



# RESSOURCE PROJECT

SWM Sahelian Wetlands Site

# SUSTAINABLE MANAGEMENT OF MIGRATORY SPECIES: CHALLENGE OR UTOPIA?

The RESSOURCE Project, a case study on waterbirds wintering in the Sahel

Portier Bruno<sup>1</sup>, Larmaque François<sup>3</sup>, Triplet Patrick<sup>4</sup>, Mondain-Monval Jean-Yves<sup>5</sup>, Defos Du Rau Pierre<sup>5</sup>, Deschamps Clémence<sup>6</sup>, Dentau Christophe<sup>7</sup>, Côté-Andreotti Cindy<sup>1</sup>, Mansell-Moullin David<sup>1</sup>, Czajkowski Alexandre<sup>2</sup>

## Scope and objectives

Millions of people depend on Sahelian wetlands for their livelihoods. These ecosystems provide essential services to local communities and are also home to many waterbirds. Climate change, water and agricultural developments and the intensive exploitation of natural resources are threatening these fragile habitats, which has led to a dramatic decrease of 40 percent in waterbird populations in the region between 1960 and 2000.<sup>7</sup> If the waterbirds were to disappear from this region, many rural communities would be deprived of an important source of food.

The RESSOURCE Project was launched in 2017 to tackle the challenges facing people and migratory birds in Egypt, Mali, Senegal, Sudan and Chad. This initiative works with national authorities and local communities to:

- improve knowledge on waterbirds populations and their Sahelian wetlands habitats as well as on the major threats to their conservation;
- develop innovative solutions for the sustainable management of waterbirds populations and their Sahelian habitats.

## Innovative approach

### Waterbird monitoring

- Site-specific and standardized waterbird monitoring methods were developed, tested and improved using remote sensing, replicable sampling designs and distance sampling methods.
- Large-scale and repeated ground and aerial waterbirds censuses covered 138 000 km<sup>2</sup> of wetlands over five countries during five consecutive boreal winters to improve knowledge about the conservation status and trends in waterbird populations.
- Waterbirds population estimates were updated for areas seldom surveyed in the past, especially in Chad, Egypt and Sudan.

### Habitat conservation

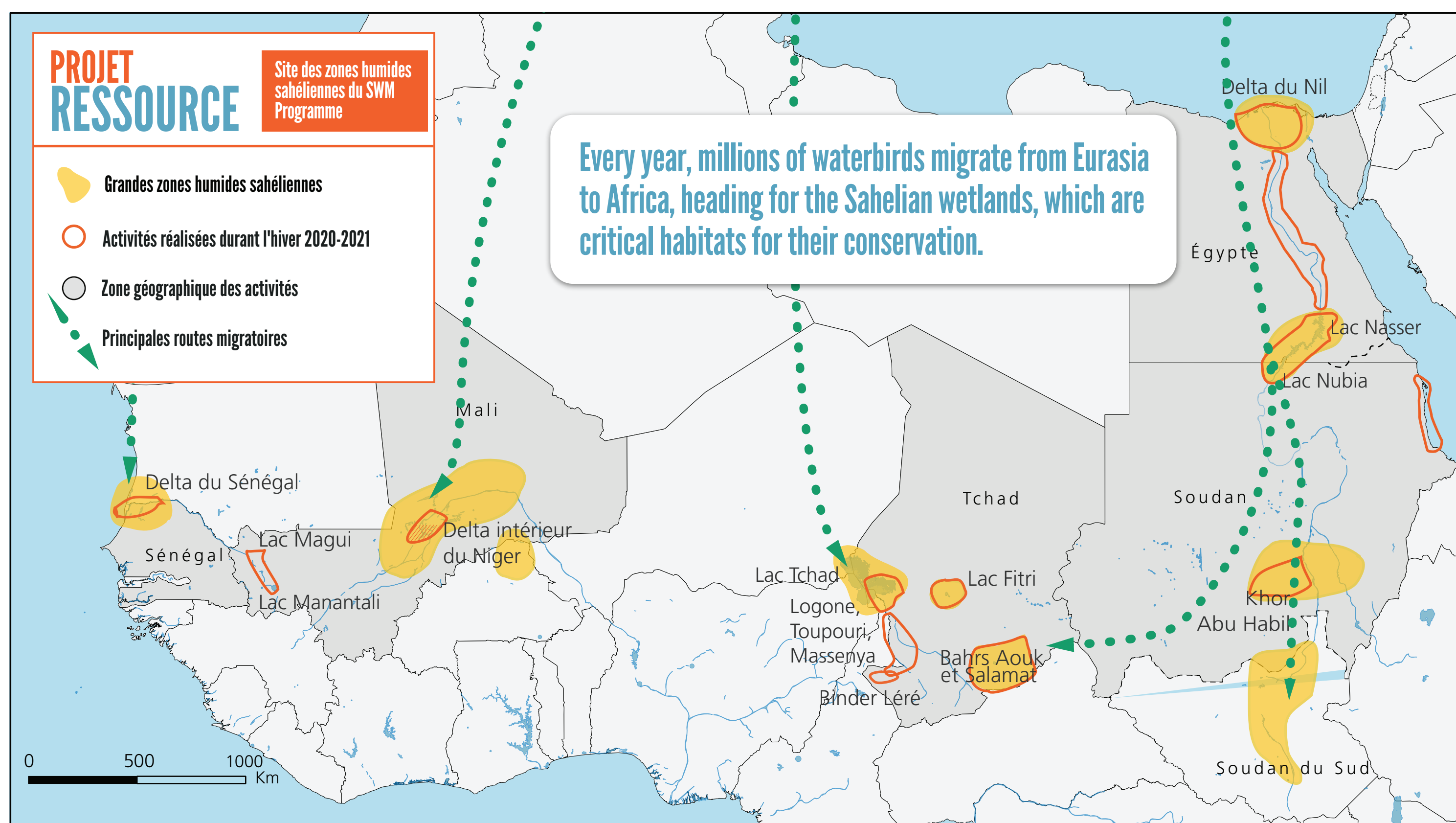
- Wetlands sites of international importance for migratory waterbirds, such as the Khor Abu Habil in Sudan, were identified.
- Support was provided to national authorities and local communities for designating two new Ramsar sites and developing participatory management plans.
- A control and eradication campaign was conducted against invasive aquatic species in the Senegal River delta with local populations.
- Nature-friendly alternatives to intensive agriculture were developed and tested: i.e. the experimental cultivation of White Waterlily (*Nymphaea lotus*) in the Senegal River Delta.

### Capacity building

- Over 150 professionals from national administrations and local communities in the region were trained, in particular on waterbird identification and census techniques, database management and wetlands management techniques.
- The first Massive Open Online Course (MOOC) on waterbird identification and census and wetlands monitoring was developed.

### Assessment of the socio-economics of waterbirds and Sahelian wetlands

- More than 2 000 interviews were conducted between 2017 and 2019 to assess the socio-economic importance of waterbirds harvesting and use.
- An assessment was carried out on the importance of the Khor Abu Habil inner delta in Sudan for agriculture, livestock, fishing and wildlife harvesting in 72 villages.



Nearly 2.7 million waterbirds wintering in the Bahrs Ouok et Salamet Ramsar site in Chad (January 2020).

Nearly 240 000 Eurasian ducks in the Senegal River delta (January 2019).

At least 140 000 waterbirds in the Khor Abu Habil inner delta in Sudan (winter 2019 -2020).

## Lessons learned and way forward

The RESSOURCE Project has generated great amounts of new data and knowledge on seldom-monitored waterbird populations, as well as on off-take levels. The initiative has highlighted the international importance of unprotected wetlands and confirmed the widespread use of waterbirds across the Sahel. The Project has also produced new data that could lead to a revision of the world population estimate and/or to the conservation status of several species. For example, 25 percent of the world population of the vulnerable Black Crowned Crane (*Balearica p. pavonina*) was recorded by the project team, indicating reasonable numbers still present in areas that are often not surveyed. Further efforts and funding are needed to fill knowledge gaps and scale up the RESSOURCE model in the Sahel in order to:

- acquire new waterbird and wetland data from the major Sahelian sites, taking into account that some are a challenge to monitor;
- support innovative wetland management techniques to conserve and restore ecosystems; and
- assist partner countries in their commitments to the Ramsar Convention and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and its Plan of Action for Africa 2019–2027.

Sustainably managing migratory species is challenging. However, the RESSOURCE Project is progressing towards this goal as a result of its collaborative approach and innovative techniques in the Sahelian wetlands.

## With the technical support of



Supported by



SWM-programme@fao.org  
www.swm-programme.info

1. Forestry Division, Food and Agriculture Organization of the United Nations, Rome, Italy. 2. Migratory Birds of the Western Palearctic (OMPO), Paris, France. 3. Ministère de la Transition Écologique, La Défense, Île-de-France, France. 4. CIRAD Montpellier-Occitanie, Montpellier, Languedoc-Roussillon, France. 5. Office français de la biodiversité, Arles, France. 6. Institut de recherche de la Tour du Valat, Arles, Provence-Alpes-Côte d'Azur, France. 7. Walther, B. A. (2016). A review of recent ecological changes in the Sahel, with particular reference to land-use change, plants, birds and mammals. African Journal of Ecology, 54(3), 268–280.