUTH AFRICA
Giving Conservation Wings

1. INTRODUCTION

South Africa's East Atlantic Flyway (EAF) coastal wetland system is dominated by estuaries. Known for their rich biodiversity and the myriad of services they provide, these estuaries are amongst South Africa's most vulnerable, but valuable ecosystems. Notably, they support important populations of waterbirds, including viable populations of globally and regionally threatened bird species, such as Cape Cormorant *Phalacrocorax capensis* (Endangered), Lesser Flamingo *Phoenicopterus minor* (Near threatened) and Chestnut-banded Plover *Charadrius pallidus* (Near threated), and Greater Flamingo *Phoenicopterus roseus* (Near threatened), Great White Pelican *Pelecanus onocrotalus* (Vulnerable), and African Marsh Harrier *Circus ranivorus* (Endangered), respectively. They are also important feeding and staging sites for significant populations of migratory birds, like Curlew Sandpiper *Calidris ferrugine* and Little Stint *Calidris minuta*. South Africa is recording substantial declines in its waterbird populations, and particularly, reduced occurrences of very high counts. There have been declines in all but one of the functional groups (i.e.: piscivorous birds of prey) and nearly all the species analysed since the 1980s. The largest overall decreases have been recorded in migratory birds, especially migratory waders (approximately, an 85% overall decrease since the 1980s). Other groups that have undergone major declines include the gulls and terns, and the omnivorous and herbivorous waterfowl. Very few South African wetland sites have long-term, consistent, waterbird count datasets. The expanded and enhanced monitoring of important coastal wetland sites is crucial to informing improved management action.

This project focused on the summer 2023 CWAC at coastal wetlands in the Western and Northern Cape, and looked to achieve the following objectives:

- To maximise CWAC coverage of critical coastal wetlands within the East Atlantic Flyway in the Western and Northern Cape, during the January-February 2023 counts, including the inclusion and survey of inactive and new Parent Waterbird Count Sites and count sites;



	Parent Waterbird Count Site
1	Orange River Estuary (Mouth)
2	Port Nolloth Salt Pan
3	McDougall's Bay
4	Buffels River Estuary
5	Swartlintjies River Estuary
6	Spoeg River Estuary
7	Groen River Estuary
8	Olifants River Estuary
9	Jakkals River Estuary
10	Lamberts Bay
11	Wadrift Estuary
12	Verlorenvlei
13	Rocherpan
14	Berg River Estuary
15	Langebaan
16	Wildevoelvlei
17	Zandvlei
18	Rondevlei
19	Strandfontein Sewerage Works
20	Palmiet River Estuary
21	Bot/ Kleinmond Estuarine System
22	Onrus River Estuary
23	Vermont Salt Pan
24	Klein River Estuary
25	Uilkraals River Estuary
26	Heuningnes River Estuary/ De Mond
27	De Hoop Vlei

Figure 1. Locations of Parent Waterbird Count Sites counted during the South African East Atlantic Flyway IWC Total Count.

- To formalise CWAC survey routes at each site, through their digitization and mapping, to allow for better standardization and uptake of future counts; and
- To introduce and train more volunteers in CWAC, to ensure CWAC is sustained going forward, including assignment of observers to new sites.

2. METHODOLOGY

CWAC follows a prescribed methodology and counting technique. CWAC protocols follow best practice, bird monitoring guidelines, including set transect routes and count times, and the use of standardised counting techniques. Participants at each site included experienced observers capable of training/ mentoring others. Counts were be done on foot, by car, or by boat (where access to the shoreline was highly restricted), using binoculars and telescopes to ensure accurate identification and numbers of birds are recorded.

The 2023 summer counts were carried out between 15 January and 27 February. A total of 27 Parent Waterbird Count Sites were surveyed in 2023, including seven sites in the Northern Cape, previously discontinued for survey (see Map 1). Table 2 provides more detail on the methodology employed at each site.

Data was also entered into the relevant CWAC data forms and submitted to the South African CWAC site database. All new (and discontinued) CWAC sites were submitted for (re-) registration.

3. RESULTS

The counted totals per species are presented in Table 1. The pressures per site are presented in Table 2.

Acknowledgements

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Table 1. Total number counted at East Atlantic coast of South Africa for most important species.

Scientific name	Common name (EN)	Total 2023
Dendrocygna viduata	White-faced Whistling-duck	16
Dendrocygna bicolor	Fulvous Whistling-duck	32
Alopochen aegyptiaca	Egyptian Goose	4,833
Tadorna cana	South African Shelduck	1,025
Plectropterus gambensis	Spur-winged Goose	3,105
Spatula smithii	Cape Shoveler	2,482
Anas undulata	Yellow-billed Duck	1,184
Anas capensis	Cape Teal	1,245
Anas erythrorhyncha	Red-billed Teal	86
Tachybaptus ruficollis	Little Grebe	524
Podiceps cristatus	Great Crested Grebe	450
Podiceps nigricollis	Black-necked Grebe	369
Phoenicopterus roseus	Greater Flamingo	4,397
Phoeniconaias minor	Lesser Flamingo	2,903
Zapornia flavirostra	Black Crake	5
Porphyrio porphyrio	Purple Swamphen	11
Gallinula chloropus	Common Moorhen	166
Fulica cristata	Red-knobbed Coot	7,944
Platalea alba	African Spoonbill	267
Threskiornis aethiopicus	African Sacred Ibis	2,439
Plegadis falcinellus	Glossy Ibis	89
Nycticorax nycticorax	Black-crowned Night-heron	39
Bubulcus ibis	Cattle Egret	269
Ardea cinerea	Grey Heron	250
Ardea melanocephala	Black-headed Heron	37
Ardea goliath	Goliath Heron	10
Ardea purpurea	Purple Heron	19
Ardea alba	Great White Egret	1
Ardea brachyrhyncha	Yellow-billed Egret	6
Egretta garzetta	Little Egret	454
Scopus umbretta	Hamerkop	1
Pelecanus onocrotalus	Great White Pelican	220

Scientific name	Common name (EN)	Total 2023
Microcarbo africanus	Long-tailed Cormorant	643
Phalacrocorax carbo	Great Cormorant	845
Phalacrocorax capensis	Cape Cormorant	15,980
Anhinga rufa	African Darter	178
Haematopus moquini	African Oystercatcher	292
Recurvirostra avosetta	Pied Avocet	606
Himantopus himantopus	Black-winged Stilt	1,082
Pluvialis squatarola	Grey Plover	697
Charadrius hiaticula	Common Ringed Plover	1,164
Charadrius pecuarius	Kittlitz's Plover	1,261
Charadrius marginatus	White-fronted Plover	442
Charadrius pallidus	Chestnut-banded Plover	122
Numenius phaeopus	Whimbrel	352
Numenius arquata	Eurasian Curlew	3
Limosa lapponica	Bar-tailed Godwit	57
Arenaria interpres	Ruddy Turnstone	258
Calidris canutus	Red Knot	1
Calidris pugnax	Ruff	72
Calidris ferruginea	Curlew Sandpiper	6,149
Calidris alba	Sanderling	836
Calidris minuta	Little Stint	4,223
Actitis hypoleucos	Common Sandpiper	11
Tringa nebularia	Common Greenshank	739
Tringa glareola	Wood Sandpiper	1
Tringa stagnatilis	Marsh Sandpiper	13
Larus hartlaubii	Hartlaub's Gull	3,026
Larus cirrocephalus	Grey-headed Gull	32
Larus dominicanus	Kelp Gull	6,285
Sternula albifrons	Little Tern	11
Hydroprogne caspia	Caspian Tern	203
Sterna hirundo	Common Tern	12,668
Thalasseus sandvicensis	Sandwich Tern	364
Thalasseus bergii	Greater Crested Tern	701

Table 2. Current ecological status of each estuarine system/ current condition of wetland site, as well as key pressures faced by each site. Ecological Status (A: natural; B: Largely natural/ few changes; C: Moderately modified; D: Largely modified; E: Highly degraded; F: Extremely degraded) – *taken from South African National Biodiversity Assessment (2018) – Estuarine realm technical report.*

Site No.	Site name	Present Ecological Status	Wetland Condition (at time of count)	Pressures
1	Orange	D	Partially flooded, due to of recent high rainfall.	Significantly reduced flow and water quality, pollution, mining, massive habitat loss (including, transformation of Estuarine Functional Zone to agriculture/ livestock grazing) and degradation (floodplain/ saltmarsh artificially cut off from main system – reduced wetting/ flooding).
2	Port Nolloth Saltpan	n/a	Dry. Poor condition.	Dumping. Litter. 4x4 driving. Mining.
3	McDougall's Bay	n/a	Beach & offshore island.	Disturbance from beach areas. Reduced bird food availability offshore.
4	Buffels	D	Partially flooded, due to of recent high rainfall.	Significantly reduced flow and water quality, high levels of pollution, mining, significant habitat loss, invasive alien plants, mining.
5	Swartlintjies	B	Partially flooded, due to of recent high rainfall.	Some estuarine habitat loss.

Site No.	Site name	Present Ecological Status	Wetland Condition (at time of count)	Pressures
6	Spoeg	A/B	Dry.	Issues with reduced flow.
7	Groen	B	Partially flooded, due to of recent high rainfall.	Some issues with reduced flow.
8	Olifants	C	Partially flooded, due to of recent high rainfall.	Reduced water quality and high levels of pollution, some issues with reduced flow, very high fishing pressure, invasive alien plants, very high counts of invasive alien fish, significant pressure from mining.
9	Jakkals	D	Dry. Area of West Coast in 7th year of drought.	Significantly reduced flow and water quality, pollution, habitat loss, mining.
10	Lamberts Bay	n/a	Beach & offshore island.	Disturbance from beach areas. Reduced food availability offshore.
11	Wadrift	E	Completely dry. Area of West Coast in 7th year of drought.	Significantly reduced flow and water quality, high levels of pollution, mining, significant habitat loss.
12	Verlorenvlei	D	Dry. Little standing water. Water acidic. Area of West Coast in 7th year of drought.	Significantly reduced flow and water quality (significant overallocation of resources and overabstraction in catchment), high levels of pollution, mining, habitat loss, invasive alien fish. Significant pressure from mining in the catchment. Heavily impacted by climate change.
13	Rocherpan	n/a	Completely dry. Area of West Coast in 7th year of drought.	Reduced rainfall in drying western region, heavily impacted by climate change.
14	Berg	C	Little standing water in floodplain. Area of West Coast in 7th year of drought. Mouth permanently open.	Significantly reduced flow and water quality, high levels of pollution, habitat loss, high levels of fishing pressure, invasive alien fish.
15	Langebaan	B	Partly flooded.	High levels of fishing pressure.
16	Wildevoelvlei	D/E	Water levels normal.	Very high levels of pollution, habitat loss, invasive alien plants
17	Zand	D	Water levels normal.	Significantly high levels of pollution and habitat loss, as well as high levels of invasive alien fish, disturbance, and fishing pressure.
18	Rondevlei	n/a	Artificial system, managed for birds. Low water levels.	Low water levels, poor water quality, pollution.
19	Strandfontein Sewerage Works	n/a	Artificial system.	Low water levels, poor water quality, pollution, disturbance.
20	Palmiet	C	Mouth open. Water levels normal.	Habitat loss, invasive alien fish, with some flow, water quality and pollution issues.
21	Bot/ Kleinmond	C	Mouth closed.	Significantly high levels of fishing pressure (incl. poaching), high levels of pollution and invasive fish species, with some reduced freshwater inflow and water quality, issues around mouth management (artificial breaching), disturbance.
22	Onrus	D	Mouth closed.	Very high pollution levels, with reduced freshwater inflow and water quality, and high levels of invasive alien fish, disturbance.
23	Vermont	n/a	Artificial system, reliant on rainfall. Flooded.	Low water levels, poor water quality, pollution, disturbance.
24	Klein	C	Mouth closed.	High levels of pollution and reduced water quality, habitat loss, disturbance, high levels of invasive alien plants and fish, and very high levels of fishing (incl. poaching).
25	Uilkraals	D	Mouth open.	Significantly reduced flow and water quality, high levels of pollution, habitat loss, some fishing pressure.
26	Heuningnes/ De Mond	C/D	Mouth open.	Habitat loss, and very high levels of invasive alien fish, invasive alien plants, with some issues around reduced freshwater inflow and water quality, and some fishing pressure.
27	De Hoop	n/a	Water levels normal.	Pollution. Disturbance.

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