TOUR DU VALAT

ACTIVITY REPORT 2024

Tour du Valat

Research institute for the conservation of Mediterranean wetlands

TOUR DU VALAT TEAM

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EDITORIAL

Unprecedented levels of coal, oil and gas extraction, global temperatures exceeding the +1.5°C threshold for the first time since the beginning of the industrial era, the cost of natural disasters fueled by runaway climate change... Many historic records were broken in 2024. We have entered a world that is increasingly chaotic and unstable. One by one, we are crossing planetary limits and, in this process, compromising our very own existence. Year after year, these warning signals are being confirmed and amplified, calling for urgent transformative change.

In this context, our societies have both the opportunity and the duty to transform the current model by adopting more sustainable and environmentally friendly practices. Leaders who enact this change can play a crucial role by strengthening regulatory and legislative frameworks to protect our planet, promoting rational thinking and scientific facts, while combating disinformation and fake news.

Scientists are indeed making progress, while civil society is mobilizing, weaving networks and creating new forms of solidarity. Numerous companies and financial actors are inventing new approaches, integrating sustainability into their models, taking account of not only financial capital, but also natural, social and human capital. Innovative projects are flourishing in the field, experimenting with promising new approaches.

No matter what some people think, the transition has already begun. Due to the physical limits of the current dominant model, the transformation of our societies is inevitable. Instead of passively enduring or delaying it, let us be the enthusiastic protagonists of this transformation, creatively inventing the solutions that can reconcile humanity with nature!

This vision of reconciliation has been guiding the Tour du Valat's work for over seven decades. More than ever, scientific excellence is at the heart of our approach, enabling us to produce robust data and useful information for taking action. More than ever, our vast and extraordinary open-air laboratory enables us to test out and provide concrete answers for adapting to climate change, restoring natural environments, and adopting an agroecological approach for prosperous, highly productive farming that respects biodiversity. Strongly founded on these two pillars - science and the management of natural and agricultural areas - we catalyze energies, in the Camargue and throughout the Mediterranean Basin, intensifying our advocacy efforts that will help to shape public policy.

Understanding, Managing, Conveying and, ultimately, Convincing. Those four words sum up our daily commitment to achieving this crucial reconciliation.

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ANDRÉ HOFFMANN
PRESIDENT

JEAN JALBERT
DIRECTOR GENERAL

THE TOUR DU VALAT

Created more than70 years ago by the visionary naturalist and philanthropist Luc Hoffmann, the Tour du Valat has developed its research activities for the conservation of Mediterranean wetlands with the constant desire to achieve better understanding for better management. Convinced that it will only be possible to preserve wetlands if human activities and the protection of natural heritage can be reconciled, the Tour du Valat has, for many years, been developing research and integrated management programmes that favour exchanges between wetland users and scientists, and promote wetlands benefits to decision makers.

OUR ORGANISATION

The Tour du Valat is a non-profit foundation with two management bodies that handle its governance: the Board, made up of three colleges – the Founders, Ex-officio members, and Qualified personalities – and the Science and Conservation Council, a body of internationally acclaimed scientists from major fields of wetlands research and conservation.

OUR LIFEBLOOD

In 2024, the Tour du Valat team was made up of 105 dedicated people - 85 Full-Time Equivalent positions (FTEs), broken down as:

- 7 FTEs on our Management team ;
- 50 FTEs on our Programme team (our 5 research theme teams and the library) ;
- 16 FTEs on our Resources team (accounting, cooking and cleaning, IT, human resources, communications and reception, development, and advocacy) ;
- 12 FTEs on our Estate team (Tour du Valat Estate; Petit Saint-Jean agro-ecological farm; Buildings).

The teams were supported by 5 work-study students, and 13 interns from universities or engineering schools and 16 volunteers, here are the details:

- 7 volunteers from the European Solidarity Corps, from Italy, Belgium, the Netherlands, Germany, and Greece, thanks to the Erasmus+/Youth and Sport programme ;
- 8 Civic Service volunteers et 1 volunteer as part of an experiment on Franco-Italian international civic service led by the DRAJES PACA (regional youth and sport directorate).

Bat night events at Tour du Valat with Marion Lourenco and Pauline Rocarpin (August 2024).
© Arsène Marquis-Soria

1954

FOUNDED BY LUC HOFFMANN

105 EMPLOYES

REPRESENTING

85 FULL-TIME EQUIVALENT POSITIONS (FTES)

SINCE 1954,

1728 Scientific

ARTICLES PUBLISHED

114

PH. D. THESES COMPLETED

3 DEFENDED IN 2024

PROJECTS IN

+ THAN 20

MEDITERRANEAN

COUNTRIES

WITH + THAN 300

PARTNERS

USE OF ORGANIC

FARMING AND AGROECOLOGY

CO2

EMISSIONS DIVIDED BY 5*

thanks to the use of wood chips for heating and bio-sourced materials for insulation

*Since 2009

WETLANDS,

are very productive yet highly threatened areas

-35%* Throughout the world

-48%* Mediterranean Region

*Between 1970 and 2015 according to the latest report of the MWO (MWO2) and the Ramsar Global Wetland Outlook

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From bottom to top and left to right

THIBAULT SCHWARSHAUPT

Technical Manager (bottom left)

AND HIS TEAM: MARIO ALBERT, CÉDRIC CAIRELLO, LUDOVIC MICHEL, CHRISTOPHE BELMONTE ET YANNICK MICHELIER

"Joining the Tour du Valat allowed me to reconnect with the values that are important to me. After several years of working in industry, reconnecting with the environment and helping to defend it was an obvious choice. It's an opportunity for me to help to address the challenges linked to nature, biodiversity, and global warming."

OUR ESTATES

The Tour du Valat estates cover a total area of almost 2,918 ha in two distinct geographical areas in the Camargue: the Tour du Valat Estate itself, near the village of Le Sambuc, with a total surface area of 2,817 ha, 2,164 ha of which are classified as a Regional Nature Reserve; and the Petit Saint-Jean agroecological farm, with a surface area of 101 ha, located in the Camargue, very close to Aigues-Mortes.

MANAGEMENT OF NATURAL AREAS

The estates have a wide variety of habitats and environments characteristic of the Camargue, some of which are relictual, such as the river dunes. They are home to many rare and endangered species. The "Estates" team works to guarantee optimal conditions for maintaining the biodiversity of our sites. To better understand and preserve the habitats and species, numerous monitoring operations and inventories are carried out on a regular basis.

MAINTAINING TRADITIONAL ACTIVITIES

We manage our own open-range herd of Camargue horses and bulls on the central part of the Tour du Valat Estate, with some 280 cattle and 45 horses. Other parts of the Estate are grazed by herds of Camargue bulls belonging to renowned local herdsmen.

On the Petit Saint-Jean agro-ecological farm, a herd of around 30 Raïole sheep has been established to control the vegetation in the vineyards, the meadow orchards, and the high fire risk areas. Mares are kept in the marshes in winter and Aubrac cows graze on regrowth from September to December.

AN AMBITIOUS PROJECT SHOWCASING AGROECOLOGY

Our agricultural activities are based on organic farming standards and integrate viticulture, rice farming, agroforestry, and diversified pastoralism. These projects aim to provide answers to current challenges linked to climate change and the erosion of biodiversity.

On the Petit Saint-Jean farm, the agricultural plots are cultivated according to the principles of agroecology, with the production of grapes for wine, fodder, potatoes, sweet potatoes, olives, almonds, and pomegranates. The 15 grape varieties currently grown offer a diversity of wine-making options.

SCIENTIFIC RESEARCH

Scientific research programmes are conducted on our estates by our teams of scientists to better understand the functioning of ecosystems and species in relation to the various activities developed, particularly in terms of agroecology.

Raïole sheep grazing on the Petit Saint-Jean agro-ecological farm.
© Arsène Marquis-Soria

The Tour du Valat is home to one of the last Camargue populations of the Cultriped Pelobate. In 2024, thanks to "Agence de l'Eau RMC", a study using environmental DNA aimed to detect its presence.
© Leslie-Anne Merleau

THE ESTATE AND ITS RESERVE

The Tour du Valat estate is home to a wide variety of natural environments typical of the Camargue, including vast temporary marshes, sansouïres, salt meadows and montilles. It is included in the IUCN Green List of Protected and Conserved Areas, in recognition of its equitable and effective management.

Liste Verte
Réserve Naturelle Régionale TOUR DU VALAT

HIGHLIGHTS

- **Extension of the Regional Nature Reserve (RNR):** *in July 2024, the "Region Sud - Provence Alpes Côte d'Azur" voted to label the new Tour du Valat RNR. With an additional 318.7 hectares, it now covers 2163.7 hectares, including part of the Lands of Moncanard and Giraud Nord.*
- **New management plan (2024-2033)** defining conservation issues and management objectives and strategies. It was validated by the consultative bodies at the end of 2024, and will be officially validated by the Region in mid-2025.

NEW MANAGEMENT ACTIONS

- **Improving the hydraulic functioning of the site**
  Several projects have been carried out to install and repair hammer mills, rehabilitate dikes and maintain infrastructures (observatories, fences, paths, signage).
- **Agriculture and soil enrichment**
  Cover crops of clover and vetch were planted to improve soil fertility before sowing durum wheat in November.

SCIENTIFIC MONITORING AND OBSERVATION OF BIODIVERSITY

The year 2024 was marked by significant winter rainfall after four years of drought, a major challenge for the estate team in terms of understanding how the site functions and the conservation issues at stake, particularly those linked to temporary ponds and marshes. Observations in these environments include two rare crustaceans — *Triops cancriformis*, *Imnadia yeyetta* —, rare plants — *Damasonium polyspermum*, *Lythrum tribracteatum* — and 13 emergence sites of *Lestes macrostigma*.

NEW SPECIES IDENTIFIED

- ***Canis aureus:*** arrival of the canid in the Camargue;
- ***Phallocryptus spinosus:*** rare crustacean of brackish lagoons, endangered (IUCN France red list);
- ***Lejops vittatus:*** rare syrphid, vulnerable according to IUCN Europe;
- ***Dolomedes fimbriatus:*** rare spider, vulnerable according to the IUCN World list;
- ***Calopteryx hémorroïdal:*** dragonfly;
- ***Acrocephalus agricola.***

BEAUTIFUL BIRD REPRODUCTION

Acrocephalus agricola
© Julien Birard

- Formation of a large colony of Ardeidae and *Plegadis falcinellus;*
- Colonies of *Himantopus himantopus* and *Glareola pratincola;*
- Contacts with *Zapornia pusilla* during the breeding season;
- Pairs of *Porphyrio porphyrio* on several marshes;
- Return of the *Lanius meridionalis* and *Falco naumanni*, which last bred in the Camargue in 1959!

THE AGRO-ECOLOGICAL FARM OF PETIT SAINT-JEAN

The Petit Saint-Jean agroecological farm, located on a former dune belt (known as the "Lido Godesque") between Aigues-Mortes and Sylvéréal, is characterised by the presence of three major landscape units: the relict dunes colonised mainly by pinon pine forests to the north, the agricultural unit in the centre and a mosaic of wetlands to the south.

LIVESTOCK FARMING AND AGRO-ECOLOGICAL ACTIVITIES

The sheep flock continues to grow, with the aim of reaching 50 Raïole ewes by next year. 2024 was marked by a higher frequency of rainfall in spring, favouring the development of fungal diseases, as observed elsewhere in France. This necessitated a large number of treatments for the vines, with the exception of the Floréal variety, which is reputed to be resistant to mildew and powdery mildew, and only received one treatment compared to eight for the other varieties. Despite this spring rainfall, the total annual rainfall did not exceed 450mm, confirming that the year was still deficient compared with historical averages.

BIODIVERSITY ON THE PETIT SAINT-JEAN SITE: MONITORING AND OBSERVATIONS

Anne-Colombe Lecomte, a civic service volunteer on the site, has compiled the fauna and flora data accumulated over the last few years. The inventories show:

- 35 species of mammals, including 16 species of chiropterans;
- 9 species of reptiles and 9 species of amphibians, including the Cultriped pelobate, for which the year was marked by a very successful reproduction in one of the forest pools;
- 119 bird species, including 54 breeding birds;
- 471 insect species and 80 spider species;
- 250 plant species, some of which are remarkable and protected at national level, such as *Scorzonera parviflora.*

In November, an inventory of mushrooms was carried out by the Association of mycologists of Occitania, listing 34 winter species.

Scientific research project

Initiation of a project to monitor the salinisation of the site by one of our scientific teams.

HIGHLIGHTS

- The 2023 harvest was vinified on site and bottled for the first time directly at the farm.
- As part of our commitment to direct sales, work continued on setting up an on-site sales outlet in the old wine storehouse.
- In all, more than 520 visitors came to the farm.

Harvesting - September 2024.
© Arsène Marquis-Soria

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MORGANE JOLIVET

Coastal morpho-dynamics and climate change project manager

"I coordinate the Rest-Coast project at Tour du Valat, as well as the Adapto+ project, which promote Nature-based Solutions and the restoration of coastal natural areas to fight against the effects of climate change."

THE PROGRAMME

ENHANCED EXPERTISE TO MEET GROWING CHALLENGES

In 2024, our Programme's activities focused on its fundamentals: excellence in scientific research and high-impact conservation activities.


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And it's not every day that we exceed our targets! We are very proud to announce that we now have five researchers in our ranks who are state-qualified to direct research (HDR) - one year ahead of our plans! After Arnaud Béchet and Marion Vittecoq, this year Jocelyn Champagnon, Elie Gaget, and Thomas Galewski received this precious recognition from their peers. Having additional opportunities to supervise PhDs in a variety of fields, with our partners at the EPHE and Aix-Marseille University, will be a great asset in the years to come. It will consolidate our already solid position: three PhDs were defended at or with the Tour du Valat in 2024 (Philippe Lambret, Leslie-Anne Merleau, and Amélie Hoste), and a dozen others are in progress. More generally, these HDRs consolidate the Tour du Valat's scientific legitimacy and reputation at this critical moment in which doubt mongers are questioning and relativizing scientific facts, feeling comforted by the current setbacks on various environmental issues. This new research capacity will help the TdV fulfil its historic mission of training young researchers and future managers in France and the Mediterranean Basin, and to further increase the quality and quantity of its publications in the best international scientific journals. This year we actually published more articles, and in even better-rated journals, than last year.

Our science and conservation team was strengthened over the past year in the key fields of ornithology, water management, adaptation to climate change, and geographic information and Earth observation systems; all areas in which the expectations of the Tour du Valat's partners are high, and its responsibility considerable. As a result, the Mediterranean Wetlands Observatory, a joint initiative with our MedWet partners, has embarked on a major endeavor to deliver a third edition of the Mediterranean Wetlands Outlook in 2025. This report, which is regularly cited as an example within Ramsar Convention bodies, will provide an up-to-date summary of current knowledge on wetlands, based on 19 indicators that have now been adapted to the national scales of the 27 countries around the Mediterranean Basin.

More locally, the Natur'Adapt Sud project, which began this year under the coordination of the Tour du Valat and the CEN PACA (Natural Area Conservancy), with support from the Région Sud and the Fonds Vert (Green Fund), aims to take into consideration the impacts of climate change in the management plans of 13 nature reserves in the PACA region. This project will enable us to significantly develop our expertise in this field, provide us with an ideal observation post on the challenges of adapting natural ecosystems to climate change, and position the Tour du Valat as a regional leader on these issues. This experience will be shared with our partners in Mediterranean countries, with which we continue to increase our cooperation. This is particularly true in the field of ecological restoration of wetlands, from Turkey to Morocco via the Balkans. We now need to put into practice the international commitment adopted in 2022 by 196 countries as part of the Biodiversity Convention, to ensure that by 2030 at least 30% of degraded ecosystems are effectively restored. The technical, political, and financial challenges are enormous.

RAPHAËL BILLÉ
PROGRAMME DIRECTOR

Spoonbills in the colony at “Les Impériaux”, nature reserve in the Camargue (photo taken by camera trap).
© Tour du Valat

Species conservation

The Mediterranean basin is a biodiversity hotspot. While some taxa are showing positive trends, wetland biodiversity, which includes many endemic species in the Mediterranean basin, is shrinking. Birds, reptiles, amphibians and fish are threatened by direct and indirect factors, including climate change, habitat destruction, pollution, recreational disturbance, legal and illegal harvesting, infrastructure development, inadequate water management and invasive alien species.

The main conservation challenges are to generate scientific knowledge on the effects of threats on the dynamics and distribution of these populations, to assess the effects of management actions, and to raise awareness among experts and political decision-makers through key messages. In this theme, we focus on taxa about which we have studied for many years, namely birds, fish, reptiles and amphibians. Long-term monitoring of populations places us in various international networks of researchers and managers. These networks help us to improve population estimates, identify negative trends, and work together to prevent the destruction of wetlands. In addition, our expertise is transferred to the Mediterranean community, stakeholders and managers through expert committees, online courses, training courses, workshops, guides, reports and publications.

We have organized the theme into three complementary areas:

- populations whose status is unfavorable and which require judicious action based on up-to-date scientific knowledge;
- the study of the direct and indirect negative effects of anthropogenic factors on wetlands, such as the increase in native or exotic predators, hunting, or the colonization of invasive exotic species;
- the study of connectivity disruptions due to human disturbance (physical or chemical barriers that are common and increasing in the Mediterranean).

JOCELYN CHAMPAGNON | COORDINATOR

THE PROJECTS

1 Reversing the decline of threatened populations

JOCELYN CHAMPAGNON | champagnon@tourduvalat.org

2024 was an exceptional year for the breeding of the Collared Pratincole in the Camargue, despite a difficult start to the year due to heavy rainfall. The Collared Pratincole, an endangered species in France, nests on the ground in drained marshes, ploughed fields or agricultural wasteland, making it particularly vulnerable to natural or man-made submersion. This year, 223 pairs were counted in the Camargue, making it the largest breeding population ever recorded since monitoring began in 2000 (the previous record was 130 pairs in 2022). It is possible that the good winter conditions in sub-Saharan Africa in recent years have contributed to the increase in numbers, and that the awareness-raising measures implemented in the Camargue have also favored their settlement.

2 Providing management solutions to improve the status of vertebrate communities

ARNAUD BÉCHET | bechet@tourduvalat.org

Hunting plays a unique role in the management of the Camargue environment. Hunting marshes, whether protected or not, contribute to the preservation of our natural and cultural heritage. In the spring, several meetings were held on hunting sites, bringing together managers of protected areas and hunting marshes, and scientists. The fruit of these workshops is a collective work on the management of Camargue wetlands hosting Anatidae.

3 Ensuring ecological connectivity for species migration and dispersal

DELPHINE NICOLAS | nicolas@tourduvalat.org

Hugo Ferreira completed his doctoral thesis on the demographic processes of the Eurasian Spoonbill, a migratory bird faced with global change.

His results showed:

- the ability of this bird to adapt to a mosaic of habitats in the Camargue, taking advantage of the complementarity of habitats managed by different actors (marshes managed for hunting, managers of protected natural areas) according to the phases of its life cycle;
- while some individuals remain in the Camargue all year round, others undertake migrations over more or less long distances. Higher mortality was detected at the most remote sites (Senegal, Mauritania, Tunisia). As with other migratory bird species, crossing the Mediterranean Sea and the Sahara appears to be a risky business, particularly for young birds.

"Management of hunted marshes in Camargue" collective work.

Collared pratincole in flight.
© Marc Thibault

Focus

SPECIES CONSERVATION

Study of the sedentary status of European eels in a Mediterranean lagoon system

The European eel *(Anguilla anguilla)*, a critically endangered migratory species, has suffered a population decline of over 90% since the 1980s. Eels begin their lives as a marine species, growing in continental European and North African waters for several years (from 2 to over 30 years), during which time they are exposed to multiple pressures.

The eel is characterized by its great phenotypic plasticity, adapting its life-history traits to the environmental conditions of its growing environment. This species can colonize a wide range of continental habitats, from coastal waters to brackish lagoons and freshwater channels. During its growth phase, it adopts a mostly sedentary lifestyle, although some individuals exhibit what is described as “nomadic” behavior. The latter may move through environments with very contrasting environmental conditions, particularly in terms of salinity. Beyond simple exploration, these movements could enable eels to find habitats richer in trophic resources, gain more living space and/or avoid unfavorable abiotic conditions. Although these movements may influence eel growth, studies on habitat utilization tactics are still lacking, particularly within Mediterranean lagoons. These ecosystems are often characterized by a broad mosaic of fine-scale habitats and offer great potential for rapid eel growth as well as massive production of future spawners.

One aspect of Amélie Hoste’s thesis, defended in December 2024, focused on the study of eel growth within the Rhône delta, also called lagoon hydrosystem. Using the microchemistry of otoliths, calcium carbonate concretions found in the inner ear of fish, the aim was to characterize the habitat use tactics of eels (sedentary or nomadic) within the delta. A total of 150 individuals were sampled in four habitats with contrasting conditions of salinity and ecological continuity. Based on the analysis of Strontium/Calcium (Sr:Ca) and Barium/Calcium (Ba:Ca) ratios recorded in otoliths, the first challenge was to characterize the different salinity conditions that could be experienced by individuals over a four-year period (2017-2020). Next, the aim was to reconstruct, for each individual, its habitat use tactics: to determine whether the individual was sedentary (same conditions recorded over the 4 years) or nomadic (at least one move between two types of conditions).

Scientific monitoring of eels, Vaccares Lagoon, Camargue National Reserve.
© Arsène Marquis-Soria

RESULTS

Three main habitat types (freshwater, brackish and saltwater) were characterized, and a wide diversity of habitat use tactics was revealed (Figure 1). As expected, the majority of individuals (68%) opted for a sedentary lifestyle, remaining in a single habitat type throughout the four years study period. Of these, 49% were sedentary in freshwater, 11% in brackish water, and 8% in saltwater. Nevertheless, around 30% of all individuals sampled showed nomadic behavior, moving between at least two distinct habitat types. Of these nomadic eels, over 40% used all three habitat types, although they spent the majority of their time in freshwater. The observation of this diversity of behavior suggests that some individuals may seek to optimize their growth by exploiting different resources or avoiding unfavorable environmental conditions.

This underlines the importance of hydro-ecological continuity in these lagoon environments, where environmental conditions can vary greatly. What's more, once their growth phase is over, silver eels seek to reach the sea in order to migrate to their breeding grounds. Any delay or obstacle to their migration could have an impact on their reproductive success and therefore the survival of the species. Work such as the creation of a fish pass at the Fourcade inlet (the main connection to the sea) is therefore planned to promote hydro-ecological continuity in the lagoon system of the Rhône delta.

Silver eel
© Cyril Girard

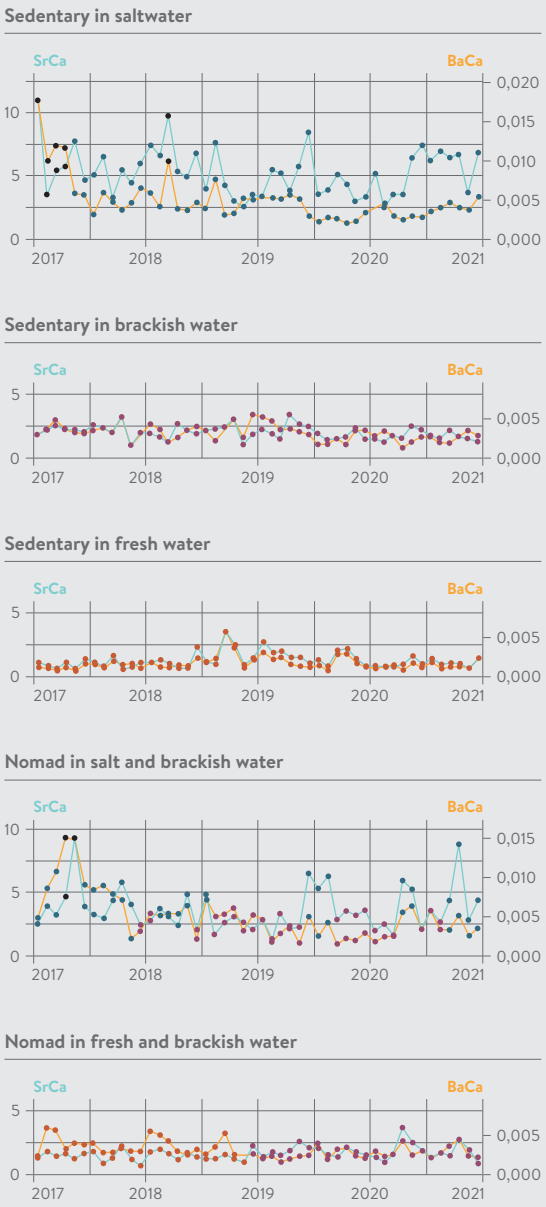

Figure 1.
Sr:Ca (light blue) and Ba:Ca (yellow) ratios in 5 individuals illustrating different habitat use tactics of European eels during their previous four years of life (habitat use tactics considered as A- sedentary, or B- nomadic). The dots represent the environmental conditions experienced by the individual (dark blue: salt water, purple: brackish water and orange: fresh water).

POST DOCTORAL RESEARCHER **Amélie Hoste** | hoste@tourduvalat.org

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Financial: WWF France, ANRT, CIFRE

European Pond Turtle
© Jean Emmanuel Roché

Health ecology

A major threat to Mediterranean wetlands, pollution has a direct impact on biodiversity and water quality. Infectious diseases are another direct threat to certain vulnerable species. Their circulation in wildlife can also have an impact on the health of humans and domestic animals. The general aim of this theme is to help limit the impact of pollution and infectious diseases, which are often linked, on wetland biodiversity. To accomplish this objective, we are developing long-term studies focused on the diversity of diseases and pollutants to which the entire biocenosis is exposed.

This theme focuses on two areas:

- understanding the impact of pollutants on vertebrates;
- reducing the direct and indirect impacts of infectious diseases on wetlands.

The aim of these two areas is to develop practices that are more respectful of the environment to ensure greater resilience of ecosystems and limit the occurrence of large-scale health crises. This theme is part of the “One Health” approach, which emphasizes the links between human, animal, and environmental health.

Four new projects were launched in 2024. The HUGS project is an extension of our work on Yellow-legged Gulls. It aims to gain a better understanding of their strategy for using urban space and landfill sites. Involved in the Camargo project, which is run by the French Agency for Food, Environmental and Occupational Health & Safety (ANSES), we are working with our partners to set up active surveillance of avian influenza in wild birds in the Camargue. Gauthier Vercher’s PhD project is supporting this initiative by developing a model to predict the risk of the presence of these flu viruses in France. Through the Arche project, we will be working on the conditions in which a new disease — Crimean-Congo haemorrhagic fever — is emerging in the South of France. Likewise, Mélanie Gippet’s thesis will be investigating the presence of tick vectors and their wild mammal and bird hosts. Finally, we are also partners in the Zoocam project, which was launched as part of the CNRS Camargue workshop zone. Its aim is to gain a better understanding of the local circulation of pathogens likely to be exchanged between humans and wildlife.

MARION VITTECOQ | COORDINATOR

THE PROJECTS

1 The European Pond Turtle: a sentinel species for the state of contamination of wetlands

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In September 2024, Leslie-Anne Merleau successfully defended her thesis on the exposure of European Pond Turtles to pesticides and trace metals (TMEs), and the effects of this contamination. A second article based on her work has been published (Merleau et al., 2024). In this study, we detected seven TMEs (out of the fourteen investigated), the levels of which depended on site and individual characteristics.

TMEs were particularly present at the Esquineau site, which is directly irrigated by water from the River Rhone. Blood mercury concentrations were positively correlated with body size and age, indicating an increase in exposure for older individuals.

2 Yellow-legged Gulls: witnesses and actors in the dispersal of plastics and antibiotic-resistant bacteria

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We have continued to study the contamination of gulls by plastic. We published an article (Nono-Almeida et al., 2024) comparing the presence of plastics in regurgitated pellets from eleven colonies in Catalonia, southern France, and Tunisia. Plastic was found to be ubiquitous across all sites, with 79% of pellets containing it, although there were variations between colonies. It is mainly packaging plastic.

We also checked whether the GPS tags that we place on birds has any impact on the reproduction of the individuals monitored. No apparent impact was detected. This analysis was also written up in an article (Souc et al., 2024).

3 Antibiotic resistance dynamics

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In collaboration with the MIVEGEC (Infectious Diseases and Vectors: Ecology, Genetics, Evolution and Control) unit, we have continued to explore the diversity of antibiotic-resistant bacteria carried by wildlife in the Camargue, focusing on carbapenem-resistant Enterobacteriaceae. These latest-generation antibiotics are used in hospitals when other classes of antibiotics have failed. The emergence of resistance to this group is therefore a cause for concern. We had already identified such antibiotic-resistant bacteria in Yellow-legged Gulls. This time, we have detected them in bats of the genus *Pipistrellus*. Our analyses are still under way and should be published in 2025.

4 Trematode dynamics

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The launch of the Zoocam project gives us an opportunity to extend our trematode research, which used to be focused on the Tour du Valat Estate, to around forty sites throughout the Rhone Delta. Environmental DNA found in water samples will be used to detect traces of the presence of trematodes and their vertebrate and invertebrate hosts. This work will enable us to map the diversity of these parasites and understand their temporal dynamics.
The potential impact of various contaminants, such as plastics, on the transmission of trematodes will also be studied.

Gull during a ringing operation on the Ile du Frioul in Marseille, June 2024.
© Arsène Marquis-Soria

Focus

HEALTH ECOLOGY

Persistent lead contamination in waterbirds in the Camargue

A study carried out jointly by the Tour du Valat and the Office Français de la Biodiversité (OFB) reveals that waterbirds in the Camargue continue to be substantially poisoned by lead shot. The 2006 regulation banning the use of lead ammunition in wetlands is still poorly respected by local hunters, more than 10 years after it was adopted.

Lead pollution is a global environmental and health problem with persistent adverse effects on humans and wildlife. Although lead has been identified as a substance harmful to waterbirds for at least a century, the use of lead cartridges for hunting was not banned in France until 2006, and only in wetlands.

We use long-term follow-up data to:

- assess the effectiveness of French regulations in reducing the ingestion of lead shot by waterfowl;
- assess whether local hunters comply with regulations.

For this purpose, we have analysed the contents of 2,187 gizzards from 13 species of waterfowl, collected from 38 hunters in the Camargue over 20 consecutive hunting seasons (from 1998 to 2017). In addition, from 2008 to 2019, we collected a total of 3,963 casings from three communal hunting trails located around the Tour du Valat Estate. The ratio of lead cartridges to non-toxic cartridges collected is a good indicator of compliance with the regulations.

Anas acuta
© Thomas Galewski

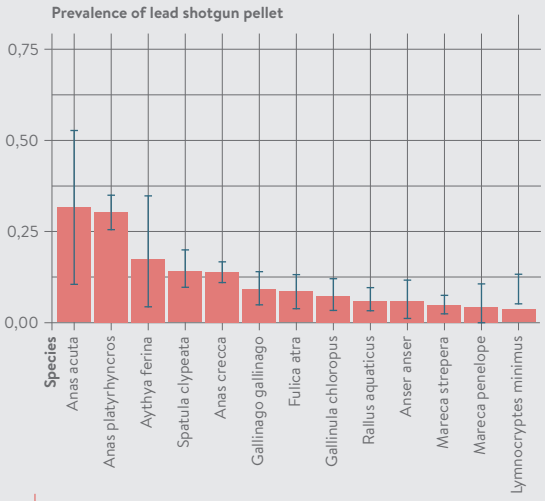
Over the 20-year study period, before and after the ban (1998-2017), harvested gizzards showed **an average prevalence of 12% lead shot for the 13 species, with no significant reduction over time.** The use of non-toxic cartridges by communal hunters increased slowly after the lead ban in 2006.

However, the persistent presence of lead cartridges in large numbers (55% of cartridges collected during the 2019-2020 hunting season were lead cartridges) indicates non-compliance with the regulations.

While the contamination of waterbirds may be partly due to the persistence of lead shot in sediments long after the ban, monitoring carried out on the trails used by hunters shows that lead shot continues to be illegally introduced into wetlands by hunters, despite efforts to convince them of the effectiveness of non-toxic ammunition (training courses, publication of comparative tests).

Lead cartridges (foreground) and non-toxic cartridges (background) collected from the trails used for hunting around the Tour du Valat Estate during the 2009/2010 hunting season.
© Anthony Olivier

As the ban on the use of lead ammunition only applies to hunting in wetlands and their immediate surroundings (30m), hunters must be caught in the act with their rifles loaded with lead cartridges in order to be fined. As transporting lead cartridges remains legal, this encourages non-compliance with the ban.



Prevalence of lead shot in the gizzards of 13 waterbird species collected from partner hunters.
Réalisation : Charly Souc

To remedy these difficulties, Regulation 2021/57 of 25 January 2021 (European Union, 2021) now bans (since February 2023) the use of lead cartridges in wetlands and within a 100-metre perimeter around them, as well as the carrying of such cartridges when hunting in wetlands. While this regulation, which has not yet been fully transposed into French law, is intended to facilitate controls, studies have shown that only countries that have adopted **a total ban on lead ammunition, both in wetlands and in terrestrial habitats,** have succeeded in substantially reducing lead concentrations in game meat. A ban on all lead ammunition, currently under consideration as part of the European Union's REACH chemical regulation process, would make it possible to achieve this total ban.

To find out more › DOI : A. Béchet, A. Olivier, F. Cavallo, L. Sauvajon, J. Champagnon, P. Defos du Rau & J.-Y. Mondain-Monval (2025). Persistent lead poisoning of waterfowl in the Camargue (southern France) 10 years after the ban on the use of lead ammunition in wetlands. Conservation Science and Practice, e70045. **https://doi.org/10.1111/csp2.70045**

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TEAM Anthony Olivier, Jocelyn Champagnon and Arnaud Béchet
PARTNER **Technical and financial:** OFB (French Biodiversity Agency)

In 2024, the Verdier Marshes Association welcomed new visitors including children from the Fos-sur-Mer day-care centre.
© Arsène Marquis-Soria

Management and restoration of natural and agricultural ecosystems

In order to conserve the rich biodiversity associated with wetlands, we work at different scales in different geographical zones. It has been shown that it is more efficient and effective to conserve existing wetlands as it is often difficult or impossible to restore destroyed wetlands to their pre-existing conditions. However, when damage or destruction has already occurred, restoration can be proposed as an option to improve wetland functions and biodiversity.

We use both approaches to ensure sustainability of wetlands, today and in the future. Our management activities aimed at conserving existing wetlands are constantly evolving to meet the changing contexts. Global changes, including climate change and social-economic activities, are taken into account in all of our management and restoration activities to meet new threats and to find suitable alternatives. By looking outside of the strictly protected areas, we are able to study and improve the existing activities to find solutions that take into account both the human and natural aspects of wetlands.

The Tour du Valat land, including the Tour du Valat, Petit Saint-Jean and Verdier marshes are real open air laboratories where we test different management and restoration techniques. We also worked with local private and public landowners to continue our management and restoration activities on over 3,000ha of wetlands in the Camargue.

Also, we worked with our partners to advocate so that the European nature restoration law would be adopted. This law, which came into force on 18 August 2024, aims to reverse nature loss, help achieve climate neutrality, and better prepare Europe and make it more resilient to the effects of climate change.

LISA ERNOUL | COORDINATOR

THE PROJECTS

1 Wetlands management and restoration

LISA ERNOUL | ernoul@tourduvalat.org

We have improved the functioning and hydrological management of two Camargue sites, Petit Badon and Cassaïre. As part of the Rest-Chir'Eau project (funded by the Rhône Mediterranean Corsica water agency), we have launched field monitoring to gain a better understanding of the functionality of wetlands and the "Trame Turquoise", based on bats activity. **Evaluation of the creation of temporary ponds in the Camargue is continuing,** in particular with the publication of a new indicator (Hugo Fontes, in the journal *Restoration Ecology*) that makes it possible to assess the success of ecological restoration by taking into account the variability of the reference ecosystem.

Philippe Lambret defended his thesis on the conservation of *Lestes macrostigma*, a priority species in the National Action Plan for Dragonflies, providing knowledge to guide the restoration and management of temporary brackish environments. The regional version of the action plan has been validated and implemented. **At the "Étangs et marais des salins de Camargue" site, we continued our work,** with post-restoration monitoring of the lagoons and assessment of invasive alien plant species. Preliminary studies were carried out to restore the habitats of Lestes macrostigma, and 1.4 ha of riparian vegetation on the Grand Rhône was entrusted to us for management.

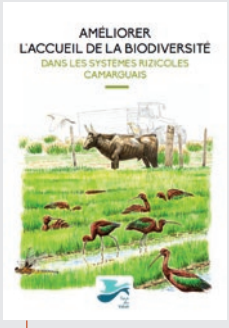
We strengthened our work in the Mediterranean basin through the Green Light protocol (funded by the Prince Albert II of Monaco Foundation) **and the ProZhum project** (funded by the "Agence Française de Développement"), which enabled us to co-fund a Mediterranean thesis in collaboration with the University of Ege, on the restoration of a branch of the Gediz river (Turkey).

The RESCOM project (financed by the FFEM and the Mava Foundation and led by the Consortium Mediterranean Consortium for Biodiversity) has initiated ecological diagnostics at its various pilot sites in Albania, Morocco, Montenegro, Tunisia, Turkey and Italy — in order to identify priority actions for managing and restoring ecosystems. The launch of a call for small-scale projects aimed at local civil society organizations in the six partner countries will enable us to increase the implementation of demonstrative and replicable Nature-based Solutions in the Mediterranean.

2 Studying and promoting agroecology

ARNAUD BECHET | bechet@tourduvalat.org

This research-action aims to gain a better understanding of the links between biodiversity and agricultural practices in Mediterranean wetlands. In our study of the link between the landscape — in particular field-side infrastructure — and the hosting of biodiversity, we highlighted the presence of 26 bat species (out of 36 in France) in the agricultural environments of the Camargue, underlining the importance of these environments for this declining taxon. Monitoring of 56 bird nesting boxes in farmers' fields shows a stable occupancy rate between 2023 and 2024 (46%), with a positive response from the barn owl, suggesting good potential for restoring this declining species.



Brochure "Improving the hosting of biodiversity in Camargue rice production systems". © Cyril Girard

Divjaka-Karavasta National Park, Albania, one of the six Rescom Project pilot sites. © Marion Douchin

Focus

ECOSYSTEM MANAGEMENT

Improving the hydraulic management of the previously recreated temporary Cassaïre Marsh

The Camargue wetlands have been fed by an irrigation network since concrete banks were built along the Rhone. A pumping system is required for ones like the Cassaïre Marsh, which cannot be fed by gravity. To minimise the use of non-renewable energy and management costs, a wind pump was installed on this temporary Mediterranean marsh recreated on former farmland. However, wind power alone was not sufficient to achieve the flooding targets, so with financial support from WWF France, photovoltaic panels were installed and the pumping capacity increased.

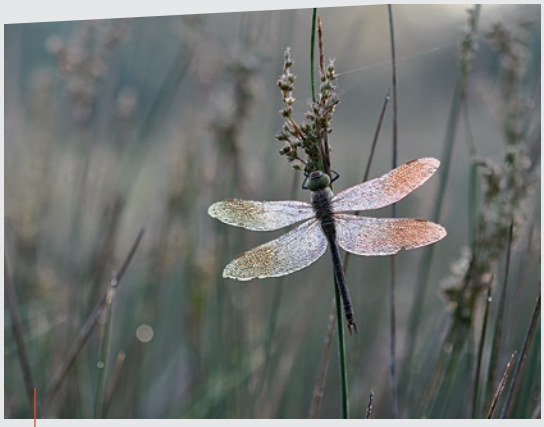
MANAGEMENT PRINCIPLES AND IMPROVED PUMPING

The management guidelines set by the Conservatoire du littoral (coastal protection agency) and the Friends of the Vigueirat Marshes – the former is the site owner and the latter its manager – take account of both conservation and social issues. It is a compromise between the expression of Mediterranean biodiversity, which is favoured by a dry phase in summer, and traditional activities such as hunting, as hunting management in the Camargue involves summer flooding to ensure the presence of aquatic grass beds and waterfowl as soon as the hunting season opens. For the Cassaïre Marsh, the plan is to flood the marsh later and maintain flooding until spring.

The Cassaïre Marsh, with its wind and solar pump.
© Loïc Willm

The pump's inadequate capacity created uncertainty as to the dates of flooding and filling capacity, resulting in impromptu dry periods, with deleterious effects on aquatic biodiversity and hunting. The additional solar system has been operational since the 2022-2023 flooding phase and now makes it possible to achieve the marsh flooding targets. Although the use of solar energy requires expensive equipment, the savings made on electricity bills guarantee a return on investment.

EFFECTS ON BIODIVERSITY



Anax parthenope is thriving again on the site.
© Philippe Lambret

While some ruderal and prairie plants still reflect the site's agricultural past, the development of *Lythrum tribracteatum*, which is characteristic of the terrestrial phase of temporary marshes, shows that conditions are favourable for this protected species. Charophyte freshwater algae (dominated by *Chara vulgaris)*, which are particularly popular with Anatidae, have developed further. Other aquatic plants typical of temporary habitats have also been favoured, such as *Tolypella hispanica*, *Callitriche truncata* and *Zannichellia obtusifolia* (protected and threatened in the Provence-Alpes-Côte d'Azur region).

Continuous flooding from autumn to spring now allows the larvae of several dragonflies and damselflies, such as *Sympecma fusca*, *Anax parthenope*, and *Sympetrum fonscolombii* to develop successfully. The observation of *Lestes macrostigma* egg-laying in 2024 raises hopes that this priority species will be able to reproduce at the Cassaïre Marsh. For this to happen, their egg laying areas must not be flooded before late autumn.

In addition to the rapid recolonisation of the Marsh by the Mediterranean Tree Frog, the Common Parsley Frog has started to reproduce again. Both species prefer temporary, well-vegetated bodies of water with few fish. In addition, the observation of a Palm Newt larva, a rare species in the Plan du Bourg, shows the potential of this marsh for amphibians.

Lissotriton helveticus larva.
© Loïc Willm

ENVIRONMENTAL EDUCATION

The Cassaïre Marsh was used as an Educational Land Area in partnership with the CPIE Rhône Pays d'Arles (environmental initiatives centre) and Mas-Thibert primary school. The site was used as an educational tool to raise awareness among 8- to 10-year-old school children about wetland conservation and water management issues. As part of this project, a "children's council" has developed projects to manage the site, which they have passed on to new students from one year to the next.

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TEAM Anthony Olivier, Hugo Fontès and Loïc Willm

PARTNERS **Technical:** Friends of the Vigueirat Marshes (Amis des Marais du Vigueirat)
Financial: WWF France

RETROSPECTIVE 2024

1954-2024 : Celebration of our 70th anniversary!

THE CHANCE TO TAKE A BEAUTIFUL PICTURE OF OUR FAMILY!

© Hervé Hôte / Agence Caméléon

© Philippe Praliaud / Agence Caméléon

FACING UP TO THE ECOLOGICAL EMERGENCY, TAKE ACTION!

Round table with Dr Musonda Mumbala, Secretary General of the Ramsar Convention, Sébastien Treyer-Iddri, Dr Ana Rodrigues- CEFE-CNRS and Jean Jalbert.

© Arsène Marquis-Soria

ENOUGH TO MAKE OUR EMPLOYEES WANT TO CLIMB THE TREES!

LOOKING FOR... SPOONBILLS

© Tour du Valat

© Arsène Marquis-Soria

OLIVIER FAURE CATTLE SORTING CHAMPIONSHIP AT THE TOUR DU VALAT

33 riders came to demonstrate their skills in sorting bulls on horseback.

© Cécile Génot – OFB

THE FRENCH BIODIVERSITY AGENCY AND THE TOUR DU VALAT FOUNDATION

Signing of a new multi-year framework agreement to strengthen collaboration for the protection of biodiversity!

© Arsène Marquis-Soria

AGROECOLOGY LIVE!

Agroecological farm of Petit Saint-Jean.

Flamingo lovers

INTERNATIONAL FLAMINGO EXPERT WORKSHOP

30 experts from 11 countries gathered in the Camargue to share their latest knowledge of flamingo colonies around the Mediterranean basin, Eastern Europe and the Middle East.

© Arsène Marquis-Soria

© Marion Douchin

ON THE AIGUES MORTES SALT MARSHES, FINAL PORTRAIT AT OUR GREATER FLAMINGO RINGING DAY

450 chicks were ringed!

© A. Chen

2024 FLAMINGO SPONSOR'S DAY

Charlotte, our communication ambassador, transmits her bubbling energy to our "Adopt a Flamingo" partners.

Topographic and bathymetric survey south of Beauduc Lagoon on the former Camargue saltworks site.
© Loïc Willm

Wetland dynamics and water management

Climate change is exacerbating already existing environmental problems in the Mediterranean Basin, due to unevenly distributed water resources, increasing pollution, and changes in land use such as the conversion of natural wetlands into urban and agricultural areas or artificial wetlands.

Land use and water management choices and policies are complex processes resulting from numerous socio-economic factors. They involve stakeholders with sometimes conflicting interests. In addition, the socio-economic and political context tends to generate short-term responses that do not adequately address long-term environmental problems.

In this context, our team is working to:

1. inform decision-makers, stakeholders, and managers and raise their awareness of the changes affecting Mediterranean wetland habitats (losses, conversions, hydrological alterations);
2. help them to substantiate their water management choices:
   - with the best possible compromise between all the issues and uses of these areas in terms of biodiversity, human activities, and other concerns;
   - by looking not only at resolving short-term problems, but also addressing long-term ones.

OLIVIER BOUTRON | COORDINATOR

THE PROJECTS

1 Understanding the spatial and temporal dynamics of wetlands

ANIS GUELMAMI | guelmami@tourduvalat.org

In 2024, the European **RESTORE4Cs** project finalised its four sampling campaigns during each season at six pilot sites in Europe (including the Camargue). These data on the capacity of coastal wetlands to sequester atmospheric carbon according to different management and restoration practices are valuable for understanding the role of these ecosystems in mitigating the effects of climate change.

Beyond carbon sequestration, the project also explores the broader benefits of coastal wetland restoration, particularly for biodiversity conservation and water cycle regulation. In 2024, the project integrated Earth Observation tools and data, on a pan-European scale, to monitor and map the main characteristics of coastal wetlands necessary for the maintenance and enhancement of their ecosystem services, such as the sequestration of carbon and other greenhouse gases.

All this information will be combined to develop a decision-making toolbox to support the implementation of climate and biodiversity conservation policies within the framework of the European Green Deal and the Nature Restauration Law.

In 2024, we contributed to the deployment of **the Sabou Water Fund in Morocco,** thanks to the production of numerous databases on water and wetlands, as well as the collection of data already available. This work made it possible to develop a **DPSIR (Drivers-Pressures-State-Impacts-Responses)** analysis for the entire Sebou catchment basin, highlighting the interconnections between water resource governance and management policies, and their impacts on aquatic ecosystems, their biodiversity as well as the many services they provide to society. These results are currently being integrated into an interactive geoportal, a tool for knowledge transfer and decision support.

2 Informing water management

OLIVIER BOUTRON | boutron@tourduvalat.org

Within the **REST-COAST project,** field monitoring and modelling make it possible to estimate the consequences of abandoning the dykes south of the Etangs et Marais des Salins de Camargue (former Camargue saltworks) on geomorphological, hydro-salinity and vegetation dynamics, and on greenhouse gas emissions (project with the INRAE).

As part of the **LIFE Adapto+ project,** we are studying flexible and sustainable shoreline management strategies at several pilot sites to cope with rising sea levels. For the support mission for lagoon managers in relation to the risk of eutrophication, the study for the Campignol site has been finalised. The mission has started work on 5 other lagoons (Vendres, Palavasiennes, Vaccarès, Scamandre, Berre).

Rose Rodier (PhD, in collaboration with INRAE Colmar) submitted an article on a conceptual model of the socio-ecosystem of the Camargue, which highlights the complex relationships (causal chains, feedback loops, interactions, side effects and compromises) that exist in the Delta.

During his post-doctoral research, Clément Fabre simulated the saline wedge intrusion into the Great Rhône for the RCP4.5 and RCP8.5 climate scenarios (including sea level rise). Four collective irrigation pumping stations located on the Great Rhône will be significantly impacted in the future. For example, the “Chamone station”, which supplies the agricultural catchment area to the south-east of the Delta, will be confronted with the presence of salt on average 52% of the time during the rice-growing period for the period 2071-2100 (RCP8.5). The organic carbon dynamics have also been simulated throughout the Rhone catchment area.

The European RESTORE4Cs project aims to provide better information on the role played by coastal wetlands in mitigating the effects of climate change through carbon and GHG sequestration.

© Fabrizio Lecce, Università del Salento / LifeWatch ERIC

Focus

WATER AND WETLANDS

Contribute to the sustainable management of coastal zones, reconciling ecological restoration and adaptation to climate challenges

The European REST-COAST project (Large scale RESToration of COASTal ecosystems through river to sea connectivity) is an applied research project launched in October 2021 and will be run until 2026. Coordinated by the Polytechnic University of Catalonia, it is carried in the Camargue by the Tour du Valat. The Etangs et Marais des Salins de Camargue (EMSC-former Camargue saltworks) is one of the nine sites included in this project, which brings together 38 partners from 11 countries.

Based on restoration projects at these pilot sites, REST-COAST aims to identify the various levers and potential obstacles to restoration actions, such as the expected benefits of these actions, their resilience to climate change and management choices, and the governance and financial mechanisms that can be mobilised. The development of appropriate methodologies and the results obtained over the course of the project will enable replication on a larger scale, facilitating the restoration of European coastal environments in response to the climate emergency and the loss of biodiversity.

South of the Beauduc Lagoon, where more than 300 m of sandy lido has been reconstituted since 2010.
© Loïc Willm - Antoine Arnaud

The restoration project on the EMSC site, which has been underway since 2014, aims to restore hydrological continuity on this former salt production site following the abandonment of the old hydraulic works (pumping and floodgates), thereby promoting the restoration of functional Camargue habitats. On the coastline, the abandonment of the old dyke will allow the coastline to evolve freely and recreate a sand barrier. The aim is to recreate a buffer zone of 4,600 hectares between the coast and the sea wall 7 km inland to mitigate the effects of climate change.

As part of REST-COAST, a combination of approaches is being developed on the EMSC site to assess the effects of restoration, as well as the obstacles and levers that can guarantee sustainability and resilience in the face of climate change, and sea-level rise in particular.

The effects of the restoration work carried out within the EMSC management plan are monitored using various field protocols. Hydro-salinity and plant dynamics are studied throughout the site, using regular or seasonal surveys. The ecological restoration trajectories of the main lagoons are being assessed through the implementation of monitoring protocols for the benthic and surface water compartments, equivalent to those defined in the European Union's Water Framework Directive. The potential for sequestering and emitting greenhouse gases was assessed during campaigns in 2023 and 2024, in relation to the various habitats on the site. In addition, geomorphological changes were monitored using two LiDAR (airborne laser) surveys over the entire site, as well as seasonal monitoring of the freely evolving beach area to the south of the site.

Thanks to this collection of data, which provides a better understanding of hydraulic mechanisms, prospective studies can be carried out to assess the potential impact of rising sea levels on the site's restoration trajectory. The effects of rising sea levels are simulated using modelling tools to characterise future water levels, salinity and erosion on the freely evolving beach. These results also inform us of the possible impacts that these water levels will have on the environment, habitats and species.

All this scientific work will help to define possible evolving trajectories for the site, identifying the tipping points beyond which the restoration actions implemented will reach their limits in terms of responding to the effects of climate change, and where new measures will need to be implemented, with the aim of promoting adaptive management.

Evolution of the coastline eastwards at the Beauduc lighthouse, Camargue between 2014 and 2019.
© Jean Emmanuel Roché

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TEAM Emilie Laurent, Loïc Willm, Marc Thibault, Lisa Ernoul, Hugo Fontès, Antoine Gazaix and Samuel Hilaire

PARTNERS **Scientific:** 38 partners from 11 countries › https://rest-coast.eu/partners
Financial: European Union, Horizon 2020 Innovation Action programme, project n° 101037097

Training lagoon managers in macrophyte identification with Nicolas Borel, Camargue, Life Marha.
© Pôle-relais lagunes méditerranéennes

Science and society interfaces

Everywhere in the Mediterranean, people are speaking up against the decline of wetlands. The Tour du Valat supports them by coordinating several networks involved in the conservation of wetlands and their biodiversity.

The anthropogenic pressures that are directly degrading Mediterranean wetlands, such as land artificialisation, intensive agriculture, pollution, the overexploitation of water resources, and illegal hunting, often stem from poor governance or an uninformed decision-making process. Decision-makers who are ill-informed and/or unconvinced of the importance of these ecosystems will not take the measures needed to guarantee their preservation. Within our theme, we have grouped together several science-society interfaces whose mission is to inform and raise awareness among decisionmakers and civil society of the importance of conserving wetlands, and also to give managers and civil society organisations the tools they need to better manage and defend them.

THOMAS GALEWSKI | COORDINATOR

THE PROJECTS

1 Mediterranean Wetlands Observatory (MWO)

ANIS GUELMAMI | guelmami@tourduvalat.org

The MWO develops and disseminates knowledge on the status and trends of wetlands in Mediterranean countries, with the aim of encouraging action to preserve and restore them. In 2024, the MWO team worked on the development of new indicators for the third part of the regional report on the state of Mediterranean wetlands, due out in mid-2025. One of the main new features of these analyses is their breakdown of data at the national level for each of the 28 MedWet countries. The MWO team also worked on developing the Mediterranean Wetlands Geoportal, an innovative tool that will make it possible to visualise the numerous data measured and indicators monitored by the MWO at the national level.

THE PROJECTS (NEXT)

2 Status-Pressures-Responses of wetland biodiversity

THOMAS GALEWSKI | ELIE GAGET
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This research axis studies the responses of Mediterranean wetland biodiversity to global changes on a macro-ecological scale. Much of this axis is dedicated to research on strategies for adapting to climate change that can conserve species. In 2024, we carried out a survey of Natura 2000 site managers in the European Union to document how they were working to adapt their sites to climate change. We also highlighted, in a scientific publication, the link between the management of wetlands for hunting purposes and the response of hunted ducks to climate change. Finally, our study on the exposure of the wetlands important for waterbirds to rising sea levels reveals that a third of the sites located less than 30 km from the Mediterranean coastline will be significantly exposed to marine submersion by the end of the century.

3 National Biodiversity Observatory (NBO)

CHRISTIAN PERENNOU |
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As part of the NBO, led by the French Biodiversity Agency, the Tour du Valat continued to lead a "Wetlands" thematic group, and to develop two new indicators (the first concerns the presence of beavers and otters in France, and the second how French media report on wetlands). A brochure that sums up the status and trends of wetlands in France has been published.

4 Mediterranean Waterbird Network (MWN)

LAURA DAMI | dami@tourduvalat.org

In 2023, the MWN continued its support aimed at improving the quality and quantity of census data in North Africa, through international training (fifteen participants from five countries). This year's training course culminated in a test that assessed the skills acquired by participants. A protocol for monitoring illegal hunting activities has been set up in eight countries in the network, and the data will be shared on a common platform.

An analysis of the consideration given to this issue by politicians has also been carried out, based on bibliographical research and questionnaires sent to partners. The results of this study will be used to develop an advocacy strategy that is better adapted to the specific characteristics of each country.

5 Mediterranean Wetlands Alliance (MWA)

LORENA SEGURA | CHRISTIAN PERENNOU
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The MWA federates civil society to increase the visibility of wetlands in the Mediterranean area, particularly in national and regional policies. It brings together 32 NGOs and research centres from 17 countries. In 2024, the MWA organised two training courses on the development of wetlands observatories and the participative management of wetlands, as well as a webinar on collaboration with the economic sectors. It also issued three Red Alerts:

- in 2024 on the Narta lagoon in Albania;
- to prevent the proliferation of infrastructure projects in Camargue-France;
- against the extension of the Guggenheim Museum in the heart of the Urdaibai reserve in Spain.

6 Mediterranean Lagoons Transfer Unit consortium

VIRGINIE MAUCLERT |
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As the leader of one of the five Wetlands Transfer Units, the Tour du Valat has continued to support those involved in the conservation of lagoons and their peripheral wetlands in the French Mediterranean, in partnership with the Occitanie Nature Area Conservancy and the Corsican Environmental Agency. A conference in Corsica, attended by 150 people from 73 organisations, brought to a close the first phase (2022-24) of coordinating actions to combat, complete research on and monitor the Atlantic Blue Crab, an invasive alien species that continues to spread in the Mediterranean.

Focus

SCIENCE AND SOCIETY INTERFACES

Mobilizing civil society organizations to preserve Mediterranean wetlands

Mediterranean wetlands face intense pressure from population growth and development, as well as from rising temperatures, increasing 20% faster than the global average due to climate change. Since 1970, the surface area of the region's wetlands has decreased by 50%, severely reducing ecosystem services essential for societal well-being and sustainability. While local and global initiatives call for wetland protection, Mediterranean countries facing political instability and socio-economic focus on short-term measures. Against this fragile backdrop, Civil Society Organizations (CSOs) are becoming essential actors to advance knowledge and action for these threatened ecosystems.

They engage communities in learning about these unique habitats through education and outreach. They raise awareness among local and national decision-makers about the importance of wetlands and work with these actors to determine appropriate actions. They perform regular, long-term monitoring to inform research and management of habitats and species. However, they have limited financial and technical resources and sometimes lack credibility from public authorities, reducing their ability to perform these critical actions.

Field visit at the Dar Fatma peatlands in Tunisia with the CSO WWF North Africa.
© MAW

A PROJECT ROOTED IN EXISTING NETWORKS COORDINATED BY TOUR DU VALAT

Since 2018, Tour du Valat has coordinated projects involving over a dozen CSOs to build capacity for place-based wetland management, with large support from the Agence Française de Développement. **The PROZHUM project builds on this work and unites 14 CSOs from 10 Southern and Eastern Mediterranean nations.** With a budget of €2.5 million over three years, it supports the implementation of 25 wetland protection and restoration initiatives at different scales. The project also aims to build the capacity of CSOs to develop high-impact projects and encourage the sharing of up-to-date scientific knowledge with managers and decision-makers.

The CSOs of the Mediterranean Waterbird Network (MWN) create training modules on waterbirds and wetlands in collaboration with educational institutions, while also exploring knowledge-sharing opportunities with the other CSOs involved in the PROZHUM project. At the next international events in 2025, the Mediterranean Wetlands Observatory (MWO) will present the latest wetland trends to key decision-makers to advocate for conservation.

The Mediterranean Alliance for Wetlands (MAW) is advancing the Green Light protocol, designed to assist CSOs in launching restoration projects by supporting the creation of a shared vision and fundraising strategies. In late 2024, a second round of Green Light funding was launched, and two projects were selected for 2025. In 2024, the initial PROZHUM funding call for projects up to €34,000 led to the selection of 14 projects, with a total value of €476,000, starting in January 2025. A support document provided advice and reflection questions to help meet evaluation criteria, with emphasis on considering gender inequality. Anonymous reviewer feedback was also shared with applicants to help improve proposals for PROZHUM and future efforts. CSOs have remarked that this was an unusual and helpful feature to identify gaps and opportunities. These CSOs serve as mentors in the upcoming series of micro-scale projects with local CSOs in each of the 10 participating countries to share skills in project management and wetland conservation.

Meetings with partner CSOs to kick-off the project at the Tour du Valat. This was an opportunity to exchange ideas and share skills in communication and collaborative project management.
© Élodie Stamm

The year concluded with the kick-off meeting for the large-scale pilot restoration effort led by **the Turkey CSO Doğa Derneği** for the Gediz Delta, uniting authorities, site managers, community members, and restoration experts. Leading by example, PROZHUM CSOs will demonstrate the importance of project management and partner engagement processes to increase the recognition of CSO efforts and contribute to impactful, sustainable wetland management.

PROJECT LEADER **Jane Ballard** | ballard@tourduvalat.org

TEAM **MAW:** Christian Perennou, Lorena Segura, Elisa Tuaillon | **MWN:** Laura Dami, Khalil Baddour | **Gediz Delta Restoration:** Lisa Ernoul, Hugo Fontes, Antoine Gazaix, Philippe Lambret | **MWO:** Anis Guelmami, Thomas Galewski, Michaël Ronse, Nina Begue, Rania Cheikh, Elie Gaget | Coralie Hermeloup

PARTNERS **Technical:** INCA (Albania), LSB (Libya), MES (Northern Macedonia), ORC (Turkey), SPANA (Morocco), SPNL (Lebanon), WWF (North Africa), AOS (Albania), AAO (Tunisia), ANAO (Algeria), BPSSS (Serbia), CZIP (Montenegro), Doğa Derneği (Turkey), GREPOM (Morocco)

Financial: Agence Française de Développement (AFD), The Prince Albert II of Monaco Foundation, PRIMA Foundation, Horizon Europe program (European Union), Tour du Valat

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MARION DOUCHIN

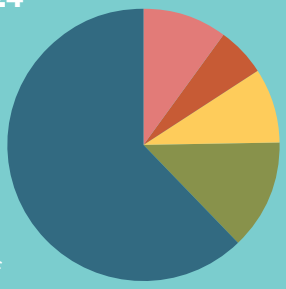
RESCOM Project Manager

"At Tour du Valat, I coordinate the Mediterranean Consortium for Biodiversity, a group of regional organizations dedicated to the protection of nature. What motivates me is the collective energy generated by this collaboration, enabling us to share experiences and our skills and efforts to preserve Mediterranean ecosystems."

OUR ACHIEVEMENTS

Knowledge transfer is central to the Tour du Valat's mission, and a great amount of effort is made to achieve that goal. Communication in the scientific world, through publications and talks, and making the results of our research available to potential users (site managers in particular), are major activities for our teams.

PUBLICATIONS 2024



We published a wide range of articles in international journals, with 43 publications by the end of 2024, 32 of which had an impact factor, for an average impact factor of 6,57. Our activities are not limited to our scientific publications, and our publications are diversified both in terms of nature of the documents (see figure above) and target audience: scientists, site managers, technicians, students, the general public, and decision-makers.

SCIENTIFIC PUBLICATIONS	43
PHD/HDR*	7
BOOKS/CHAPTERS IN BOOK	4
STUDENTS REPORTS	6
TECHNICAL DOCUMENTS	9

*HDR : Habilitation to direct research

Find all our publications by scaning this QR code!

RESOURCE CENTRE FRANÇOIS BOURLIÈRE LIBRARY

The Tour du Valat Resource Centre has been in existence since 1954. It was initially made up of documents from the personal library of the Tour du Valat's founder Luc Hoffmann:

- 6,555 publications and theses;
- 490 different periodicals of which 71 are running;
- 47,062 offprints, booklets and reports.

Thanks to our library portal, tourduvalat.centredoc.fr, the centre enables any internet user to:

- discover the most recent publications by Tour du Valat researchers;
- carry out bibliographical research in the document collection;
- open an online reader account to benefit from a range of custom services: saving research results on-line, the possibility to create alerts or to generate an RSS flow...

INFORMATIONS

The Resource Centre is open to everyone on Mondays, Tuesdays and Thursdays from 9.00 to 12.00 AM and from 1.00 to 5.00 PM. It offers Wi-Fi connected workstations, access to all documents, and the assistance of a librarian.

Ph. +33 (0)4 90 97 29 76 / biblio@tourduvalat.org
Documental portal: tourduvalat.centredoc.fr

CONVEYING & CONVINCING

In addition to our many scientific and technical publications, every year we carry out numerous skills transfer and advocacy activities, which are vital to achieving our mission of "Ensuring the conservation and wise use of Mediterranean wetlands by improving our understanding of how they function and mobilising a community of stakeholders." Here are just a few examples of our work.

RESTORE 4Cs General Meeting at the Tour du Valat.
© Arsène Marquis-Soria

THE RESTORE 4CS PROJECT

This project highlights the importance of Europe's coastal wetlands in reducing greenhouse gas emissions. During the 5th General Assembly of the RESTORE4Cs project, 15 partners from 9 European countries, including universities, research institutes, small and medium-sized enterprises as well as intergovernmental organisations, met at the Tour du Valat.

An outing organised as part of the Camargue and Rhone Delta Festival.
© Arsène Marquis-Soria

RAISING AWARENESS ABOUT BATS

The Rest-Chir'Eau project, led by the Tour du Valat and winner of the Rhone-Mediterranean-Corsican Water Agency's "Water and Biodiversity 2023" call for projects, is based on an innovative approach: studying bat activity to assess the ecological functionality of wetlands and guide their restoration.

TRAINING WORKSHOP IN TURKEY: "EARTH OBSERVATION TOOLS FOR MONITORING WETLANDS"

The Mediterranean Wetlands Observatory (MWO) team organised and ran a training workshop on the use of Earth Observation tools and data for monitoring Mediterranean wetlands, for its partners from civil society and in academic institutions in Turkey.

A studious and friendly training workshop.
© Anis Guelmami

Launch of Natur'Adapt Sud at the Tour du Valat.
© Arsène Marquis-Soria

NATUR'ADAPT SUD: ADAPTING THE MANAGEMENT OF NATURE RESERVES IN THE SUD-PACA REGION TO CLIMATE CHANGE

Launch at the Tour du Valat of this project: 13 regional or national nature reserves are being supported by the Tour du Valat, in partnership with the PACA Nature Area Conservancy and French National Nature Reserves, as they implement the Natur'Adapt methodology on their sites and develop their skills and capacity to adapt protected areas to climate change.

Noémie Nojaroff | nojaroff@tourduvalat.org

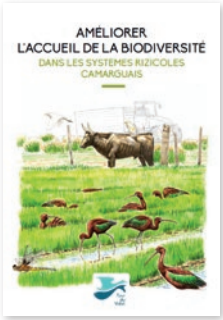
ADVOCACY

In 2024, the Tour du Valat continued to improve its advocacy in favour of Mediterranean wetlands: identifying subjects to which the Institute wishes to draw decision-makers' attention; monitoring legislative changes and hot topics, making elected representatives aware of our issues, and taking a stance on legislation that is unfavourable to wetlands at different geographical scales.

Improving our advocacy also involves a series of institutional meetings with socio-economic decision-makers to increase their awareness of the Tour du Valat's scientific work and to make them aware of the importance and urgency of preserving wetlands.

BROCHURE "IMPROVING THE HOSTING OF BIO-DIVERSITY IN CAMARGUE RICE PRODUCTION SYSTEMS"

Based on several years of monitoring biodiversity and the practices of farmers in the Camargue, the Tour du Valat, in conjunction with Solagro and Agribio 04, has put together a brochure aimed at farmers in the sector. It describes ways of welcoming biodiversity into Camargue rice-growing systems.



© Cyril Girard

CONFERENCE IN HONOUR OF HEINZ HAFNER

Olivier Langrand
© Conservation International

As part of our series of annual conferences to pay tribute to the work of Heinz Hafner for the conservation of waterbirds and wetlands, Olivier Langrand, a new member of the Tour du Valat's Science and Conservation Council, presented his lecture entitled "Building the Capacity of Scientists and Civil Society Organizations: The Example of Madagascar".

You can find all our achievements on our website www.tourduvalat.org and on our document portal tourduvalat.centredoc.fr

Anthony Olivier talks to participants during an outing at the Tour du Valat within the European Pond Turtle workshop.
© Arsène Marquis-Soria

MEDIAS

In 2024, our work appeared in the media 268 times, including 9 television reports, 12 radio shows, 206 press articles and 41 online articles.

Threats to wetlands were the main focus of media coverage this year. Climate change received major attention because of an article published in the journal Conservation Biology. Co-authored by several Tour du Valat researchers, this article focused on coastal wetlands exposed to rising sea levels. It was widely covered in the national press, with over 70 articles and reports.

At the local level, another major issue was opposition to the proposed very high voltage (VHV) overhead line between Fos-sur-Mer and Jonquières-Saint-Vincent. This project has raised serious concerns about the potential damage to the area's remarkable biodiversity.

The Tour du Valat Open House Day on 4 February for World Wetlands Day (WWD), also received extensive local media coverage, contributing to the success of this event.

Finally, the press campaign dedicated to our flamingo adoption project enabled this initiative to be promoted significantly. This project was reported on by the media 85 times, including 4 television reports and 6 radio shows.

TOUR DU VALAT 2.0

In 2024, communication on social networks was stepped up, with a particular focus on LinkedIn, where our activities were significantly strengthened. The number of subscribers increased on all our social networks. On average, each publication on LinkedIn was seen by 2,366 users and generated 257 interactions (shares, "likes", etc.), an increase of 153% in interactions compared with 2023.

On Facebook, publications reached an average of 1,428 views and 111 interactions, representing a 50% increase in interactions compared with 2023.

The Tour du Valat website recorded an average of 3,560 visits per month, while the site dedicated to sponsorship (monflamant.com) recorded 4,416 visits per month. 163 videos are online on our Vimeo channel, with over 4,150 views in 2024. Faced with the rise of misinformation and the extreme polarisation of debates on X (formerly Twitter), particularly on subjects related to climate and biodiversity, the Tour du Valat decided to cease its activities on that platform at the end of 2024.

PUBLICATIONS MOST VIEWED AND SHARED ON SOCIAL NETWORKS

- 70th anniversary of the Tour du Valat celebrated with our partners and friends on 28 June 2024;
- Threats to wetlands: draft legislation, measures announced;
- Extension of the Tour du Valat Regional Nature Reserve;
- Tour du Valat projects and activities (scientific projects, monitoring, publications, Estate, meetings, workshops, webinar), such as the launch of the Natur'Adapt Sud project and of the PROZHUM collaborative project, the ringing of flamingos in the Aigues-Mortes salt marsh and the Ebre Delta, the ringing of 1,300 passerines this autumn, and the organisation of the European Pond Turtle Workshop and an international workshop on the Greater Flamingo;
- Jobs, theses, internships and civic service opportunities.

2024 IN FIGURES

7,138 SUBSCRIBERS **(+1943)** | **180** PUBLICATIONS | **425,900** VIEWS | **46,200** INTERACTIONS

5,048 SUBSCRIBERS **(+401)** | **150** PUBLICATIONS | **214,200** VIEWS | **16,700** INTERACTIONS

TOUR DU VALAT **2,296** SUBSCRIBERS | **62** PUBLICATIONS | **43,900** VIEWS | **4,200** INTERACTIONS

ADOPTE UN FLAMANT **1,208** SUBSCRIBERS | **154** PUBLICATIONS | **44,200** VIEWS | **2,300** INTERACTIONS

WWW.TOURDUVALAT.ORG **70** ARTICLES | **30** EVENTS | **20** ADS FOR JOBS, INTERNSHIPS AND VOLUNTEERS

© Hervé Hôte / Agence Caméléon

From left to right

ANNE-SOPHIE HERVY, ARSÈNE MARQUIS-SORIA, ÉLODIE STAMM, CORALIE HERMELOUP, BÉATRICE GUENEBEAUD, CHARLOTTE BERTRAND, NATHALIE CHOKIER

The communication team

"We work to promote the work of our colleagues, inform our partners and raise awareness of the importance of wetlands. Through scientific popularization, events, press, videos and graphic design, we carry the Foundation's key messages at 360 degrees."

© Hervé Hôte / Agence Caméléon

From left to right, bottom to top

LORENZA TARASCO, ANNE-COLOMBE LECOMTE, JOANNA LEVY, CHARLOTTE BERTRAND, JULIE MENGARELLI, ELLIOT ROBLÈS, JEANNE LUZET, LOÏZ BOUDARD

European Solidarity Corps volunteers

"As volunteers, we put our energy and skills at the service of each team. Each of us shares our experiences and creates strong links: a great learning opportunity in the unique setting of the Camargue, while actively contributing to the preservation of wetlands."

THEY SUPPORT US

Providing concrete responses to the challenges facing the Mediterranean, promoting and implementing integrated management, mobilising the most relevant expertise and funding projects: all these actions require the establishment of strategic relationships with a wide range of organisations. Today, we work with more than 300 partners located all around the Mediterranean basin, including research centres, universities, NGOs, foundations, governmental and intergovernmental bodies, as well as private companies. Building these strong partnerships, at different geographical scales, is essential to achieving our goals. Whether in the form of financial support or exchanges of knowledge and scientific expertise, these collaborations foster mutual enrichment and strengthen the impact of our actions.

Once again, we would like to thank all our partners who worked alongside us in 2024.

OUR SCIENTIFIC AND TECHNICAL PARTNERS

The Tour du Valat Foundation has always worked closely with numerous scientific partners, both locally and nationally, and throughout the Mediterranean basin. Founded on the values of scientific independence, transparency and commitment to the common good, the Tour du Valat works to strengthen international cooperation in order to protect wetlands.

OUR PUBLIC PARTNERS

OUR PRIVATE PARTNERS & SPONSORS

ASSOCIATIONS & NGOs

supports the Mediterranean coastal reedbeds, to help managers monitor the proper functioning of reedbeds on a coherent and functional scale.

supports the Illegal Killing project, which involves monitoring illegal hunting activities during waterbird counts, in order to assess the pressure exerted on these species in wetlands in eight Mediterranean countries. Analysis of the policies and legislation in force will also enable advocacy and communication to be adapted, with the aim of reducing illegal hunting by 50% by 2030.

The Swiss Ornithological Institute at Sempach supports the second phase of the Ressource+ project (Strengthening Expertise South of the Sahara on Birds and their Rational Use for the Benefit of Communities and their Environment).

supports a number of wetlands restoration projects in the Camargue: restoration of agricultural wasteland at the Cassaïre and Petite Forêt sites; restoration of wetlands for the conservation of the large-stigma damselfly and other threatened dragonflies, and evaluation of projects to restore intra-lagoon hydro-ecological continuity with the European eel, an emblematic and threatened species.

COMPANIES

A partner of the Mediterranean lagoons transfert unit, It helps the MLTU celebrate World Wetlands Day and supports its communication campaign that promotes events in Mediterranean lagoon territories. Every year, its employees also take part in a wetlands enhancement project.

supports a research project on biodiversity in agricultural environments, in particular the development of ecological monitoring that can be carried out by local farmers who are aware of the environment and want to increase biodiversity on their farms.

supports a research project on agro-ecology in the Camargue, in particular the drafting of a good practice brochure for rice growers, to encourage biodiversity on their farms.

supports the Foundation's health-environment programme, through the “ONE HEALTH” approach, which takes into account the close links between human health, animal health and the health of ecosystems, as well as raising public awareness of wetlands and their issues.

FONDATIONS

supports a project to restore wetlands in the Camargue (temporary ponds), with the aim of re-establishing favourable conditions for the reproduction of a species of odonate threatened with extinction endangered in France and Europe, Lestes macrostigma.

Grounded in the many common points linking the François Sommer Foundation and the Tour du Valat Foundation, a partnership has been established to develop and promote sustainable hunting methods, as well as undertaking scientific work on wetland species.

has supported several multidisciplinary research projects at the Tour du Valat. A current project, applied to agricultural production systems, aims to develop an agro-ecology showcase site on the Petit Saint-Jean farm in the Camargue Gardoise, and in particular a collective composting unit.

supports a project to introduce chiropterans (bats) to the Petit Saint-Jean farm, as crop auxiliaries to combat grape worms.

LUMA ARLES supports us through a project to host foreign students, where we raise their awareness of the challenges and consequences of climate change, and of the concept of nature-based solutions.

supports the Mediterranean lagoons transfert unit by providing key players with the tools they need to better assess the state of conservation of the lagoons as well as by raising awareness of the issues and increasing the political will to preserve them more effectively.

Since the Mediterranean Wetlands Observatory was set up, the foundation has been helping the Tour du Valat to assess the state and trends of wetlands in the Mediterranean basin, in particular by developing indicators on water resources and biodiversity.

supports advanced statistical analyses of aspects related to waterbird population trends along Mediterranean flyways.

Solila Nature Reserve, Montenegro.
© Marion Douchin

BUDGET & GOVERNANCE

The budget for the year 2024 amounts to € 7,615,000

EXPENDITURE BREAKDOWN

€ 3,935,000 were allocated to scientific programs, grouped into 5 themes: including **€ 1,095,000** for the "Species Conservation" theme, **€ 163,000** for the "Health Ecology" theme, **€ 736,000** for the "Management and Restoration of Natural and Agricultural Ecosystems" theme, **€ 527,000** for the "Wetland Dynamics and Water Management" theme, **€ 1,083,000** for the "Science-Society Interfaces" theme and **€ 331,000** for joint scientific activities (scientific management, resource centre, conferences, training, transfer, project development, etc.).

€ 1,169,000 were dedicated to managing the Tour du Valat estate and the Petit Saint-Jean agro-ecological farm.

€ 1,075,000 were dedicated to resource services, including finance, administration, IT, the canteen and vehicle maintenance.

€ 784,000 were related to communication (website, activity report, etc.), advocacy and the organisation of festivities to celebrate the Tour du Valat's 70th anniversary.

€ 275,000 were devoted to general management, including the governance of the structure and representing the Tour du Valat in major international forums.

€ 377,000 were spent on capital expenditure (equipment and works).

EXPENDITURE IN EUROS

- Scientific programmes ..... **€ 3 935 000**
- Estates management ..... **€ 1 169 000**
- Resource functions (administration, IT, maintenance, canteen, etc.) ..... **€ 1 075 000**
- Communication, advocacy and events ..... **€ 784 000**
- General management ..... **€ 275 000**
- Investments (materials and works) ..... **€ 377 000**

TOTAL **€ 7 615 000**

RECEIPT IN EUROS

- Private partnership agreements ..... **€ 4 141 000**
- Public partnership agreements ..... **€ 2 575 000**
- Farm receipts and services ..... **€ 529 000**
- Donations and miscellaneous ..... **€ 370 000**

TOTAL **€ 7 615 000**

TOUR DU VALAT RECEIVE ITS FINANCING FROM A NUMBER OF SOURCES

- **39 %** of its receipts come from ProValat Foundation
- **15 %** of its receipts come from partnership agreements with other private organizations
- **34 %** of its receipts come from partnership agreements with public organizations
- **7 %** of its receipts are revenues from farm receipts and services
- **7 %** of its receipts come from donations and miscellaneous income

BOARD OF DIRECTORS

COLLEGE OF FOUNDERS

- **André Hoffmann**
  President
- **Maja Hoffmann**
  Vice-president
- **Vera Michalski-Hoffmann**
- **Isabel Hoffmann**

COLLEGE OF EX OFFICIO MEMBERS

- **Cécile Lenglet**
  Subprefect of Arles, representative of Ministry of Home Affairs
- **Jean-Luc Parrain**
  Regional Academic Delegate for Research and Innovation representing the Ministry of Higher Education, Research and Innovation (DRRT PACA)
- **Sébastien Forest**
  Regional Director of the DREAL PACA, representing the Ministry of Ecological Transition, Energy, Climate and Risk Prevention
- **Patrick de Carolis**
  Mayor of Arles, representing the Arles town hall

COLLEGE OF EXPERTS

- **Dr. Gordana Beltram**
  Treasurer, Member of the Medwet steering comitee, Slovenia
- **Dr. Clairie Papazoglou**
  Secretary, consultant to NGOs on European policies, Cyprus
- **Dr. Sylvie Goyet**
  Deputy Treasurer, Deputy Coordinator, Head Environmental Activities, Organization for Security and Co-operation in Europe (OSCE), Austria
- **Dr. Paule Gros**
  Deputy Secretary, Founder and CEO of Biodivearth, Switzerland

HONORARY MEMBER

- **Thymio Papayannis**
  Senior MedWet advisor, Greece

SCIENCE AND CONSERVATION COUNCIL

- **Dr. Yann Laurans**
  President, Programmes Director, WWF France, France
- **Prof. Debbie Pain**
  Vice-President, Honorary Professor, School of Biological Sciences, University of East Anglia; Honorary Research Fellow, University of Cambridge, United Kingdom
- **Dr. Denis Couvet**
  National Museum of Natural History, Paris, France. Chairman of the FRB (Foundation for Research on Biodiversity)
- **Prof. Wolfgang Cramer**
  Research Director (CNRS), Mediterranean Institute for marine and terrestrial biodiversity and ecology (IMBE), France
- **Dr. Ruth Cromie**
  Chair of Technical Committee for UNEP Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), United Kingdom
- **Prof. Nick Davidson**
  Nick Davidson Environmental, Royaume-Uni & Institute for Land, Water & Society, Charles Sturt University, Australia
- **Prof. Elena Kazakou**
  Professor of Comparative Ecology of Organisms, Communities and Ecosystems, Montpellier SupAgro, France
- **Prof. Phoebe Koundouri**
  Professor, Athens University of Economics and Business & Technical University of Denmark, President EAERE (European Association of Environmental and Resource Economists), Chair SDSN Global Climate Hub, Co-chair SDSN Europe
- **Dr. Olivier Langrand**
  Executive Director, Critical Ecosystem Partnership Fund, United States of America
- **Dr. Ana Rodrigues**
  Senior Researcher, Centre d'Ecologie Fonctionnelle et Evolutive (CEFE-CNRS), Montpellier, France

Participants at the Scientific and Conservation Council meeting.
© Arsène Marquis-Soria

TO SUPPORT US

No matter how small, all of your donations make a difference and help the Tour du Valat to continue working for the common good. There are several possibilities to support wetlands research and conservation.

CORPORATE SPONSORSHIP

Whatever our sector of activity, we all have a stake in preserving nature and biodiversity. That's why everyone, employees and managers alike, can suggest setting up a corporate philanthropy scheme within their company. Not only uniting employees around a common cause, the company can benefit from a reduction in corporation tax of up to 60% of its financial support.

For further information:
Béatrice Guenebeaud / 04 90 97 28 77
guenebeaud@tourduvalat.org

MAKE A DONATION OR BEQUEST

If you share the same values as the Tour du Valat, if you appreciate the quality and independence of our work, and if you are convinced that a healthy natural environment is essential for building tomorrow's world together, you can act in the long term and support us in our work by making a donation or a bequest to the Tour du Valat Foundation. We will assist you in this process, in accordance with the law and with respect for individuals.

To support us and find out more about our various initiatives:
www.tourduvalat.org/soutenir/faire-un-don

For further information, do not hesitate to contact our specialist Anne Ackermann:
04 90 97 20 13 / ackermann@tourduvalat.org

ADOPT A FLAMINGO

The Tour du Valat invites you to "adopt a flamingo" for a year, or more if you like. A fun way to learn more about this mysterious bird, and an original way of preserving the wetlands it loves so much, and which it clearly can't live without.

By exploring our website monflamant.com, you're sure to find the flamingo that's right for you. There's something for every taste and budget! You can fall under the spell of one of our mascots, discover our four families of flamingos with extraordinary stories or choose your ideal flamingo... and give it the name of your choice.

More than 4,000 sponsors have already joined the adventure and adopted flamingos. The more people adopting a flamingo, the more the species will be monitored, understood, and protected in the Mediterranean.

So, why don't you adopt a flamingo now?
monflamant.com

For further information:
contact@monflamant.com

SUPPORT THE TOUR DU VALAT WHILE BENEFITING FROM TAX BREAKS

The Tour du Valat Foundation is recognised as a public interest organisation and is therefore entitled to receive donations. 66% of your donation is tax deductible, up to a limit of 20% of your taxable income (for French residents). A €100 donation will only cost you €34 after tax deduction.

VISITING US

TOUR DU VALAT ESTATE

Each year, the private estate opens exceptionally to the general public:

- on World Wetlands Day (February);
- on the Festival of the Camargue and the Rhône Delta (May);
- together with the Bureau des Guides Naturalistes (BGN), through guided visits on reservation.

Two sites are also open to the public on a permanent basis:

- the Verdier Marshes, located north of the village of Le Sambuc on D36;
- the Grenouillet Lagoon observation platform located on the road from Fiélouse to Le Sambuc that links D36 road to the Vaccarès Lagoon, just north of the Tour du Valat.

THE PETIT SAINT-JEAN AGROECOLOGICAL FARM

A Tour du Valat property, located in the Camargue Gardoise, where events, guided tours and tastings of wines and other farm products are organised, with a point of sale on site:

- during the “Farm to Farm” event (April)
- on the Festival of the Camargue and the Rhône Delta (May);
- in partnership with the BGN, through guided visits on reservation ;
- group visits possible on reservation at petitsaintjean@tourduvalat.org

If you wish to receive information about the programmes and other events organized at the Tour du Valat for the general public, you can apply by filling in the form on our website or by contacting us at: secretariat@tourduvalat.org

WWW.TOURDUVALAT.ORG

GRAPHIC DESIGN: Guillaume Baldini

COVER: Egretta Garzetta Photography www.thomasblanchonphotographies.com

BACK COVER: Study of seabirds from Frioul Island, Marseille. © Arsène Marquis-Soria

PRINTING: Imprimerie Trulli, on **PEFC** certified paper. This product is from sustainably managed forests, recycled and controlled sources / pefc-france.org

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