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RESSOURCE

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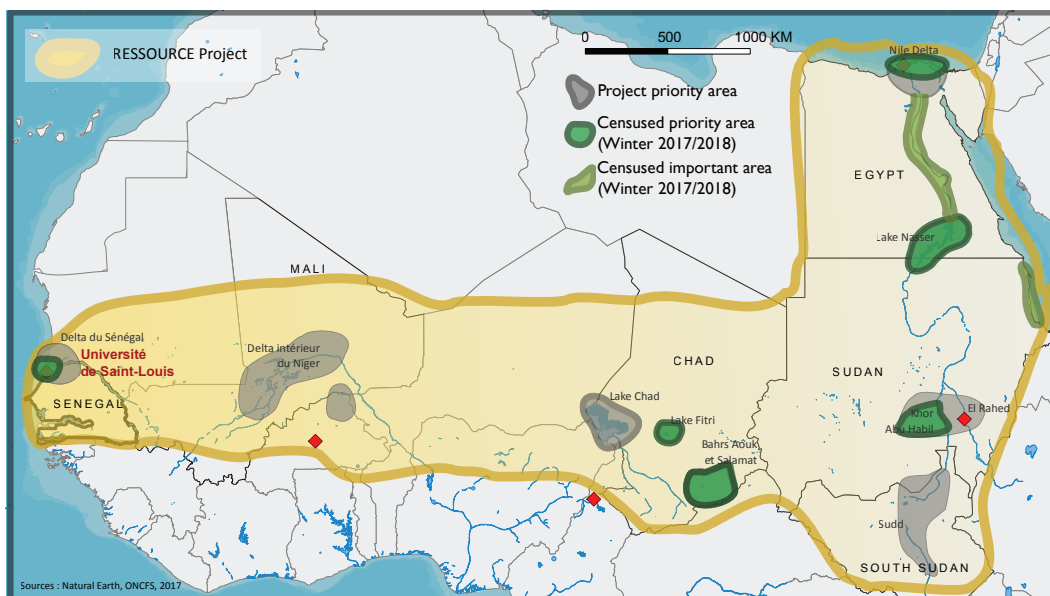




THE RESSOURCE PROJECT IS WELL UNDERWAY.

This four-year initiative (2017 to 2020) aims to improve the management of natural resources, and in particular migratory waterbird populations, in the Sahelian wetlands for the benefit of local people (e.g. especially in relation food security and local development). Through this objective to achieve a sustainable level of resource use, the RESSOURCE Project will contribute to the strategic goals of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and the Ramsar Convention. Both AEWA and the Ramsar Secretariats are stakeholders of the Project.

Location of the RESSOURCE Project activities



Focus : Sahelian Africa (Senegal Basin, Niger Basin, Lake Chad Basin, Nile Basin).





The RESSOURCE Project has been funded by the French Facility for Global Environment (€1.5 Million), by a FAO Technical Cooperation Programme (equivalent of €430 000) and by the 11th European Development Fund (EDF) through the Sustainable Wildlife Management (SWM) Programme (€2.3 Million). This Project is being implemented in cooperation with the relevant Governments authorities in Chad, Egypt, Mali, Senegal and Sudan; and with key technical partners, including:

- i. French Agricultural Research Centre for International Development (CIRAD);
- ii. France's National Agency for Wildlife and Hunting Management (ONCFS);
- iii. European institute for the management of wild birds and their habitats (OMPO);
- iv. Wetlands International Africa (WIA);
- v. Birdlife International (BI);
- vi. Research Institute Tour du Valat (TdV)

Furthermore, the RESSOURCE Project is part of the Sustainable Wildlife Management (SWM) Programme. The SWM Programme is a seven-year African, Caribbean and Pacific Group of States (ACP) initiative that is funded (€45 Million) by the European Union through the 11th European Development Fund. The SWM Programme is being implemented by a consortium of partners composed of FAO, CIRAD, the Center for International Forestry Research (CIFOR), and the Wildlife Conservation Society (WCS).



Saddle-billed stork in the Zakouma National Park

FIVE COMPLEMENTARY COMPONENTS:

Component 1: Monitoring of the “waterbird resource”.

Regular waterbird censuses will be carried out simultaneously and in a harmonized manner in the four main wetland areas of the Sahel to provide a better understanding of the dynamics of bird populations and to better inform the secretariats of the international agreements related to wetlands and waterbird management.

Component 2: Conservation of the “waterbird resource” and integrated wetland management.

Based on the information gathered from the first component and from multidisciplinary diagnostic studies, management plans will be developed, taking into account the multiple uses of wetlands, at two pilot wetland sites (Trois Marigots in Senegal and Khor Abu Habil in Sudan). In addition, a small grant fund will support local Sahelian wetland managers.

Component 3: Knowledge and sustainable use of the “waterbird resource”.

The socio-economic importance of waterbirds for local populations will be assessed at several sites and for various sectors, including sport, subsistence hunting and ecotourism. Based on the findings, simple management plans that define sustainable harvesting levels will be proposed to decision-makers and local communities.

Component 4: Capacity building and mobilization of the “RESSOURCE community”.

The fourth priority area of the Project aims to strengthen the local capacity to monitor and manage waterbird populations and wetlands; in particular, by integrating these issues into the curricula of universities in sub-Saharan African countries and by sponsoring national Masters students. A regional community of experts and organizations involved in the management of wetlands and waterbirds will also be established.

Component 5: Strengthening legal and institutional frameworks for the “waterbird resource”.

The last priority area for the Project is to support Governments in developing and implementing (with local stakeholders) the institutional, legal, regulatory, contractual instruments related to the sustainable management of waterbirds.



STATE OF PROGRESS OF THE RESSOURCE PROJECT

Senegal

Component 1

Waterbird census in the Senegal River delta

The mission, which took place from the 8 to 20 January 2018, focused on providing training to national park officers and Ecoguards. The sites surveyed before 15 January 2018 were: the Langue de Barbarie National Park; the St-Louis lagoons; the Gueumbeul Natural Reserve; the Tocc Tocc Community Reserve; the Ndiaël Avifauna Special Reserve and the Djoudj National Birds Park

Outside the Djoudj National Birds Park, the Ndiaël Avifauna Special Reserve is subject to a re-flooding operation. In January, a pond was refilled, which will enable the the Ndiaël Avifauna Special Reserve to regain its place as a site of international importance for many species, including the Black Stork (*Ciconia nigra*) and the European Spoonbill (*Platalea leucorodia*).



International Waterbird Census database update

Within the framework of Component 1, and in close collaboration with OMPO, an important objective is to build on the Senegal International Waterbird Census database to compare trends in waterbird numbers with the harvesting rates estimated by CIRAD. ONCFS and TdV, supported by the French Ministry for Ecological and



Inclusive Transition (MTES), organised a workshop from 20 to 26 November 2017 to update and improve the management of the International Waterbird Census databases in Mali and Senegal. Data related to the Senegal River delta site and its waterbird species will need to be updated. Regarding this update, ONCFS and TdV presented their recommendations at a meeting during the last RESSOURCE Project Steering Committee meeting (October 2018).

Component 2

Multidisciplinary ecosystem assessment of the Trois Marigots site in the Senegal River delta.

In April 2018, a multidisciplinary assessment, using an ecosystem approach, was carried out at the Trois-Marigots site. The first issue highlighted was the spread of invasive plants, such as the Typha (*Typha domingensis*) and the Lotus (*Nelumbo nucifera*). Indeed, in only a few decades, the Trois-Marigots site has gone from being a wetland that regularly floods to being a site that receives water only when the St-Louis reservoir overflows or needs to be drained, which leads to stagnant water being discharged into the Trois-Marigots. It has been observed that invasive plants take advantage of this hydrologic regime to gradually colonise the water bodies. As this habitat shrinks, waterbirds are forced to move to other areas.

To raise awareness about the problems encountered in the Trois Marigots, an inter-village association was created. This association, identical to that of Ndiaël Avifauna Special Reserve, will play a major role in the implementation of the Trois Marigots Management Plan. In particular, it includes various commissions of which one focuses on the environment and another is dedicated to the crucial role of women in the management of the Trois Marigots.

Drafting of the participatory Management Plan for the Trois Marigots site

The drafting of the participatory Management Plan for the Trois Marigots site is a part of Component 2. The long-term objectives of this Management Plan, which is based on the results from earlier assessments, aims to conserve the ecology and ecosystem services at the Trois-Marigots. It also seeks as to ensure that the site is integrated into the economic and social development plans for the Senegal River delta. The Management Plan was discussed at a planning meeting on 25 April 2018 and an approval meeting on 2 May 2018 in Saint-Louis.

Component 3

Study of stakeholders and the management of migratory waterbirds and wetlands

The St-Louis workshop provided an opportunity to present the results from the study, and to discuss co-management of the waterbird habitat. Concerns raised by

stakeholders were addressed and solutions identified. These actions will be integrated into a coherent plan that will be presented to the conservation donors.

A part of the workshop was dedicated to discussing the creation of a territorial observatory, taking into account important issues such as involving stakeholders, the use of the waterbird resource and understanding the interactions between wetlands, waterbirds and humans.

Adaptation and implementation of a survey to understand the socio-economic value of waterbirds for food and commercial hunting

CIRAD conducted a survey of subsistence and commercial hunting, and household consumption, in the Senegal River delta. In 2018, the household survey targeted 296 people in 18 villages. The results showed that interviewees have a positive view of the wetlands. They described them as indispensable, both in terms of the resources and services they provide. The majority of interviewees perceived waterbirds as being “harmful”, except in the Trois Marigots area, where they are seen as a source of meat. Whilst there is no clear preference for waterbird species, the most commonly consumed species are the Spur-winged Goose (*Plectropterus gambensis*), Pelican (*Pelecanus sp.*) and Garganey (*Anas querquedula*).

Monitoring the migratory waterbirds value chain

The analysis of the socio-economic value of migratory waterbird provided information to better understand their sustainable use in the Senegal River delta. Wildlife viewing tourism is a viable possibility and a lucrative activity for some operators despite various national (e.g. taxes, visas) and international issues (e.g. terrorism, Ebola, etc.). Hunting tourism, which is aimed at attracting the European hunting community, offers economic opportunities. Finally, the relative importance of subsistence hunting needs to be measured over the long term.



Ramsar fact sheet:

The aim is to list the Trois Marigots as a site of international importance under the Ramsar Convention

The field mission, which took place between 6 and 16 September 2018, focused on drafting the first version of the Trois Marigots Ramsar fact sheet and establishing a permanent representative on the board of directors of the Trois Marigots Inter-Village Association.

CHAD

Component 1

Waterbird census by aerial counting on both Lake Fitri and Lake Chad as well as at two Ramsar sites (Bahrs Aouk and Salamat floodplains) and by complete ground-based count in the Zakouma National Park (ZNP)

Between 26 January and 4 February 2018, a systematic aerial sampling, using recent remote sensing mapping of the wetlands was conducted by ONCFS and TdV over Fitri Lake and the Bahrs Aouk and Salamat Ramsar sites. At Lake Fitri, the aerial sampling allowed estimates to be made of the number of wintering Knob-billed Duck, (*Sarkidiornis melanotos*, 18 000 individuals), White-faced Whistling Duck, (*Dendrocygna viduata*, 86 000 individuals) and Spur-winged Goose, (*Plectropterus gambensis*, 41 000 individuals).

These estimates will need to be refined in the future. The first cartographic analyses based on two years of counts at the Bahr Aouk and Salamat Ramsar sites, were carried out and they confirm the importance of the area for waterbirds, in particular the southwestern area of Lake Iro.

In relation to Component 4, four officers from the Chadian Conservation of Fauna and Protected Areas Authority (DCFAP) and one officer from the Lake Chad Basin Commission received theoretical and practical field training. In addition, a Chadian DCFAP officer was trained in aerial census.



Yellow-billed stork in the Zakouma National Park



Component 3

Monitoring wildlife tourism and the hunting value chain

During the workshop held in July 2018, a decision was taken to organise a monitoring exercise on bird harvesting levels with the hunting company Chad Hunting and Nature (Chasse et Nature Tchad). The monitoring will use universal notebooks based on those created by the French National Federation of Hunters.

Extension of the survey on subsistence and commercial hunting and consumption

A study was carried out in 2018 on the waterbird value chain in 41 localities (21 in Lake Chad and 20 in Lake Fitri) and involved 499 people. In terms of local knowledge and views, the most known and cited waterbirds are the White-faced Whistling Duck (*Dendrocygna viduata*) and the Spur-winged Goose (*Plectropterus gambensis*). Those interviewed at both lakes have the same positive perception of waterbirds; in fact, they are perceived as a sacred gift. In addition, interviewees also believe that the bird populations are increasing due to the availability of food.

In relation to the eating habits of local people, waterbirds are part of the weekly diet, especially at Lake Fitri. The White-faced Whistling Duck (*Dendrocygna viduata*) is the most commonly purchased species (45%), followed by the Spur-winged Goose (*Plectropterus gambensis*) (20% of purchases). The cash flow generated by these purchases is estimated to be 17 million CFA franc (about 26 000 euros).

Monitoring subsistence and commercial hunting and consumption

A jointly constructed territorial observatory, using a collaborative method for the building territorial observatories known as CoObs, is being used to help align methods and protocols for bird management. Participants at the workshop held in N'Djamena in July 2018 prioritized the sustainable management of waterbird resources and their habitats, with a focus on Lake Fitri and Lake Chad.

MALI

Component 1

Waterbird census based on aerial sampling in the Inner Niger Delta and updates to the International Waterbird Census database

The aerial sampling operation could not take place due to the level of insecurity in the Inner Niger Delta in January 2018. The aircraft rental company took the decision not to fly during this period. The aerial waterbird census over the Inner Niger Delta remains a priority for the coming years.

Component 3

Survey on subsistence and commercial hunting and consumption

Between March and April 2018, a survey was carried out of 250 people in approximately twenty Inner Niger Delta villages. An earlier study, conducted by WI in 2002, highlighted the use of waterbirds by local populations. Fifteen years on, the results from the RESSOURCE Project survey have confirmed the existence of a waterbird value chain. This value chain revolves around hunters who are specialised in the harvesting of the bird resource. The value chain targets urban markets where demand is high as rural populations feed mostly on fish. As the markets are mainly located in Mopti, Djenné and Youwarou, the next phase in this survey would target these areas in order to better define the quantities of waterfowl traded.

SUDAN

Component 1

Waterbirds ground-based census on the Red Sea Coast and training in waterbird monitoring in the Khor Abu Habil

Waterbird counting operations on the Red Sea coast and in the Khor Abu Habil region were carried out jointly by the Wildlife Conservation General Administration (WCGA), the Sudanese Wildlife Society (SWS) and by academics from Sennar and Port Sudan. Sampling protocols for these two large areas have been georeferenced to improve their reproducibility.

Furthermore, two weeks before the field activities, TdV carried out remote sensing of the flooded areas.

This method significantly improved the sampling efficiency. In addition, this innovative method could be replicated in the International Waterbird Census in the Khor area or even be extended to the Sahel region.





Launching of a multidisciplinary assessment of wetlands in the Khor Abu Habil floodplain

The multidisciplinary assessment of wetlands in the Khor Abu Habil floodplain was started in 2017 by the Sudanese Centre for Social, Legal and Economic Studies and Documentation (CEDEJ) and continued in three parallel programmes:

- i. a sociological assessment by the University of Strasbourg (Sav-Nat Africa programme);
- ii. a hydrological and pedological assessment using remote sensing by the University of Bayreuth (Germany) as part of Aïcha Seifelislam's thesis;
- iii. an ornithological assessment by the ONCFS. Due to scheduling difficulties, the wet season ornithological mission has been postponed to 2019.

Finally, CIRAD and WCGA began a socio-economic assessment that will provide valuable information to understand the importance of Khor Abu Habil wetlands for local communities.

On 19 February 2018, an international workshop was organized by WCGA and ONCFS in Khartoum on Khor Abu Habil conservation and knowledge. Several scientific presentations emphasized the geomorphological, ecological and ornithological importance of Khor Abu Habil. The event concluded with a roundtable discussion that recommended the inclusion of part of the Um Gar in the discussions on the designation of the Khor Abu Habil as a Ramsar site.

Component 3

Survey on subsistence and commercial hunting and consumption

The 368 interviews, which were conducted in 22 Khor Abu Habil villages, confirmed traditional hunting practices and migratory and sedentary waterbirds use. An innovative aspect of the study was the use of KoboCollect a mobile data collection app, at all Project sites.

Because of the illicit nature of bird harvesting, the interviewees were reluctant to talk about this practice. Indeed, only women spoke about the male hunting practices. Most stakeholders believe that waterbird abundance is in decline due to changes in the wetland habitats and unsustainable levels of hunting. The main species mentioned by respondents were Anatidae, cranes and herons. The Spur-winged Goose (*Plectropterus gambensis*) continues to be the most valued, hunted, purchased and consumed bird species. The survey highlighted that waterbirds are consumed as part of a cultural tradition but that they are only a small part of local diets.

Component 4

Training of Sudanese trainers and university professors in Arabic to expand teaching on migratory waterbirds monitoring

Sudanese partners from WCGA, SWS and various universities (Bahri, Sudan, Senna) benefited from Arabic training in waterbird identification and monitoring. The aim was to include the module (© Hirundo FT2E & ONCFS) on waterbird identification and monitoring techniques in Sudanese university wildlife management and conservation courses. The training combined classroom and field activities, and was co-financed by the François Sommer Foundation. The training was carried out by Hichem Azafaf from the Association of Friends of Birds (*Association les Amis des Oiseaux* - BirdLife Tunisia). This association is a key technical partner in North African projects for the Mediterranean Waterbird Network (MWN), particularly when it comes to developing training tools in Arabic.

EGYPT

Component 1

Testing of reliable and reproducible waterbird counting methods by boat census on Lake Nasser, the Nile River, Lake Burullus and Lake Manzala

The *Egyptian Environmental Affairs Agency* (EEAA) and ONCFS jointly carried out waterbird census on Lake Nasser and the two main lagoons in the Nile Delta (Burullus and Manzala). The EEAA's Egyptian partners benefited from financial support to complete the counting operation in Lake Nasser and to conduct the same operation along the Nile River between Aswan and Cairo.

The sampling protocols for these three large water bodies have been geo-referenced to improve their use elsewhere. In addition, a method to correct bias in the sampling method was tested on Lake Nasser to improve estimates of the density of birds. This





innovative test will have to be carried out again to further assess its effectiveness as it may still need to be refined. The total number of waterbirds sampled on Lake Nasser was 16 722 and the corresponding number estimated by this new statistical method was 18 766. The waterbird census carried out in the winter of 2017/18 by EEAA and ONCFS through the RESOURCE Project was probably the most comprehensive one undertaken in Egypt during the last 25 years.

Component 3

Monitoring subsistence, commercial hunting and consumption in the Nile Delta

The El Manzala region on the Nile Delta was selected due to its importance for migratory species during the quail capture season. The questionnaire developed for the Chad RESSOURCE Project site was adapted, in partnership with the Egyptian Nature Conservation Sector (NCS) team, for the Nile Delta site. Drawing on previous studies, villages near Lake Manzala and Lake Burullus were selected for the survey. The three-week study began on 9 October 2017, after a training session in the Ashtoum National Park. The mobile KoBoCollect app was used for capturing data.

The results from the 317 surveys provide insights into stakeholder views of the waterbird value chain in the Nile Delta:

- i. fishing (and not hunting) remains the main human activity in both lakes;
- ii. on Lake Manzala harvesting targets mainly waterbirds such as the Eurasian Coot (*Fulica atra*), the Common Moorhen (*Gallinula chloropus*) and the Garganey (*Anas querquedula*); whilst on Lake Burullus interviewees mainly mentioned quail and passerine species.
- iii. the use of mist nets was cited as the preferred tool for subsistence and commercial catches;
- iv. the existence of a waterbird value chain is confirmed by the harvesting, commercialisation, and consumption profiles.

While the information from the survey confirms some of the conclusions from an earlier study carried out in 2015, it also demonstrated the difficulty in assessing the volumes of waterfowl caught, commercialised and consumed in the Nile Delta. To rectify the situation, the creation of a waterbird territorial observatory is envisaged in order to integrate historical information into the one generated by the RESSOURCE Project. Its creation would comply with the principles of co-management of waterbirds and their habitats by government authorities and local communities, with shared rights and responsibilities.

Component 4

Training course for Egyptian staff in charge of continuous monitoring

Approximately 20 Egyptian Environmental Affairs Agency (EEAA) staff received theoretical and practical training in waterbird census techniques.

Regional workshop at the Tour du Valat (Camargue, France)

Component 1 & 4

Organisation of a regional workshop to support the International Waterbird Census data management.

From 20 to 25 November 2017, seven representatives from the Malian National Water and Forests Authority, the Senegalese National Parks Authority and the Chadian Wildlife Conservation and Protected Areas Authority participated in a workshop on the International Waterbird Census at the Tour du Valat (Camargue, France). The workshop had three objectives:

- i. To complete, update and geo-reference the national International Waterbird Census databases for Senegal and Mali;
- ii. To review the challenges around collecting data for inclusion in national databases, the International Waterbird Census and use by AEWA;
- iii. To enhance international collaboration through the RESSOURCE Project.

This workshop was organised by the Technical Support Unit for the AEWA African initiative with financial support from the French Ministry for the Ecological and Inclusive Transition (MTES). It provided participants with a better understanding of the importance of the International Waterbird Census and monitoring hunting activities for waterbird management and conservation, both at the national and international level. It also facilitated meetings and exchanges between those involved in the RESSOURCE Project in these three countries.



SECOND TECHNICAL STEERING COMMITTEE MEETING, 1 AND 2 OCTOBER 2018, FAO HEADQUARTERS

The RESOURCE Project activities were presented at the Second Technical Steering Committee, held at FAO headquarters in Rome on the 1 and 2 October 2018. All technical and financial partners, as well as the representatives from each of the beneficiary countries, were present:

<https://www.flickr.com/photos/faoforestry/albums/72157672389052357>



This second meeting began with opening remarks by Ms Mette Wilkie (FAO), who stressed the importance of taking advantage of the synergies between the RESSOURCE Project and the Sustainable Wildlife Management Programme (SWM). The latter is being implemented thanks to a Consortium of Partners composed of FAO, CIRAD, CIFOR and the WCS and is funded by the 11th European Development Fund. Ms Wilkie also introduced Mr Bruno Portier, the new RESSOURCE Project coordinator, who will take up the position in early December 2018.

Ms Constance Corbier-Barthaux (French Facility for Global Environment) focused on some of the challenges facing the RESSOURCE Project. In particular, she hoped that improving knowledge would be one of the major Components of the Project, in order to contribute to better public policies and institutional and legal frameworks to ensure monitoring, conservation and sustainable use of biodiversity in the target countries.



During the two-day meeting, the Steering Committee presented the activities undertaken and the results obtained since their last meeting in 2017 and discussed the planning of future activities. The Project's communication strategy and the format for collecting and storing data in the International Waterbird Census were also discussed.



Marabou storks, Egrets and Yellow-billed stork in the Zakouma National Park

UPCOMING EVENTS: 7TH SESSION OF THE MEETING OF THE PARTIES (MOP7)

The RESSOURCE Project activities and results will be presented in a side event at the 7th Session of the Meeting of the Parties (MOP7) to the African-Eurasian Migratory Waterbirds Agreement (AEWA). The event will take place from 4 to 8 December 2018 in Durban, South Africa.



The project is a joint initiative of several institutions and organizations: Food and Agriculture Organization of the United Nations (FAO), French Global Environment Facility (FFEM), European Commission (EC), Secretariat of African, Caribbean and Pacific Group of States (ACP), French Ministry of Ecological and Inclusive Transition (MTES), National Hunting and Wildlife Agency (ONCFS), Agricultural Research Centre for International Development (CIRAD), Center for International Forestry Research (CIFOR), Wildlife Conservation Society (WCS), European Institute for the Management of Wild Birds and their Habitats (OMPO), Tour du Valat, Wetlands International, Birdlife International, Ramsar Convention, African-Eurasian Migratory Waterbird Agreement (AEWA), and beneficiary countries (Senegal, Mali, Chad, Sudan and Egypt).



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