



## **LIFE OXYURA AGAINST OXYURA :**

Eradicate the ruddy duck to save  
the endangered white-headed  
duck from extinction

2018-2023

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## Introduction

### The ruddy duck in Europe, a threat to the white-headed duck

#### The decrease of wetland areas

The drainage of wetlands for various purposes has led to a loss of surface equivalent to the size of India over the last three centuries. This reduction, initially localized in major population basins, has spread globally since the mid-20th century.

#### Importance of anatids for wetland preservation

Duck species belong to the Anatidae family. Their conservation status is closely monitored internationally because they reflect the health of wetlands and play a role in their functioning. They influence nutrient cycles, for example, and also provide ecosystem services such as the dispersion of certain plants. The aesthetic appeal of these birds and their relatively easy observation also make them effective tools for raising public awareness about wetland preservation.



#### Invasive exotic species

The proliferation of invasive exotic species represents the fifth cause of biodiversity loss worldwide. It poses a threat to nearly one-third of terrestrial species at risk of extinction. Anatids are not exempt from this issue.

#### Importance of the white-headed duck

The white-headed duck (*Oxyura leucocephala*) is a duck species native to Eurasia, with three populations ranging from the Western Mediterranean to the steppes of Central Asia. It is globally classified as endangered (EN) by the International Union for Conservation of Nature (IUCN) and is the subject of an international conservation plan.

The primary threats to the species, particularly in the Western Mediterranean population, include the reduction of wetland areas and the potential genetic introgression through hybridization with the ruddy duck (*Oxyura jamaicensis*) when they coexist.

#### The threat posed by the ruddy duck

This close American cousin established itself in Great Britain in the second half of the 20th century, spreading to the European continent and joining the Spanish population of white-headed ducks. During the breeding season, aggressive male ruddy ducks mate with female white-headed ducks, producing fertile hybrids. In the long term, without actions aimed at preventing interspecific contact, this genetic pollution could lead to the disappearance of the white-headed duck.

## Project summary

**Location:**  
France

**Title:**  
*Oxyura* against *Oxyura*.  
Eradicate the ruddy duck to save the endangered white-headed duck from extinction.

**Coordinating Beneficiary:**  
French Agency for Biodiversity

**Associated Beneficiary:**  
National Society for Nature Protection

**Project duration:**  
01/10/2018 – 30/12/2023

**Project budget:**  
1,674,361 €

**Project eligible costs:**  
1,674,361 €

**EC contribution:**  
1,210,382 € (72.29% of total eligible budget)

**Beneficiaries' contribution:**  
463,979 €

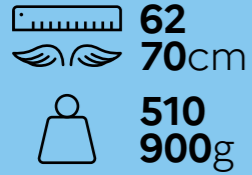


**Common name**

**The white-headed duck**

**Latin name**

*Oxyura leucocephala*



**Male description**

bill thickened basally, white head with black crown, black neck and brownish-chestnut body; blue bill during breeding period

**Female description**

bill thickened basally; brownish-chestnut head and cheeks with blackish barring and a white streak below the eye, brownish-chestnut body

**Population**

25000 individuals

**Distribution**

10% of the population in Spain and Morocco. Resident in North Africa and Central Asia, breeding and wintering in Turkey and vagrant birds in several European countries

**Status:** Endangered with extinction (Red List of the IUCN)

**Main threats:** habitat degradation and genetic introgression with the ruddy duck

**Diet:** invertebrates (chironomid larvae, molluscs or small crustaceans), plants -fragments or seeds) -same as the ruddy duck

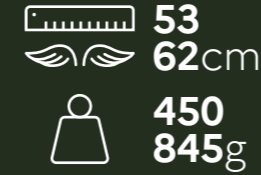


**Common name**

**The ruddy duck**

**Latin name**

*Oxyura jamaicensis*



**Male description**

white cheeks, forehead, crown and nape black, chestnut body, blue bill during breeding period

**Female description**

forehead, crown and nape black and brownish mixed, cheeks mostly white with a dark stripe, brownish body

**Population**

up to 6000 individuals in Europe at the beginning of the 2000s, around 400 left in 2020 after eradication actions. The populations in their native area reach about 1.3 million individuals and are not threatened.

**Native distribution**

North America, Central America and Caribbean Islands.

**European distribution**

Introduction in Great Britain in 1948 from North America, followed by spreading throughout northern Europe. To date, highest numbers in the Netherlands and France, with individuals observed in Belgium, Great Britain, Germany and occasionally Italia, Spain, Luxembourg, Switzerland

**Status:** Classified as an Invasive Alien Species by the European Union by the regulation n°1143/2014

**Diet:** invertebrates (chironomid larvae, molluscs or small crustaceans), plants -fragments or seeds) -same as the white-headed duck



# SITUATION AT THE START OF THE PROJECT

## European context

The ruddy duck was first introduced to Europe in 1948 at the Slimbridge Wetland Conservation Centre in the UK. The first reproductions in the wild were observed in 1957 and reached about 4,000 individuals in 1998.

Since the 1960s and 70s, observations have been made on the European continent: in the Netherlands, Belgium, Germany, France and Spain.

In Spain, the northern limit of the white-headed duck's range, 69 hybrids were observed and collected between 1980 and 2004, and no new observations have been made since. During the same period, some hybrids were also observed in Morocco and France.

In 1997, an international eradication plan was implemented under the auspices of the Bern Convention, which calls on states to implement coordinated control measures.

Since 2014, about 14,000 ruddy ducks have been eradicated in Europe, particularly in the United Kingdom, where the remaining population is estimated at about ten birds in 2023.

## French context

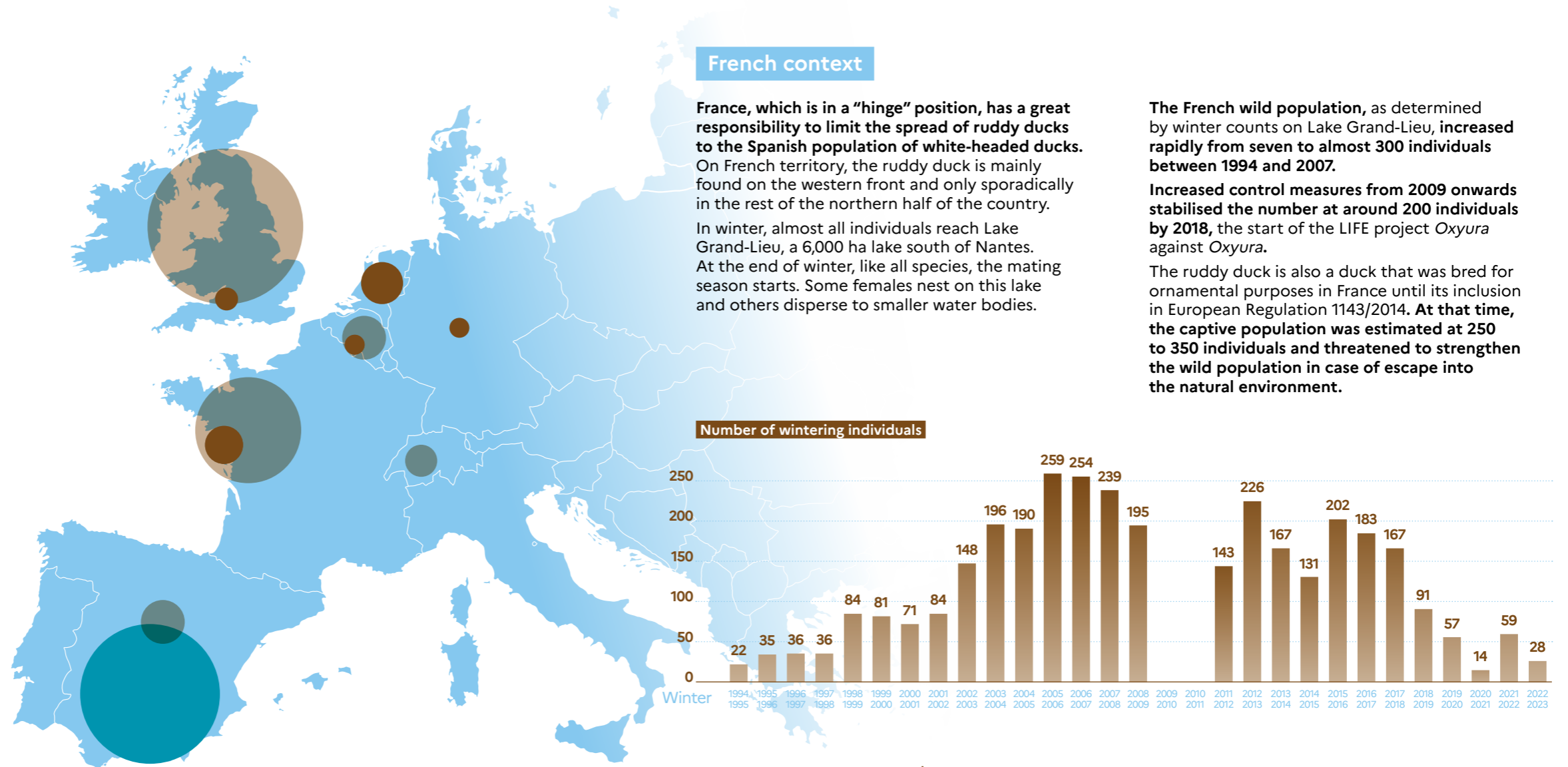
France, which is in a "hinge" position, has a great responsibility to limit the spread of ruddy ducks to the Spanish population of white-headed ducks. On French territory, the ruddy duck is mainly found on the western front and only sporadically in the rest of the northern half of the country.

In winter, almost all individuals reach Lake Grand-Lieu, a 6,000 ha lake south of Nantes. At the end of winter, like all species, the mating season starts. Some females nest on this lake and others disperse to smaller water bodies.

The French wild population, as determined by winter counts on Lake Grand-Lieu, increased rapidly from seven to almost 300 individuals between 1994 and 2007.

Increased control measures from 2009 onwards stabilised the number at around 200 individuals by 2018, the start of the LIFE project *Oxyura* against *Oxyura*.

The ruddy duck is also a duck that was bred for ornamental purposes in France until its inclusion in European Regulation 1143/2014. At that time, the captive population was estimated at 250 to 350 individuals and threatened to strengthen the wild population in case of escape into the natural environment.



● RUDDY DUCK POPULATION  
● population before 2000 ● population in 2020
 
● WHITE-HEADED DUCK POPULATION  
● population before 2000 ● population in 2020

## The project LIFE Oxyura

Launched in 2018, this national-level project aims to prevent the spread of the ruddy duck in Spain. To achieve this goal, wild populations must be eradicated and new introductions of captive animals prevented.

# 1

## OBJECTIVE

**Eradicate the ruddy duck in the natural environment in France by 2023.**

### KEY POINTS

- Compliance with the regulatory framework allowing management measures;
- Rapid detection of the birds based on a participatory national network;
- Optimisation of the control techniques already in use;
- Development of new management tools.

# 2

## OBJECTIVE

**Prevent any introduction of captive birds into the natural environment by 2020 and eradicate the captive population by 2030 (except zoos duly authorised for conservation and awareness purposes).**

### KEY POINTS

- Identification of ruddy duck keepers and compliance with EU Regulation No 1143/2014 (possession, sale, exchange, transport prohibited);

# 3

## OBJECTIVE

**Promote invasive species management to support conservation of threatened species**

### KEY POINTS

- Disseminate best practices and results to the biodiversity management community;
- Raise awareness of invasive species issues among the general public through authorised zoos and conservation centres;
- Knowledge transfer and active participation in the European policy of the International Plan for the eradication of the ruddy duck (in the Western Palearctic) and support of the conservation policy for the white-headed duck.



### Eradicate the ruddy duck in the natural environment in France by 2023.



### Compliance with the regulatory framework allowing management measures

The management of ruddy ducks through the elimination of individuals **requires specific authorisations provided for in Decree No. 2017-595 of 21 April 2017**. The shooting or capture of individuals of this species by OFB and SNPN representatives is authorised by the prefect of the department concerned. The issuance of these administrative orders requires a procedure involving the submission of an application file. At the beginning of the project, the LIFE team selected the departments most affected by the ruddy duck to submit its applications. **After consultation with each Regional Scientific Council for Natural Heritage, the prefectures issued 33 prefectural decrees.**



### Optimisation of the control techniques already in use

**LIFE funding enabled the recruitment of a team to detect, shoot and capture ruddy ducks in France.** Previously, control measures relied solely on the permanent OFB agents in each department, without them being able to intervene quickly enough to try to capture every individual reported. This specialised team consists of four agents who are equipped, trained and mobile throughout the national territory. It is supplemented by a permanent SNPN agent specifically for Lake Grand-Lieu. This OFB SNPN team has the following tasks:

- **Monitor the population by counting wintering individuals at Lake Grand-Lieu.**
- **Increase surveys** in spring and summer at historic water bodies with a high potential for the occurrence of the ruddy duck. **On average, nearly 405 surveys were conducted each year at more than 131 sites.**
- **Increase the efficiency** of bird surveys through the use of appropriate tools and improvements.

### Rapid detection of the birds based on a participatory national network

Faune-france.org is a **unique participatory science portal** that has been reporting bird sightings across the country since 2017. With the support of the League for the Protection of Birds, this portal was used by the LIFE OFB team to locate ruddy ducks outside Lake Grand-Lieu. These **almost instantaneous reports** (the deadline for sending observations is a maximum of one day) allowed a quick response from the field teams to carry out control measures, having sometimes crossed the whole country.

OBJECTIVE 1

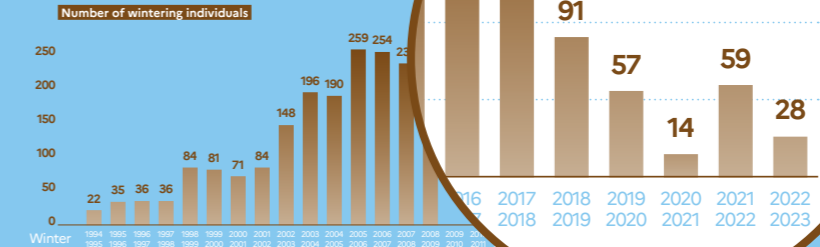
Development of new management tools

Techniques for collecting ruddy ducks are essentially based on shooting the birds. Shooting methods depend on the characteristics of the water body (size, safety requirements), the behaviour of the birds (demonstrative at the beginning of reproduction, more discrete thereafter and in groups during winter) and require a variety of specific tools. Beyond perfecting the shooting methods, **the LIFE project enabled the development of an alternative method of shooting that allows ruddy ducks to be caught in a cage.**

The prototype cage makes it possible to attract wild ruddy ducks using individuals from the captive population. **Automatic image transmission by photo-traps attached to the cages allow catches to be reported remotely and minimise maintenance time.** Captured ruddy ducks are ethically killed or can be relocated to licensed zoos. This tool seems to be a suitable alternative for **heavily frequented water bodies** where safety conditions for the use of weapons are not met or **to limit disturbance of sensitive protected species.**



Results



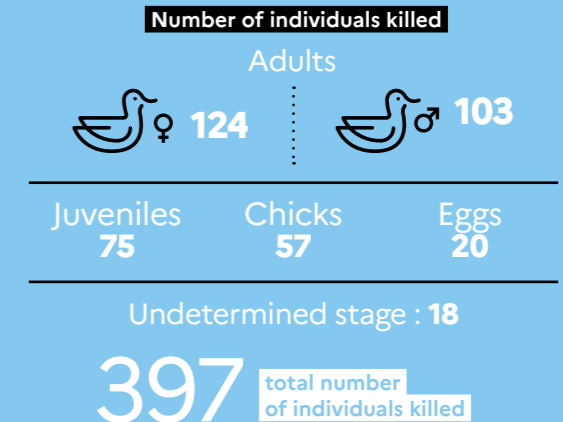
During the project, the time between the observation of a ruddy duck and the implementation of an operation was reduced from an average of 44 days to less than 2 days for water bodies within 200 km of Lake Grand-Lieu. Outside this area, **the duration of the implementation of an operation does not exceed seven days, except in exceptional cases.**

Targeted surveys by LIFE agents have identified **new sites that are temporarily occupied by young birds when they leave their birthplace in autumn.** These waters, located on the Atlantic coast and rich in invertebrates, are essentially **lagoons of sewage treatment plants.**

Thanks to the good training and equipment of the agents, the effectiveness of the control operations has been increased. On average, almost 80% of the individuals detected are successfully eliminated each year. Before the LIFE project, this percentage was around 50%.

Thanks to the increased responsiveness to reports, the detection rate of birds and the effectiveness of the control operations, the wild population was reduced by 86% in 5 years. In the winter of 2017-2018, 167 individuals were counted, while only 28 individuals were observed in the winter of 2022-2023.

**The population of wild ruddy ducks in France is thus almost extinct.**



## OBJECTIVE 2

**Prevent any introduction of captive birds into the natural environment by 2020 and eradicate the captive population by 2030 (except zoos duly authorised for conservation and awareness purposes).**



**Identification of ruddy duck keepers and compliance with EU Regulation No 1143/2014 (possession, sale, exchange, transport prohibited).**

The OFB is a public body of the state whose main functions include environmental policing. **The involvement of its sworn staff has allowed the French captive population to be assessed in collaboration with the administration.** Since 2010, the ruddy duck had been on the list of non-domesticated species requiring a permit from the prefecture for possession. This provision was lifted in 2018 following the publication of EU Regulation No 1143/2014 for private keepers. Aviornis France, an association of anatid breeders, assisted the OFB in locating the birds and facilitated the transfer of certain ruddy ducks to authorised zoos or for the benefit of the OFB as part of the cage trapping project. Following this assessment and under their administrative and judicial policing powers, **OFB staff checked with identified keepers to ensure compliance with the new regulations.**

## Results

*The new captivity regulations, the information provided to keepers, and the inspections conducted by the OFB police officers have resulted in a dramatic decline in the captive population of ruddy ducks. Surveys from 2014 and 2023 indicate that the decline has reached 82%, and the remaining population in 2023 is estimated to be between 30 and 50 birds. Commercial farms no longer keep ruddy ducks, and more than half of the individuals still in captivity in 2022 are in zoos*

*for education and awareness purposes. The remaining birds were born before the new regulations and are kept by their owners until their natural death, without the possibility to reproduce as required by the regulations. Furthermore, only one captive-born (banded) individual was taken from the wild during LIFE in eastern France, without its country of origin being known.*

**The captive population of ruddy ducks is therefore no longer a cause for concern in France in 2023.**





## OBJECTIVE 3

### Promote invasive species management to support conservation of threatened species



#### Disseminate best practices and results to the biodiversity management community

To raise awareness of the problem of invasive species and the ruddy duck in particular, various tools have been used: **Website, descriptive brochures, presentations at local and international conferences, publications in technical journals**, etc. In addition, technical staff participate **in raising awareness during each control operation, by communicating with the public, managers and owners of water bodies.**

#### Raise awareness of invasive species issues among the general public through authorised zoos and conservation centres

Through collaboration with the Association of Zoological Parks of France, the ruddy duck is used to raise public awareness. **Display boards have been set up in seven zoos to reach a wide audience** and explain the consequences of the introduction of the ruddy duck for the conservation of the white-headed duck.

#### Knowledge transfer and active participation in the International Plan for the eradication of the ruddy duck (in the Western Palearctic) and support of the conservation policy for the white-headed duck.

In order to effectively manage the introduced ruddy duck population in Europe, **cooperation between all concerned countries is essential.** The Bern Convention expert group dealing with the management of the ruddy duck includes the main countries where the presence of the ruddy duck is or has been a problem: The United Kingdom, France (represented by the LIFE team), Spain, Belgium, Germany and the Netherlands. During an annual meeting, **the population statuses of each country are updated, difficulties are addressed and official recommendations are made** as part of the international plan to eradicate this species in the Western Palearctic.



The management of the ruddy duck benefits the white-headed duck and the LIFE project is an opportunity to remind people that conservation policy for this threatened species requires a joint effort. Therefore, at the end of the LIFE project, **a seminar was organised to link the management measures for the ruddy duck and the conservation of the white-headed duck** to discuss future perspectives. This allowed **27 experts from 11 countries in Europe and North Africa** involved in the management of these species to exchange ideas and promote the impact of a joint fight against ruddy ducks in Europe as an accelerator for the conservation of the white-headed duck.

During this five-year LIFE project, several important results were achieved that led to a change in ruddy duck populations. **Rapid detection of the birds and a quick and sustained response led by a dedicated team are key to this success. Technical expertise** has also been gained and complementary management approaches developed, which are **shared with European partners** working together to tackle the species.

Although the wild population has declined significantly and reproduces less frequently, **there are still a small number of individuals.** As with most eradication efforts, collecting these last individuals is often the most difficult and can prove costly, especially in terms of staff time. This poses a significant risk to a rebound in the ruddy duck population. In addition, this project suggests that movements of birds between distant geographical areas are possible, raising concerns about dispersal from countries where the species requires more extensive control measures.



### Maintaining pressure on the French wild population to avoid breeding events..

**The number of ruddy ducks in France is low and is expected to be around twenty individuals at the end of LIFE.** LIFE was an opportunity to create a temporary team whose experience and equipment will be passed on to the permanent OFB officers who are most concerned about these animals. **Increased attention will be paid by institutional directorates and relayed by the permanent supervisors/experts who have led this LIFE project to ensuring that this priority is considered.** Technical workshops conducted internally will help to maintain the knowledge acquired. The management measures for Lake Grand-Lieu are included in the long-term objectives of the management plan for the National Nature Reserve and will be implemented by the SNPN, the reserve's manager.

### Maintaining and strengthening European cooperation

The control of ruddy duck populations is the responsibility of the States within the framework of the European plan for the eradication of this species. **International cooperation is therefore essential.** Currently, management measures are still weak in Germany and the Netherlands, where resident populations are still located. The transfer of knowledge acquired in France is foreseen through technical workshops in the countries concerned. The creation of a database listing observations and control operations at European level is also envisaged.



**The management of the ruddy duck is a good example of eradication of an invasive exotic animal species. As the eradication is almost complete, coordination between the different countries involved has been the main tool for this effective management.**



## PHOTO CREDITS

p. 1 : Éric Médard

p. 2 : Fight between ruddy duck and white-headed duck males / Éric Médard

p. 5 : Éric Médard

p. 19 : Waterbody at dawn / Éric Médard

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