

REGIONAL TRAINING WORKSHOP ON THE MANAGEMENT OF KEY SITES ALONG THE WESTERN COAST OF AFRICA FOR MIGRATORY BIRDS

Parc National des Oiseaux du Djoudj – Senegal

14 – 18 December 2013



REPORT

Editor

Common Wadden Sea Secretariat (CWSS), Wilhelmshaven, Germany

Photos

Tim Dodman

Gabin Agblonon

Cassia Dodman

Gerold Lürßen

Text edit

Tim Dodman

Translation

Rachel Wakeham

Layout

Gerold Lürßen

This publication should be cited as:

Agblonon, G. & Aliou, D.M. (eds). 2014. Report on the Regional Training Workshop on the Management of key sites along the western coast of Africa for migratory birds. Parc National des Oiseaux du Djoudj, Senegal, 14-18 December 2013. Wetlands International Africa, Dakar / BirdLife International, Regional Office for Africa / Common Wadden Sea Secretariat, Wilhelmshaven.

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LIST OF ACRONYMS

A2A	:	«From the Arctic to Africa» project
AEWA	:	Agreement on the Conservation of African-Eurasian Migratory Waterbirds
CMB	:	«Conservation of Migratory Birds in West Africa» project
CMS	:	Convention on the Conservation of Migratory Species of Wild Animals
CWSS	:	Common Wadden Sea Secretariat
DPN	:	Department of National Parks
IBA	:	Important Bird Area
IWC	:	International Waterbird Census
MDG	:	Millennium Development Goals
MPA	:	Marine Protected Area
ONCFS	:	National Wildlife and Hunting Agency of France
ONG	:	Non Governmental Organisation
PNA	:	Akanda National Park
PNBA	:	Banc d'Arguin National Park
PNOD	:	Djoudj National Bird Park
UNESCO	:	United Nations Educational, Scientific and Cultural Organisation
WIA	:	Wetlands International Africa
WMBD	:	World Migratory Bird Day
WSFI	:	Wadden Sea Flyway Initiative

1. INTRODUCTION

The western coast of Africa faces numerous threats, and the deterioration of important migratory bird sites means that greater effort is needed to manage them and raise public awareness across the area.

Research carried out in the region by international and national conservation organisations has highlighted various training needs to manage the West African coastal area, as well as the need to implement a capacity building programme focused on migratory bird conservation, to support the practise of managing birds and their habitat in the region.

Several initiatives have been developed and implemented to meet the requirements identified in the region, in collaboration with local people and partners. These involved development and capacity building for flyway conservation in the region, and pushing for the expansion of NGO-government partnerships and networks in order to undertake the long-term conservation of migratory birds. Improved NGO partnerships could indeed bring in new financial backing and make conservation projects more financially secure in the West African coastal region.

With a common goal of establishing guidelines for the management of sites for migratory waterbird conservation, international organisations and intergovernmental convention secretariats are initiating and setting up partnerships for migratory waterbird conservation along the East Atlantic flyway. These partners also aim to strengthen cooperation between actors in the different countries along this flyway.

Within a framework of collaboration and joint efforts, the Wadden Sea Flyway Initiative (WSFI), Wetlands International and BirdLife International, in conjunction with the Direction des Parcs Nationaux de Sénégal / Senegalese Department of National Parks (DPN), organised a regional training workshop on site management which took place from the 14th to 18th December 2013 in the Djoudj National Bird Park (PNOD) in Senegal.

The regional workshop received financial support from several organisations, including: the German Ministry for the Environment through funding of the WSFI capacity-building project; the French Ministry for Ecology, the Office National de la Chasse et de la Faune Sauvage (National Wildlife and Hunting Agency of France) and Tour du Valat thanks to their support in implementing the AEWA African Initiative; the ARCADIA foundation and funding allocated to A2A by Wetlands International; and finally the MAVA Foundation for its financial support of the BirdLife International CMB project.

2. AIMS OF THE WORKSHOP

The workshop had multiple aims, firstly to improve understanding of the flyway approach to conservation and wise use of waterbirds and wetlands among managers and administrators of sites along the western coast of Africa.

Through building capacity of personnel in environmental NGOs and other organisations, who are in po-

sition to train others within their sites and countries (training of trainers), the workshop also aimed to be a contributing factor in promoting a large-scale flyway approach to management throughout the area.

Finally, with the aim of promoting cooperation between the targeted groups, the workshop was also a springboard to discuss and explore ways and means to facilitate networking between managers of critical sites and to create a basis for cooperation with partners along the flyway in order to enable other sustainable waterbird conservation activities.

3. WORKSHOP PARTICIPANTS

In all about thirty people took part in the training workshop exercises. The workshop mainly targeted experienced specialists and professionals involved in wetland management and waterbird monitoring, and especially those working in public services, in national or international NGOs, or in universities and similar training centres.

Participants came from coastal countries along the western coast of Africa, namely Morocco, Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo and the Democratic Republic of Congo (see Appendix 1).

As well as these African participants, workshop exercises were supervised and facilitated by a team led by Tim Dodman and Abdoulaye Ndiaye with support from personnel from Wetlands International, BirdLife International, the Common Wadden Sea Secretariat (CWSS) and the other partners.

4. WORKSHOP METHODOLOGY

The training workshop was interactive, with participants making numerous personal contributions. It was a real melting pot of shared ideas and experiences with indoor interactive presentations, and group work with practical exercises and case studies, all of which were backed up with role plays and field trips.

The methods and tools used during the workshop were generally based on those recommended in the Wings Over Wetlands (WOW)¹ training kit on the flyway approach to the conservation and wise use of waterbirds and wetlands.

¹ <http://wow.wetlands.org/WOWTrainingResources/tabid/1688/language/en-US/Default.aspx>

5. WORKSHOP PROCEDURE

The workshop exercises took place over a four and a half day period (4½ days) with the following schedule:

5.1. Day 1: Saturday 14th December 2013

Day 1 was mainly taken up with participants travelling to the Djoudj National Bird Park from Dakar via the Somone Community Nature Reserve to the south of Dakar. During the visit to Somone, participants were told about the management and utilisation of the reserve's resources. Conversations with the reserve warden and the main private operator brought up the following subjects:

- Methods of oyster production and farming in the area
- The role of local councillors and local communities in managing the site
- Women's community projects and managing tourism in the reserve
- Supporting participative projects through private stakeholders

The visit, along with discussions with those in charge information shared, allowed the participants to see the dynamics of local and private involvement in the participative management of this protected area.



Oyster farming and participants in the Somone Community Nature Reserve

5.2. Day 2: Sunday 15th December 2013

A/ Opening ceremony

The opening ceremony was led by the following official representatives:

- Colonel Ibrahima Diop for the Senegalese Department of National Parks
- Mr Szabolcs Nagy for Wetlands International Headquarters
- Mr Geoffroy Citegetse for BirdLife International Africa
- Mr Gerold Lüerßen for the Common Wadden Sea Secretariat
- Mr Pape Diomaye Thiaré for the Wetlands International Africa office.

In their opening speeches, each took turns to highlight the importance of the workshop in boosting and harmonising measures to protect migratory birds along the East Atlantic flyway in particular. They welcomed the inter-organisational collaboration of which the workshop was a perfect example, being jointly organised by the various organisations. They also stressed the need to broaden this collaboration to include key players in the field along the entire flyway for greater efficiency and impact on migratory bird protection. The opening remarks ended with an invitation to increase collaboration and cooperation in these initiatives.

The workshop exercises were officially declared open on behalf of the Senegalese Department of National Parks by Lieutenant-Colonel Ibrahima Diop, chief warden of the Djoudj National Bird Park.

B/ Introductions and expectations

After the official opening, the workshop exercises began with introductions, allowing each participant to introduce himself / herself to the entire group, giving their full name, affiliation and role or occupation.



Group pictures of the participants' introduction exercise



Official opening ceremony of the training workshop

Using cards handed out by the training team, participants set out their various expectations of the workshop. This information would later be used in the final workshop evaluation.

C/ Presenting the Djoudj National Bird Park (PNOD)

The first introductory presentation of the day was led by Lt Col Ibrahima Diop, the chief warden of PNOD.

Using very illustrative slides he highlighted the PNOD's importance as one of the main wintering areas for Palearctic migratory birds. He underlined how the diversity of ponds, backwaters and lakes and the abundance of food attract numerous migratory birds to stay for up to six months annually. He talked about invasive aquatic plant proliferation seen in the area since the Diama dam was built in 1986 as well as the current water management system using dams which are usually open for three months from August to September, replacing the natural irrigation that used to occur before the dam existed. He concluded with seasonal projects, such as removing plants and the upkeep of access routes, which are carried out to maintain the reserve in good condition to support high concentrations of birds like the Greater Flamingo and Great White Pelican, which represent one of the area's greatest tourist attractions.

D/ Introduction to the flyway approach to conservation – illustration

This session involved two presentations supported by a practical illustration exercise carried out by participants in groups.

The first talk by Marc van Roomen introduced the East Atlantic flyway through one of its key sites, the Wadden Sea. After a brief history of the area and highlighting its importance to migratory birds, he underlined the Germany-Denmark-Holland trilateral cooperation in site management. He used the Wadden Sea Flyway Initiative (WSFI) to explain the main current projects as well as the need to establish links with other important areas, especially along the western coast of Africa, to improve conservation across the whole East Atlantic flyway. The WSFI has been set up to improve capacity for migratory bird monitoring and conservation and to develop long-term cooperation between countries along the East Atlantic flyway, as well as links with the Wadden Sea and other vitally important areas. The initiative is implemented in close collaboration with BirdLife International, the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and Wetlands International, with two joint programmes already in place: one for capacity building through national training courses, regional workshops and raising awareness, and the other concerning the creation of a regional monitoring strategy for West Africa.

The session's second talk was about "the flyway approach to conservation". This interactive presentation by Tim Dodman was an opportunity to look at definitions and varying degrees of "flyways".

Briefly, a "flyway" can be described as the area used

by a migratory bird or group of birds throughout their life cycle. Varying degrees of flyways can be described as follows:

1. Single species migration systems, including flyways for different populations of the same species;
2. Multi-species flyways which a) combine several groups of waterbird species over large geographical areas (from a political point of view) or b) represent large flyways each used by numerous species, often in a similar way, during their annual migration (from a taxonomic point of view);
3. Flyways cannot always be easily identified because some birds move regularly but not necessarily "annually";
4. Intra-African flyways for the most part are linked to rainfall so can be very varied and unpredictable due to the unreliability of rainfall. However, in areas where weather is more predictable these bird movements, which are not the same as nomadism, can often be predicted on a seasonal basis;
5. Unpredictable movements (which don't follow any flyway) of some birds that travel between a series of sites without any clear explanation for such movements.



To sum up, the term "flyway" is used in varying degrees about: populations, species, groups of related species, and groups of different species. The term was traditionally used to describe north-south movements; a particular focus is needed on nomadic movements about which there is still a significant lack of understanding.

The talk concluded with a reminder of the basic principles which govern the flyway approach to management, bearing in mind the different elements and entire annual cycle of a species, group of species or of a population. It is based on exchanging as much information as possible among all stakeholders about research, conservation and management, and requires the following coherent actions:

- International policies (for coordinated management of a shared resource);
- Interaction along flyways (reciprocal support between stakeholders at technical, financial and human resource levels);
- International species / habitat plans (starting with national priorities, action plans and management plans, and the influence of national political persuasion);
- International flyway coordination.

Following the presentation, which was punctuated with discussions, four groups were set up to draw flyways for the following migratory birds: Lesser Flamingo, Eurasian Curlew, spoonbills and the Royal Tern.

The results of the group exercises were presented out-



the key migration strategies used by migratory waterbirds in a broad geographical context. These are mainly defined as narrow-front migration, broad-front migration and parallel migration, loop migration, leapfrog migration, moult migration, nomadism and semi-nomadism. Other less widespread types are chain migration, crossover migration, altitudinal migration, differential and partial migration, vagrancy, dispersal, colonisation and cold weather movements.

F/ Function and role of sites



Geoffroy Citegetse led the session about site function. Throughout the presentation and exchanges he highlighted the important role of sites along the flyway and their role in the life cycle of migratory birds. A variety of sites are used, each having a different function in the birds' life cycle or daily cycle. The most important functions are pre-breeding, breeding, moult, stopover or rest, roosting, non-breeding areas and bottleneck areas.

It is important to bear in mind the implication of various considerations on conservation, especially the changing dynamism seen at the site level. Therefore site identification and evaluation should be an on-going process to assess their actual role over time and take the necessary conservation measures. All international treaties recommend using the precautionary principle when there is not enough information.

To better understand the function and inherent challenges faced by species during migration, a role play exercise about the Black Tern took place outdoors to demonstrate dangers along the flyways and the birds' struggle for survival.

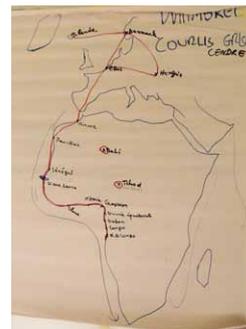
G/ Threats to the flyway

After the exercise illustrating functions and challenges of migration, participants were told about the main threats to migratory birds along the East Atlantic flyway, focusing more on dangers that are present in Africa. There are two key levels at which serious threats occur to migratory waterbirds: threats at the habitat level and threats to the species or individual level.

Threats to the habitat cause, in particular, loss of wetlands or significant changes that can adversely affect the integrity of sites for waterbirds along the flyway. These threats warrant creating a "wetlands protection" policy. There are natural threats from drought and climate change, and anthropogenic threats caused by human intervention like draining wetlands for farming or forestry, destroying wetlands to use the land, pollution, fires, wetlands or catchment basin management impact-

ing on hydrology, harnessing water from wetlands or ground water, coastal development, over-exploitation of wetland plants, or the introduction of invasive species.

Direct or indirect threats to species that can cause populations to decline below a sustainable level include removal of birds by hunting (for subsistence or commercial use) which on a larger scale can have a serious impact on populations, physical barriers like power lines or wind turbines, oil slicks, and disease such as botulism or bird flu. On top of all these dangers there are disturbances in breeding and stopover areas, as well as external effects from activities that have a direct impact



on waterbirds and their habitats, especially in areas surrounding an important site.

H/ Field visits: Djoudj pier and Grand Lac

The day's exercises ended with a field visit followed by a welcoming cocktail from the workshop organisers and Djoudj staff.

The field visit gave participants the chance to visit the Djoudj pier and water management system, and the Grand Lac. Participants were able to see a few waterbird flocks, and the reserve's chief warden Colonel Ibrahim Diop explained water management within the reserve,

how problems caused by tourism or the presence of livestock are handled, and spoke about the work done to maintain the reserve.

5.3. Day 3: Monday 16th December 2013

The day's exercises were about "the flyway approach to conservation and planning through partnership". Exercises began with a recap of the previous day's exercises, then participants were given the day's revised schedule and expected contributions.

A/ Population dynamics and wise use

The discussions during the session led by Szabolcs Nagy initially focussed on understanding the basic factors behind migratory waterbird population dynamics, as well as its importance in managing species and evaluating conservation statutes. The second part mainly dealt with the wise use of waterbirds.

In his talk, he went over the four main parameters that affect migratory waterbird population dynamics (trends). These are birth rate and death rate (which together are referred to as vital statistics), immigration and emigration. There was also the survival rate, which is the opposite of the death rate.

As well as the direct link between quality of the differ-

ent life cycle stages and population trends, participants were also shown causes that can bring change to a population over time. Short-term population changes come from temporal variations in population statistics and may be due to demographic and environmental uncertainties, or to catastrophes and bonanzas. Long-term change on the other hand shows a link between the average survival rate and fertility, and may be due to quality of habitat, density dependence, exploitation and other causes of mortality such as famine, poisoning, predation or power lines. There was also a particular focus on the different steps to diagnose the reasons for decline within a population, as these are especially important in migratory waterbird conservation.

To sum up population dynamics, research and monitoring are essential to diagnose decline, assess conservation needs, and manage populations and their sites.

The second part of the session centred around the matter of migratory bird exploitation for food (hunting, removing birds either for local consumption, to sell, or to





Participants role-playing conservation and wise use of waterbirds

manage habitat) or for non-food purposes (ecotourism or bird watching).

After highlighting the risk of over-exploitation and contributing factors inherent to exploitation, the facilitator explained and demonstrated the importance of sustainable (wise) use, which was one of the main reasons for creating AEWA. He spoke about the directives recommended by AEWA as well as the problems with applying them, then concluded with the various means of managing the whole flyway to sustain the wise use of birds.

Some of the conclusions drawn from the discussions were that exploitation of birds can be beneficial to conservation if it is sustainable, that sustainable use requires strict monitoring of populations and exploitation, that there are several ways to manage hunting, and that AEWA provides an internal framework to manage waterbird hunting in a sustainable way.

To finish up the session, there were role play games led by Tim Dodman and Col Abdoulaye Ndiaye to further demonstrate the concept of wise use to the participants and give them a tangible understanding of the principle and consequences of applying it when managing resources. By the end of this educational yet entertaining aspect of the session, participants had:

- illustrated the relevance of population dynamics to conservation management,
- explained how management can affect populations, and
- understood the principle of wise use and explained sustainability.

B/ Species action plan: Lesser Flamingo



The talk by Zeine El Abidine Sidatt, warden of the Diawling National Park in Mauritania, was about the Aftout Es Saheli site, focusing especially on breeding of flamingos and other migratory birds there.

After a brief history of the site's discovery in 1965, participants were given a description of the site, which is made up of a series of basins, marshes and lagoons covering an area of about 46,030 hectares. It is a refuge and breeding area for migratory species such as flamingos, terns, cormorants and Great White Pelicans, and is still mainly a tributary of water from the Diawling basin and the Aftout dam.

Using data collected from the site, Mr Zeine explained its importance for the large numbers of Lesser Flamingo (*Phoenicopterus minor*) and Greater Flamingo (*Phoenicopterus ruber*) that regularly use it, and concluded with the need for increased surveillance for their conservation.

C/ Managing colonial breeding sites

This topic featured exercises and discussions about relevant key questions brought up by looking at the different case studies presented by the participants. A series of presentations took place, illustrating different methods of management currently used in the given sites.

Testimonies started with the Delta du Saloum National Park in Senegal. Mr Moussa Samb, its representative, described its geographical location and the national and international statutes of protection from which it benefits. He spoke about the importance and abundant biological diversity of the Saloum Delta, and continued by explaining how ecological monitoring was one of the main tasks carried about by the reserve's staff.



After giving some results of tern monitoring in the area, he explained that sand mining and serious coastal erosion of the birds' small island have the greatest impact on the reserve's management. The area's hopes lie with FIBA's Project Alcyon launched in 2014 and the current process of establishing the reserve as an MDG (Millennium Development Goals) natural area.

Next it was the turn of colleagues from the Banc d'Arguin National Park (PNBA) in Mauritania to share their experience of managing spoonbills. Mr Lemhaba Yarba Ahmed Mahmoud spoke firstly about the PNBA's geographical characteristics, various international protection statutes, its great importance to migratory birds and its predominant role in regenerating natural resources, not just nationally but sub-regionally and globally.



He said that up to 6,000 Eurasian Spoonbills from two sub-species (the European sub-species *leucorodia* and the *balsaci* sub-species endemic to the PNBA and surrounding area) can be found here. Management tools include counts, ringing spoonbills and fitting them with transmitters to enable monitoring. Other regulations such as banning flights lower than 3,000 feet (ca. 1,000m), banning boats from landing on the small islands, and banning motorboats, are also enforced in the reserve. Monitoring carried out over the past 20 years shows that the Banc d'Arguin and the Senegal Delta are very important wintering areas for European spoonbills, and over 90% of spoonbills are loyal to their wintering areas.



The third presentation was given by Mr Gordon Ajonina on managing the African Skimmer breeding area in the Sanaga River's lower basin in Cameroon. After presenting the geography of the area and describing the different predominant habitats, he spoke about the great variety of animals found there and the functions that they fulfil. He gave the results of several

monthly monitoring operations of skimmer colonies that breed in the area, before talking about the threats that affect the area and management of the bird colonies. The main threats are the Edea hydroelectric dam, predation by snakes and birds of prey, farming on the sand banks, and the massive deforestation caused by bivalve processing. Some of the site's prospects include becoming a Ramsar site, being designated as the Douala-Edea land and marine national park, improving ovens for smoking fish, and habitat regeneration.

The fourth and final presentation in the first series of testimonies focused on the Merja Zerga Lagoon in Morocco. Mr Imad Cherkaoui, the presenter, explained that this lagoon is one of the most important coastal wetlands in Morocco, with tidal and continental influences, and a great diversity of habitats. It is a biological reserve, a Ramsar site and a permanent hunting reserve, it abounds in an incredible biodiversity (with between 100,000 and 250,000 migratory birds regularly), and it has important social and cultural values (farming and fishing potential, forage resources, rush harvesting, underground water resources and tourism). Nevertheless, the site and birds face management and conservation problems, in particular caused by people moving in, and their various non-wise practices, which do not allow for effective conservation.

D/ Field visit: Great White Pelican colony in the PNOD

This trip gave participants the chance to visit the Great White Pelican nesting area in the reserve. They were given precise explanations of periods when pelican colonies are established in the reserve, monitoring of the colonies, and periodic work to maintain the site. Thanks to the trip and the question and answers with the chief warden, participants were able to appreciate other parts of the reserve, its value as a tourist attraction, the diversity of fauna and flora, and the results of several programmes to clean up and remove invasive aquatic plants.

E/ Community management of conservation

Discussions about the involvement of stakeholders and the integration of local communities in key site management involved three case study presentations.



In the first presentation in this series, Mr Abdul-Kareem Fuseini from Ghana shared his experience of managing the Keta Lagoon, a Ramsar site of which he is the manager. After a geographic description and mentioning the large areas of mangroves and the rich fauna in terms of migratory birds in which the area is abundant, he

spoke about coastal erosion, pollution, over-exploiting resources, the intrusion of salt and changes to the hydrological system as the main threats in the area.

The site is run by a management committee that involves all stakeholders (both institutional or community)

and by ecological monitoring programmes, through education and raising public awareness, renovating habitats, controlling pollution and enforcing laws. The main management challenges are staff shortages, lack of logistics and finance, poor inter-sectoral coordination, and a poor awareness of the value of biodiversity along with a lack of encouragement in its conservation. All the same, the area does have prospects which could be brought about through finding private partners to develop the touristic potential, additional funding for management programmes, creating a system of sharing the benefits, media support to increase awareness of the area's importance, and promoting alternative means of subsistence in local communities.



The second presentation, by Mr Daouda Aliou, was about wetland productivity, dependence of numerous people living off the resources, and the great pressure being put on these wetlands by the growing local population. These factors justify the need to sustainably guarantee wetland functionality through planning measures

and participative management, monitoring and evaluation measures, communicating with partners, and establishing networks between the communities involved.

In the case cited as an example in the lower Mono Delta in Benin, local support groups were set up to promote conservation and sustainable development in key areas. This consisted of raising awareness locally, restoring damaged habitats and initiating environmentally friendly income generation projects concerning nature. Thus local activities like rabbit breeding, market gardening, replanting mangroves, planting trees for firewood, and building better housing, provided alternative incomes for women's and young people's groups, and encouraged them to give up their non-sustainable use of wetland resources.

The third and final presentation in the series was a documentary about the battle by the NGO Watershed Task Group (WTG) against the water hyacinth in Bonabérie (the Wouri river estuary) in Cameroon. Presented and with commentary by Mr Napoleon Chi from Cameroon, the documentary showed how his organisation



organised the removal of this proliferating species and turned it into compost and various artefacts. The documentary also showed the threats and dangers from invasive aquatic plants to fish and to navigation, and the problems encountered when collecting and transporting the plants to be processed. He also highlighted the co-

operation of NGOs in the community management of the river's catchment basin and the need for all stakeholders (different levels of authorities, civil society, local communities etc.) to be involved.

F/ Strategic planning for conservation in the Senegal Delta

ALed by Mr Gabin Agblonon from Wetlands International Africa, the purpose of this session was to inform participants about the basic elements of strategic planning for so-called "Open Standards for Nature Protection" conservation. With a framework of implementing its "From



Participants visiting the Great White Pelican colony's nesting area



the Arctic to Africa" project, Wetlands International is using this methodology to create a strategic migratory waterbird conservation plan in the Senegal Delta.

In the introductory presentation, the five different stages of implementing the planning process were set out. They are concept, action plan-

ning, implementing and monitoring actions, analysis and adaptation, apprenticeship and sharing lessons. There was a particular focus on the first two, stages as this was where the Senegal Delta project was currently up to. Using data and information from the area and a participative exercise with local people, the conceptual model should make it possible to:

- present an image of the current situation in the intervention area;
- show the relationships between various factors which add to threats;
- show direct and indirect threats and opportunities;
- present relevant factors only.

The day's exercises ended with a question and answer session that followed the last presentation of the day, and was an opportunity to get further clarification about carrying out the initiative and its degree of progress.

G/ Coordinated waterbird counts

This optional session took place after the day's exercises and mostly involved national waterbird census coordinators. Led by Szabolcs Nagy, Col Abdoulaye Ndiaye and Marc van Roomen, it was a chance to discuss and coordinate administrative and technical arrangements in preparation to carry out the January 2014 International Waterbird Census (IWC).

5.4. Day 4:

Tuesday 17th December 2013

The main topics of the day's exercises were site management, ecotourism, exchanges and raising awareness. Activities began with participants themselves recapping the previous day's exercises before the next series of presentations followed by discussions.

A/ Site conservation for migratory birds

Following the same format as the previous day, this session proceeded with another series of presentations followed by clarification and explanations from participants to better understand the case studies in order to highlight the positive aspects, points to improve on, and problems.

Wadden Sea (Germany, Denmark and the Netherlands)

Gerold Lürßen of the Common Wadden Sea Secretariat gave the first talk in which he spoke about conservation being carried out for migratory birds in the Wadden Sea area.

After presenting the geography, he spoke of the different protection statutes and measures in place in this cross-border site shared between Germany, Denmark and Holland. He described the different components of the area's intergovernmental management and detailed the specific objectives and evaluation parameters to protect the 12 million migratory birds that use the site. He also gave the results of regular monitoring of some common species before concluding with other activities that take place, such as communicating with the public, raising awareness of and making children aware of the area's natural heritage, as well as exploration-tourism through over 50 visitor centres. Over 10 million tourists visit the region every year, bringing in between 2.5 to 5.3 billion Euros, which well justifies developing a tourism strategy.



Baie de Dakhla (Morocco)



The second presentation was about managing the Baie de Dakhla in southern Morocco. Professor Abdeljebbar Qniba initially described the geography of the area, including the variety of habitats. Details of the area's wealth and richness, including 85 species of birds, demonstrated the biological and ecological importance that merit the various international protection statutes that the site enjoys whilst not yet being designated as a protected area. He then spoke about the main human activities in the area, including port facilities, and their negative impact, especially changes to landscape, pollution and disturbance to birds and to the bay's water system and sediment. The only conservation measures currently in place are banning of hunting and the use of fishing nets in the bay area. However, there are plans for zoning for specific use, as well as an action plan for integrated management to improve conservation of the area.

Orango National Park (Guinea-Bissau)

The third presentation was about Orango National Park (in the Bijagós Archipelago Biosphere Reserve) in Guinea-Bissau, and the conservation work being done there.

The reserve's manager, Mr Domingos Gomes Bétundé, talked about the reserve's marine and terrestrial geography; the site is mainly covered by mangroves. The rich biodiversity consists of 44 waterbird



species, sea turtles and hippopotami. After mentioning the integrated management mechanisms in place with people and partners, Mr Bétundé gave the results of monitoring that had taken place, and gave an idea of the problems and failings that he and his staff face in their day to day management of the area. These include coastal erosion, habitat destruction, and the pressure being put on aquatic resources from fishing and illegal trapping by locals and foreigners. The lack of communication between local socio-professional groups and their poor representation in decision-making, along with a lack of continued funding, are equally problematic to the area's conservation.

To conclude, he listed several projects to promote ecotourism in collaboration with resident communities, developing and implementing capacity building for the reserve's guards, and supporting women in oyster farming.

Yawri Bay (Sierra Leone)



The fourth case study presented by Charles Manson Balay was about Yawri Bay in Sierra Leone. He described the area's geography and biodiversity, with about forty species of Palaearctic waterbirds and over 20,000 individuals. The area is an important source of food for birds and is designated as an Important Bird

Area (IBA) while not yet being designated as a national Marine Protected Area. The main socio-economic activities of surrounding communities include fishing, oyster farming, hunting, forestry, using sand, and crafts.

Lake Piso (Liberia)

The fifth presentation, by Mr Boakai Kiawen, was about Lake Piso, at about 11,000 hectares being the biggest lake in Liberia. In terms of biodiversity, Lake Piso teems with different kinds of fish, and the surrounding forests and islands are rich in mammals like the West African manatee, chimpanzees and buffalo.

There are also migratory and resident waterbirds, and migratory terns that roost on the sand banks.

The main source of income for the 42 villages and over 20,000 inhabitants around the lake is non-regulated fishing where prohibited tools like narrow-mesh nets are frequently used. The area is also subjected to other activities that are equally harmful to the biodiversity, like bushfires, farming, hunting, use of sand and firewood, and dumping rubbish in the lake.

The presentation ended with measures in place for community management of the lake locally in association with farmers for conservation and a network of volunteers. A plan for local management is being formu-



lated with zoning to protect special cultural areas and important fauna areas..

Conkouati-Douli National Park (Congo)



The sixth presentation in the series of case studies, by Mr Jérôme Mokoko, was about the Conkouati-Douli National Park in Congo, a protected area since 1999 and covering 504,950 hectares of land and sea. The main habitats are forests, savannahs, mangroves, watercourses and coastal area.

In terms of biodiversity, the reserve is home to large mammals including elephants and African Forest Buffalo, Chimpanzees, Humpback Whales and cephalopods. Migratory birds (African Spoonbill, terns, curlews, Great White Pelican, waders and Grey Heron) fly along the coast, whilst Leatherback Turtles, Olive Ridley Turtles and Hawksbill Turtles nest on the beaches. Several management activities are being carried out with technical and financial support from partners, especially the Wildlife Conservation Society. These include supporting cooperatives for agriculture, farming, fishing, poaching prevention, monitoring, and environmental education in villages and schools to raise everyone's awareness of the reserve's assets. The presentation concluded with the large-scale poaching and coastal pollution, which represent the main threats to the reserve and its ecosystems.

Parc Marin des Mangroves (Democratic Republic of Congo)

Following on from Mr Mokoko, Professor Pierre Mavuemba from the Democratic Republic of Congo spoke to the audience about the birds in the Parc Marin des Mangroves. Established in 1992, the site located in the Lower Congo province on the Atlantic coast covers 768km² and is on the list of Ramsar sites. The reserve is made up of banks, lagoons and floodplains with a variety of habitats for an important and varied biodiversity including migratory birds. The professor showed photos of the large number of birds in the area.



The Tristao Islands Marine Protected Areas (Guinea)

The penultimate presentation in this series was about Guinea and the Tristao Islands Marine Protected Areas. After a geological presentation of the area, Mr Ousmane Camara talked about statutes for protection of the islands, and described their mosaic ecosystem of mainland forest with freshwater separated by wooded savannah, and mangroves which cover more than half of the im-



merged areas. The area's resources are under a lot of strain from foreign and local fishermen, which led to the creation of a management committee made up of key players from the community, who were very much involved in working out and ratifying site management plans, the implementation of which was often made difficult due to lack of finance.

Banco National Park (Ivory Coast)

A short presentation by Mr Germain Bomisso from the Ivory Coast was the last in this series. It described the experience of managing the Banco National Park, an urban site in the heart of the city of Abidjan. After talking about the geography and history of its creation, he spoke about the reserve's main plant life and abundant and diverse fauna, including over 20 dense forest bird species.



The area's importance and worth can be measured by its green lung location in Abidjan, its huge potential with primary forests with over 800 species of plants, the presence of primates and remnants of tourist facilities. In spite of its community management, the area is subjected to great threats from urbanisation (illegal occupancy and pollution), and illegal killing and gathering of resources. As with others seen in this series, there are management problems in the reserve's daily life. The problems here revolve around land ownership, pollution and lack of or dilapidated surveillance equipment. However, some projects came up as priority actions, and implementation has begun with a few projects being funded both by the Ivory Coast state and international financial partners.

B/ Ecotourism and migratory bird promotion

This session, which centred around exploring and discussing the potential of ecotourism based on the region's migratory waterbirds, took place in two parts: a series of discussions about the experience of Djoudj National Bird Park (PNOD) followed by a practical exercise applying the cycle and stages of the "Open Standards for Nature Protection" methodology.

In his presentation of the case about ecotourism in the PNOD and its region, Cdt Moussa Fall highlighted the importance of biodiversity as being paramount for an ecotouristic area and ran through the area's potential. He explained the current situation with existing trails as well as infrastructure and equipment, which are made available for use by visitors. As with other parks and reserves in the country, developing ecotourism in the PNOD faces problems caused by under-development of potential

due to a lack of organisation and promotion, not enough or dilapidated visitor centres / services, a lack of specialised guides and difficulty in getting to some of the sites and areas.

However, there are current and planned projects to bring in more tourists by improving conditions for birds, and improving visitors' reception and stay in the reserve. Improving water flow to better fill the reserve's lakes, restoring some of the infrastructure, raising awareness and training all the players including the guides, giving locals an easier access to finances and improving site access, would all help to develop ecotourism in the PNOD.

This case study about the situation in Djoudj was followed by a series of discussions and a question and answer session, giving participants the chance to ask for further details or comment on various aspects.

C/ Group exercises: Planning ecotourism in the area

After the discussion following the presentation of ecotourism in the PNOD, participants were divided into four groups to think about examples of planning ecotourism and promoting migratory waterbirds using the "Open Standards" methodology. Before the participants were divided into groups, Gerold Lüerssen shared information about instructions and steps to follow for procedures aiming to improve ecotourism in the area. The main point of his presentation was that any procedure to improve ecotourism within an area must be seen from a global point of view with specific goals and targets. The proposed procedure should include the following steps:

- A concept focused on vision and targets,
- Strategic and action planning and follow-up with well-defined plans,
- Implementing monitoring plans and programmes,
- Analysis, use and adaptation,
- Training and sharing knowledge.

After the group exercises, each of the four groups explained and discussed their different proposals in an outdoor plenary exercise. The plenary showed that participants had worked on and made proposals for the following sites, with associated visions and targets:

1. An imaginary "Marine Coast" site with a "sustainable conservation" vision and "birds and habitats" as targets.
2. The "Oued Eddahab Bay" with a vision of "the bay's landscape and biodiversity potentiality being developed through ecotourism" and targets being tourists, the local population, developers, the state and civil society.
3. Yawri Bay with a vision for "a healthy bay for biodiversity and people", and targets for the bay's ecological value and ecosystem services, then the bay's local economy and cultural heritage.





Group work in the ecotourism – planning exercise



Ecotourism-planning plenary exercises

4. The South Togodo reserve with a vision of "improving the level of income of \$1 per person per day by 2020" and targets of developing an ecological circuit and promoting the community's cultural values.

D/ Site conservation policies

Policies and its related tools form the basis for action, as a site cannot be maintained in good condition for waterbirds or other flora and fauna by relying on logistics alone.



Tackling the question of policies in site conservation, Mr Alade Adeleke from Nigeria spoke to the audience about the important role of policies in site management and conservation, and also showed different ways and means of taking them into account.

There are two main levels at which flyway conservation policies are worked out: at an international level and at a sectorial level. The international level covers a number of important Multilateral Agreements like the Convention on Wetlands, the Convention on the Conservation of Migratory Species of Wild Animals, and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds. Regional tools such as working groups and regional strategies can also be found at this level, one of the most important in West Africa being the Abidjan Convention. At the sectorial level, migratory waterbird conservation should be integrated into relevant political issues like the environment, water management, farm-

ing, fishing, urbanisation or energy, as influencing these sectors can have real long-term effects. But this requires an understanding of the subject, a positive attitude and a good ability to communicate in order to be heard by the stakeholders.

National wetlands policies are an effective way of taking wetlands and their resources into account in sectorial policies. National policies are a framework for actions and decisions to do with major issues relating to wetlands.

Mr Adeleke also spoke about some experiences of managing the damage caused by migratory birds. There is often conflict between birds and people when competing for limited habitats. It is therefore important to resolve such conflicts even if there is already a range of measures (bird-scaring, planting sacrificial crops, compensation, etc.) to minimise and mitigate damage. Clear policy and legislation can significantly help to manage and reduce conflict between user groups. When working out policies it is important to take into account the process of integrating the management of problem sites, evaluating actions and the retrospective and current involvement of stakeholders. He also highlighted the effects of implementing adequate policies about preventative measures, and carrying out environmental impact studies before establishing large-scale infrastructures, to minimise the impact of such infrastructure on migratory birds. The same applies to invasive plants, it is preferable and more important to draw up and implement policies and laws to prevent and control their introduction as they can cause serious problems for wetlands, and it can be very difficult to eradicate them.

Finally, efficient local policies require the involvement of local people in order to integrate community prac-



tices into national policies. Conservation managers need to respect and understand local and traditional policies as these can be positively influenced by open negotiation (for example, stakeholder workshops) in order to banish the unsustainable use of resources.

E/ Capacity building and networking

After lunch, Col Abdoulaye Ndiaye tackled the important question of capacity building for protagonists to improve site management at the local level. This session firstly ran through the key capacity needs for functional networks throughout the flyway, and helped explain the importance of networking in a flyway context. The discussions demonstrated and explained the importance of capacity building at different levels of a network of flyways, and listed different ways of identifying and prioritising capacity needs. Aspects relating to tools (equipment), operational capability (logistics) and technical aspects (work network) were also looked at. Likewise, questions about sustainability, opportunities to take courses leading to a qualification, sharing experience between sites, eco-guards, and the specialisation or diversification of income-generation schemes, were all dealt with in an interesting and fruitful debate which brought out everyone's responsibilities and role in successful flyway conservation.



Before a brainstorming session about capacity building priorities of people from each country, participants heard a presentation about the long training experience at sites in Guinea-Bissau. Presented by Joãozinho Sá, the case study covered the history of training process since 1993 in important waterbird areas. Statistics show an increase over time of numbers and types of people having received training in these areas. He detailed the steps in the implementation of training sessions', which took place in key sites for waterbirds, particularly



Participants visiting the Débi-Tiguét rice fields

in priority census areas. It is important to identify appropriate target groups to receive training, suitable trainers, and staff that may benefit directly, as well as to select the language used in training, which depends on the participants.

In closing, Mr Sá said that the number of sites had significantly increased over the years, as had staff being trained, whereas for various reasons the number of counters had only slightly increased, as not all those who are trained stay to carry out waterbird census activities.

The brainstorming session led by Col Abdoulaye Ndiaye followed on directly from the Guinea-Bissau case study and helped establish capacity building priorities for each country's particular needs bearing in mind the existing circumstances. The priorities raised in this session were university courses, ornithological specialisation, sharing trainers and experience between sites, and provision of materials and specific professional equipment (binoculars, telescopes, guidebooks, GPS, compass etc.)

F/- Visite de terrain à la périphérie du PNOD: villages de Débi et Tiguét

Day 4 ended with a trip to the outskirts of the reserve, giving participants the chance to talk with people living in Débi and Tiguét, the two largest villages in the reserve's buffer zone. In an improvised question and answer session with community leaders, the discussion focused on their means of existence and their relationship with those in charge of the reserve, concerning conservation priorities.

The main source of income for these communities is rice growing, which currently covers about 1,000 hectares and employs almost 1,800 staff with an average



A community leader with Col Abdoulaye Ndiaye at the discussion session



turnover of five tonnes per hectare. Both villages share socio-communal infrastructures like the school and health centre, and storage facilities. However, problems of isolation and the price of produce can sometimes hinder any improvement to living conditions. They have a healthy relationship with the national park, respecting management rules and principles as well as prohibitions decreed by the park staff.

Visiting the rice fields gave an idea of the communities' work, and the pressure caused by birds, which constantly need scaring away so they do not completely destroy the crops.

G/ Musical entertainment

Mixing work and play, the fourth workshop day ended with musical entertainment by a local folk group, with Moorish songs and dancing in honour of the participants.

5.5. Day 5: Wednesday 18th December 2013

The workshop exercises on the final day were about capacity building and communication. This led to a synthesis of the recommendations brought up in the exercises, before the evaluation and workshop conclusion. Exercises began with a recap of the previous day's activities, particularly with feedback from participants about the discussion with people from Débi and Tiguet during the field visit.

A/ Sharing and twinning

After the introductory debriefing session, participants debated questions about exchange mechanisms and site twinning and explored and discussed cross-border partnerships and cooperation opportunities across the flyway. To help illustrate the need to combine efforts for greater impact on a greater scale, Gerold Lürßen told the participants about the Protocol of Intention which exists between the Banc d'Arguin National Park in Mauritania and the Wadden Sea in Europe. The protocol in question is based on the fact that both sites are closely linked by migratory birds and that their great importance to international migratory bird populations is no longer in doubt. This partnership is a good example of international migratory bird population protection, and also supports the World Heritage Convention's work.

Through the protocol of intention, the partnership aims to develop competence in migratory bird conservation, share management and wise use experience, support the Unesco world heritage marine programme, and research to increase knowledge. The implementation methods are based on sharing data on migratory birds, exchange trips, setting up common projects, creating international, regional and national partnerships, and establishing sustainable funding mechanisms.

After the presentation, participants were shown a documentary called "When Dreams Become Real" giving more detailed facts about the whole process, goal and aims of the twinning project between the Wadden Sea and the Banc d'Arguin National Park.

B/ Communication throughout the flyway

The session about communication was led by Barend van Gernerden who spoke firstly about the why of communication and who it needs to target, then introduced two strategies to achieve the goals, while underlining the key role of emotion in these strategies.

The main points of the talk were that communication is necessary to raise awareness, to obtain aid, for sustainable conservation, etc. Communication is aimed at local stakeholders, the general public, decision makers (different levels of government), backers and young people. In fact communication is part of the participative process and is a daily job for site managers. When composing the message it is necessary to use few words, lots of pictures, simple questions, and to raise urgent threats to something dear to the public. In general the message should not be more than 30 words long.

Within the flyway context, he spoke about potential communication channels across the flyway and also suggested several ways to get the message across (events, posters, hand outs, stories, etc.). The session ended with a group exercise to identify a realistic site communication message linked to migratory birds, to be carried out in 2014.

As a result of this exercise one of the groups (made up of Alphonsine Koumba Mfoubou, Pierre Mavuemba, Daouda Aliou, Ali Mamouki, Marc van Roomen and Gordon Ajonina) decided to communicate a message, using the model, about the message "To kill a bird is to take a life". Supported by pictures aimed at awakening people's feelings about birds, it was about raising awareness of the need to respect the life of birds. The idea was to show that a bird's life is just as important as a person's life. The message was to be aimed at stakeholders, the general public, young people and the government. The group hoped that the targets of the message would become more involved in site management and protection and conservation work once they better understood that the life of birds should be respected, as birds are useful in many ways in their interactions with other elements of the ecosystem.

C/ Communication case study: WMBD work in Gabon

After the group exercise, Mrs Alphonsine Koumba Mfoubou presented the case study, telling her colleagues about activities which took place in the Akanda National Park (PNA) during the World Migratory Bird Day (WMBD) celebrations in May 2013.

In her talk, Mrs Mfoubou firstly presented the PNA's geography then spoke about the history of its creation. It has been a designated Ramsar site since 2007 and is a valuable site for several migratory bird species, including about 30,000 waders that it holds annually. There are also Pink-backed Pelicans, Greater and Lesser Flamingo, avocets, waders, terns and herons among others.

The WMBD activities consisted of observing and counting birds. Greater Flamingo and Pied Avocets were counted this year, both of which are unusual birds for

Gabon. After the visits and bird watching, a framework agreement was signed between partners, conservation protagonists and reserve managers. The main difficulty faced by those involved in migratory bird monitoring is the lack of high-performance equipment (telescopes, quality binoculars, GPS, cameras etc.).

6. WORKSHOP RECOMMENDATIONS

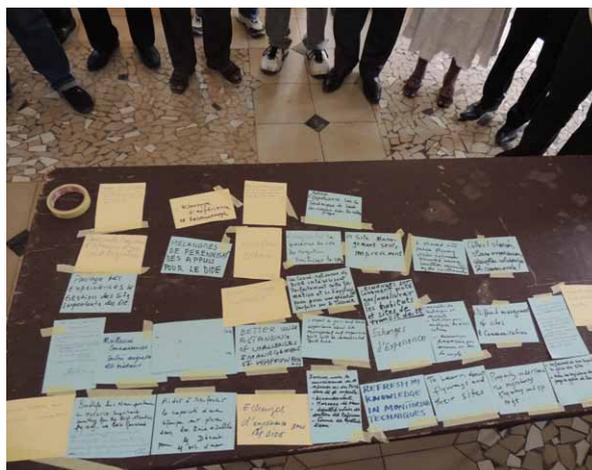
In this session, Mr Gabin Agblonon of Wetlands International presented a résumé of the four-day workshop. He briefly ran through the workshop's aim, the trainers, the different topics of discussion, and exercises and field visits which had taken place. He then presented a synthesis of the various recommendations brought up in the discussions. The main recommendations to come up in the exercises were as follows:

- Networking (at site and committee level) is important for successful IWC activities.
- Technical and operational capacity building (training at site level, exchange trips) of protagonists in the sub-region and throughout the flyway.
- Site twinning across the East Atlantic flyway, as well as cross-border twinning.
- Ecotourism to improve living conditions for local wetland populations who rely on wetlands and waterbirds as a resource (means of income).
- Improved management of sites important for migratory birds, especially breeding colonies and resting sites.
- Support site management plans with involvement of all concerned, including locals and hunting guides among others.
- Develop and encourage raising awareness of politicians to include wetland management and waterbird monitoring in national and local policies.
- Share information and experience along the flyway.
- Bearing in mind that available funding is still limited for managing and monitoring wetlands and waterbirds in the region, it is important to include these activities in national budgets.
- Promote and encourage wetland and waterbird monitoring at key sites outside of internationally designated monitoring periods and build local responsibility for this.
- Facilitate and enable scientific research in collaboration with research centres and sites.
- Participate in establishing and launching national databases.

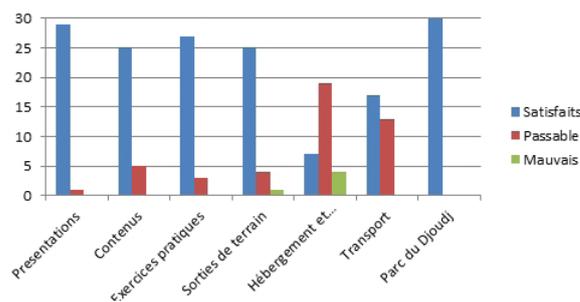
7. WORKSHOP EVALUATION

The expectations that participants had written on cards and were collected up at the start of the workshop exercises were spread out on a table, the idea being that each participant would remove their card from the table once they felt that their written expectation had been met at the end of the workshop. All the cards had been removed by the end of the exercise, which showed that all participants' expectations had been fulfilled.

A second evaluation was carried out to assess the degree of participant satisfaction concerning workshop



Participants at the expectations evaluation at the end of the workshop



Evaluation results

content (presentations, content, practical exercises, field visits, the Djoudj Reserve) and logistics (accommodation and transport).

The final evaluation showed that all participants were generally satisfied about their expectations being met, content of presentations and exercises, and about the national park itself. Logistics, however, were only given an average rating. After the evaluation exercises, the workshop closed with a fun and friendly certificate-giving ceremony, as can be seen in the photos below.



Some photos of the certificate-giving ceremony

8. ACKNOWLEDGEMENTS

The workshop could not have taken place without the technical and financial support from various people and organisations. Our sincere thanks go to:

The German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety for their support through the Common Wadden Sea Secretariat;

The French Ministry of Ecology, Sustainable Development and Energy for its financial support of the AEWA African Initiative through the Technical Support Unit;

The ARCADIA Foundation and the MAVA Foundation for their financial support through the "From the Arctic to Africa" and "Conservation of Migratory Birds in West Africa" projects respectively.

Our appreciation and gratitude go to all those far and wide who were involved in organising the workshop through their respective organisations, especially the Wadden Sea Flyway Initiative (WSFI), Wetlands International Africa, BirdLife International and the Senegalese government through the Department of National Parks, especially its staff from the PNOD and the Djoudj Biology Station.

Thanks also go to Gerold Lüerssen from the Common Wadden Sea Secretariat, Szabolcs Nagy from Wetlands International and Marc van Roomen from SOVON for their technical support in the workshop exercises. We are also grateful for contributions from Tim Dodman and Col Abdoulaye Ndiaye, the facilitators. It is clear that without their incredible efforts and interactive participation the workshop could not have taken place so precisely and successfully.

The workshop's success also owes a debt of gratitude to the simultaneous translation team who were very professional in their translation of all the discussions that took place both indoors and during the field trips. Our thanks to Mr Ousmane Diallo and Mr Alphousseyni Diamanka, and their technician Mr Michael Mbaye.

Mention spéciale et remerciements

- Colonel Ibrahima Diop who, in spite of the difficult conditions, welcomed us and showed us the wonders of the national park throughout the training;
- The Djoudj Biological Station staff for their work in accommodating the participants and catering for the entire group throughout the workshop;
- The Djoudj Hotel staff and manager for the logistics and arrangements of the training venue and accommodation;
- The people and communities of Débi and Tiguet for their welcome and availability;
- Cdt Amar Fall, warden of the Somone Community Nature Reserve and his staff for the smooth running of the trip to the reserve and for the discussions;
- Ms Salimata Diallo Diop and Mr Frédéric Tendeng from Wetlands International Africa for their collaboration and valued support in managing the workshop's logistics and communication;
- Ms Oumy Ka and members of the welcoming committee for taking care so professionally of the participants as soon as they arrived at the Léopold Sédar Senghor Dakar international airport;
- The Wetlands International drivers, the Department of National Parks and LOCASEN car hire company for their availability and professionalism;
- The staff of the Mamoune Hotel and Good Rade Hotel in Dakar for their involvement;
- Rachel Wakeham for translation of the French version of the report.

Finally, we cannot end without a big thank you to all the participants and their respective organisations for their active involvement in the exercises and for making the workshop a success.

9. ANNEXES

- List of participants

Benin Aristide Adjademe AEWA NFP (+229) 93 373 700 afadjademe@yahoo.fr	Benin Daouda Aliou (+229) 95 849 460 daoudaliou@gmail.com	Cameroun Gordon Ajonina AfWC NC / Moanko / Doula-Edea (+237) 97 754 965 gnajonina@hotmail.com
Cameroun Napoleon Chi Baie de Cameroun (+237) 75 403 260 nforpah@yahoo.fr	Congo Jerome Mokoko AfWC NC / Conkouati (+242) 055 511 785 jrmokoko@gmail.com	Côte d'Ivoire Germain Bomisso AfWC NC / Parc National d'Azagny (+225) 07 539 045 bomisso@hotmail.com
Rép. Démocratique du Congo Pierre Mavuemba Parc Marin des Mangroves (+243) 816 998 877 pierremavuemba@gmail.com	Gabon Alphonsine Koumba Mfoubou AfWC NC (+241) 07 399 024 koumbamfoubou@yahoo.fr	Allemagne Gerold Luerßen WSFI (+49) 4421 9108 16 luerssen@waddensea-secretariat.org
Ghana Abdul-Kareem Fuseni Keta Lagoon (+233) 243 168 865 yambafuka@yahoo.com	Ghana Dickson Agyeman Songor (+233) 244 843464 yaw652006@yahoo.com	Nigeria Samuel Osinubi BirdLife International Temidayo.Osinubi@birdlife.org
Guinée Balla Moussa Conde AfWC NC (+224) 622 412 877 deconde@yahoo.fr	Guinée Ousmane Amyne Camara Guinée Ecologie / Tristao (+224) 664 465 624 oamycamara@yahoo.fr	Guinée-Bissau Domingos Gomes Betunde IBAP / Orango / Bijagos (+245) 26 46 01 betunde2007@gmail.com
Guinée-Bissau Fernando Joao Tamizo ODZH / Jeta (+245) 676 2368	Guinée-Bissau Joaozinho Sa AfWC NC / ODZH (+245) 660 6648 joaosa2003@hotmail.com	Guinée-Equatoriale Santiago Martin (+240) 232 25 46 89 santiagomartin1970@yahoo.es
Liberia Boakai Kiawen FACE / Lake Piso (+223) 521 118	Mauritanie Djibril Diallo Nature Mauritanie (+222) 46 846 052 djibinec@yahoo.fr	Mauritanie Elhadramy Ahmed Deïda PNBA (+222) 36 111 880 oadhadramy@yahoo.fr
Mauritanie Lemhaba Yarba Ahmed Mahmoud PNBA (+222) 22 476 048 ouldyarba@yahoo.fr	Mauritanie Zeine El Abidine o/ Sidaty Parc National du Diawling (+222) 46 432 028 zeinesidatt@gmail.com	Maroc Imad Cherkaoui Merja Zerga (+212) 662 333 331 imad.cherkaoui@gmail.com
Maroc Prof. Abdeljabbar Qninba Baie de Dakhla (+212) 661 184 823 aqninba@grepom.org	Pays-Bas Barend van Gernerden VBN (+31) 30 6937758 barend.vangernerden@vogelbescherming.nl	Pays-Bas Marc van Roomen SOVON WSFI (+31) 247410443 Marc.vanRoomen@sovon.nl

<p>Pays-Bas Nagy Szabolcs WI - A2A Szabolcs.Nagy@wetlands.org</p>	<p>Nigéria Alade Adeleke AfWC NC / NCF (+234) 80 3347 2636 alade.adeleke@ncfnigeria.org</p>	<p>Sénégal Abdoulaye Ndiaye CMB/A2A (+221) 77 327 4972 andiaye@wetlands-africa.org</p>
<p>Sénégal Salimata D. Diop WIA – Associée au Finances (+221) 33 869 1681 sdiop@wetlands-africa.org</p>	<p>Sénégal Frederic Tendeng WIA - Communication (+221) 33 869 1681 fredcikaw@gmail.com</p>	<p>Sénégal Gabin Agblonon WIA – Chargé de Projet A2A (+221) 33 869 1681 gagblonon@wetlands-africa.org</p>
<p>Sénégal Ibrahima Diop AfWC NC / Conservateur du Parc du Djoudj (+221) 77 656 7038 ibraadiop@yahoo.fr</p>	<p>Sénégal Jean Valentin Samedy Casamance (+221) 77 535 0539 jvsamedy@yahoo.fr</p>	<p>Sénégal Khady Gueye SiteTechnopole / Etudiante UCAD (+221) 77 701 6894 gkhady23@yahoo.fr</p>
<p>Sénégal Moussa Fall Parc National du Djoudj (+221) 77 651 2070 agrofall@gmail.com</p>	<p>Sénégal Moussa Samb Parc National Delta du Saloum (+221) 77 023 5863 khayemoussa@yahoo.fr</p>	<p>Sénégal Ousmane DIALLO interprete (+221) 77 640 7737 odiallo45@gmail.com</p>
<p>Sénégal Alphousseyni Diamanka Interprète (+221) 77 450 7759 diamankhaalpa@hotmail.com</p>	<p>Sénégal Ousmane Sane Chauffeur à WIA (+221) 33 869 1681</p>	<p>Sénégal Awa Diop Sylla Université de Dakar (étudiante) (+221) 77 356 5203 eva4900@hotmail.com</p>
<p>Sierra Leone Charles Manson Balay CSSL / Yawri Bay (+232) 07 635 3372 ballaycharles@gmail.com</p>	<p>Sierra Leone Geoffrey Citegetse CMB Coordinator, BirdLife International Geoffroy.Citegetse@birdlife.org</p>	<p>Sierra Leone Papanie Baie Sesay AfWC NC / CSSL (+232) 07 82 33 255 papanie.baisessay@gmail.com</p>
<p>Gambie Kawsu Jammeh AfWC NC / DPWM / Niumi (+220) 308 0530 kjammehsopoe@yahoo.com</p>	<p>Togo Ali Mamouki AEWA NFP (+228) 26 70 51 92 alimamouki@yahoo.fr</p>	<p>Royaume-Uni Cassia Dodman Université de Dundee (étudiante) cassia@btinternet.com</p>
<p>Royaume-Uni Tim Dodman WSFI (+44) 1857 644224 tim@timdodman.co.uk</p>	<p>Sénégal Michel Mbaye Technicien console interpretation (+221) 77 557 9019 s/c akibodeseptime@yahoo.fr</p>	



Regional Training Workshop on the Management of Key Sites along the Western Coast of Africa for Migratory Birds
 Parc National des Oiseaux du Djoudj - Sénégal
 14th – 18th December 2013

Date	Morning	Afternoon	Evening
Friday 13th December	Day 3 of AEWA sub-regional meeting: Waterbird monitoring	Participants arrive; all stay in Dakar. Workshop planning meetings.	
Saturday 14th December	Field visit to Somone (south of Dakar) with AEWA meeting participants. Lunch at Somone.	Travel to Parc National des Oiseaux du Djoudj (PNOD)	
Sunday 15th December	Workshop opening & introductions; introduction to PNOD	Flyway level conservation and the role sites play: migration challenge; flyway threats	Welcome cocktail Djoudj
Monday 16th December	Population dynamics, conservation management & wise use; species action plans	Site conservation & management in a flyways context; partnership approach to planning	Optional session: Coordinated Waterbird counts
Tuesday 17th December	Case studies from the flyway	Capacity-building	Musical entertainment at Biology Station
Wednesday 18th December	Site exchange: partnership along the flyway; trans-boundary cooperation; communication	Visit to park periphery; discussion with villagers	Departure of some participants
Thursday 19th December	Departure of remaining participants		

Approximate times: Breakfast from 07:00-08:00. Lunch from 13:00-14:15. Dinner from 19:00-20:00. Morning sessions from 08:30-13:00; afternoon sessions from 14:00-17:30. Coffee & tea breaks provided.





PROGRAMMA NAAR EEN
RIJKE WADDENZEE



Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit

