



Saint Seren in winter © TdV-Cohez

GRAZING TO RESTORE A NATIONALLY IMPORTANT DAY-ROOST FOR WINTERING WATERFOWL

SAINT SEREN - CAMARGUE, PROVENCE-ALPES-CÔTE D'AZUR, FRANCE

→ BACKGROUND

Saint Seren is a shallow, temporary, oligo-haline marsh (maximum depth 70 cm) with large areas of shallow water in winter (0-10 cm). It is surrounded by salt flats dominated by *Salicornia fruticosa* and *Arthrocaulon macrostachum* scrubs, and is sheltered from the wind in the northeastern and southwestern sectors by *Tamarix gallica* bushes. At the time of the restoration, the emergent vegetation was composed of the reeds *Bolboschoenus maritimus*, *Shoenoplectus littoralis* and *S. tabernaemontani*, with *Phragmites australis* and (on the edges) *Paspalum distichum*. When left uncut, these plants formed a dense reedbed 70-200 cm high. The submerged vegetation consisted mainly of *Chara* sp., *Zannichellia pedunculata* and *Z. obtusifolia*, *Ranunculus peltatus* subsp. *baudotii* and some *Stuckenia pectinata* and *Potamogeton pusillus*.

Camargue

Coordinates:
4.66757° E
43.5089° N

Site Size: 70 HA

Area Restored:
70 HA



Wetland Type:

K - Coastal freshwater lagoons; includes freshwater delta lagoons

P - Seasonal/intermittent freshwater lakes (over 8 ha); includes floodplain lakes

Ts - Seasonal/intermittent freshwater marshes/pools on inorganic soils; includes sloughs, potholes, seasonally flooded meadows, sedge marshes

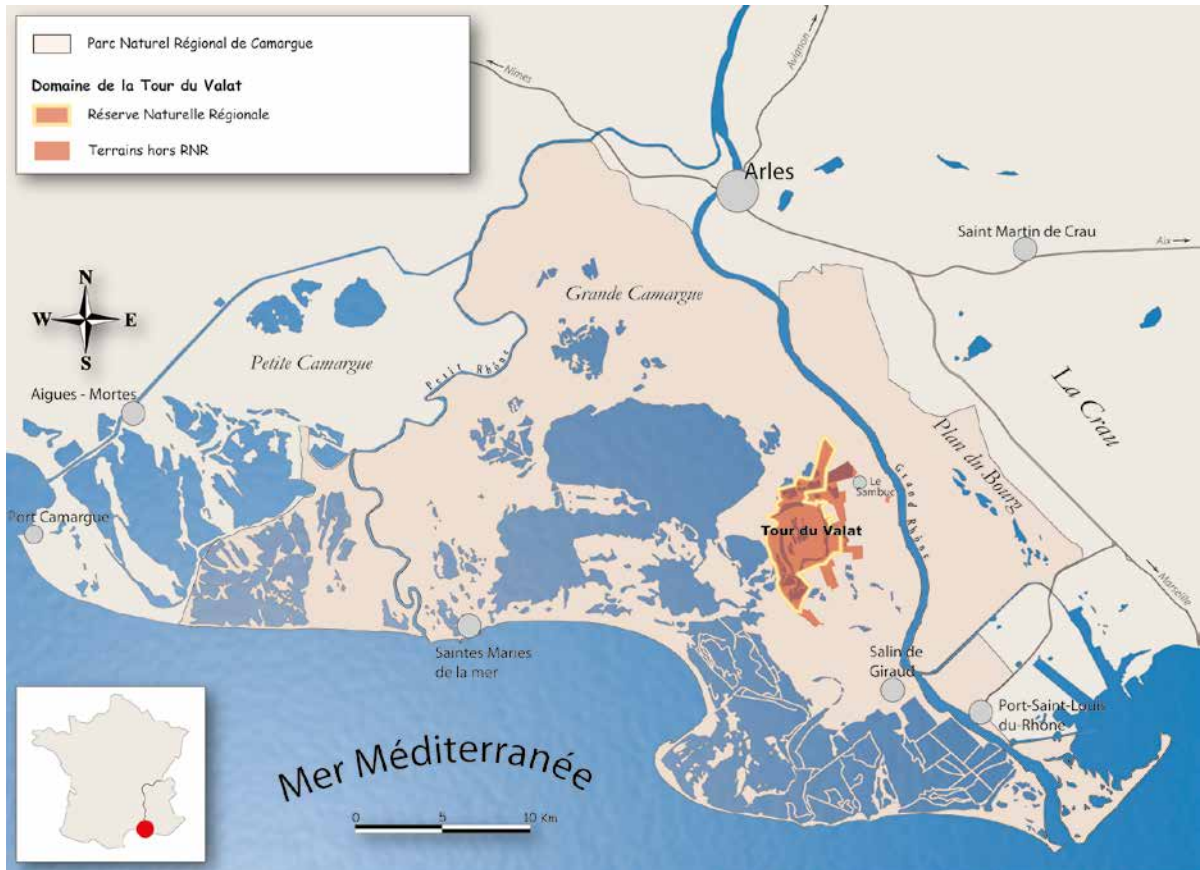


Protection Status:

Saint Seren is part of the Tour du Valat Regional Nature Reserve (which now covers 1,845 ha).



→ BEFORE RESTORATION



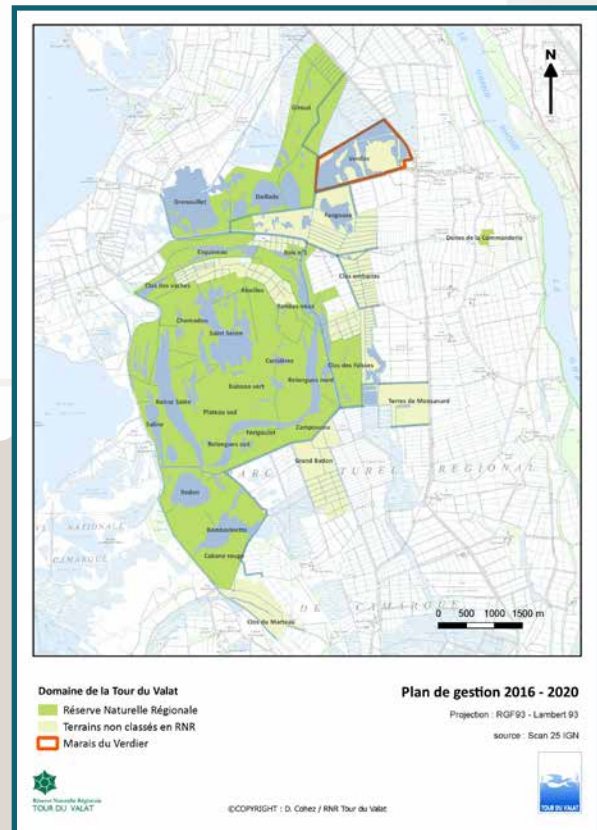
→ THREATS AND PRESSURES

Saint Seren had been one of the main day-roosts for wintering ducks in the Camargue, with 1-2 million bird days (ducks and coot) per winter in the 1950s. In the late 1970s the use of the marsh was low (nil-526 bird-days): **our hypothesis was that the cause of the decline in use was the variable water level and tall vegetation.**

→ OBJECTIVES

The aim was to provide appropriate conditions (water-level and vegetation) to test this hypothesis.

Before restoration, emergent vegetation too tall and dense and water levels too variable (climate-dependent) for most species of wintering waterbirds.



→ RESTORATION ACTIONS & METHODOLOGY

Annual late summer flooding aimed to create a depth of 35cm in the centre of the marsh, and drainage in spring aimed at having only a maximum of 40 cm in the deepest part (one-third of the site was then unflooded). For more detail please see Duncan et al. 1982 ([Appendix 2](#)). The current management is described in Cohez et al. 2016.

→ STAKEHOLDERS

Stakeholders involved –Tour du Valat staff, [le Bureau des guides naturalistes](#)

→ SOCIAL SUPPORT

Visitors are keen to visit Saint Seren, and since the 1980s it has been the main site for visits to Tour du Valat (e.g. on open days, which attract 600-1,200 people each year).

→ OTHER PARTNERS

Previously, a tenant farmer owned the c.100 cattle which grazed the marsh and the surrounding land during the warm season. Today the herd is owned by Tour du Valat.

PROJECT DATES:

1979: Restoration started with the implementation of more intensive spring and summer grazing and ensuring there would be flood conditions from September.

1982: The restoration action was considered completed in when reedbed mowing was not needed anymore. The helophyte vegetation responds rapidly to slight changes in flooding duration and depth and grazing pressure.

1982 Onwards: Adaptive management has since been implemented using grazing pressure and flooding/drying dates as tools to reach the required vegetation structure for wintering waterfowl.

→ BUDGET & SOURCE OF FINANCE

Tour du Valat funded the project, which had a cost over 3 years of about €11,000 (corrected for inflation). Annual running costs thereafter were about €2,500 (for details please see the paper in [Appendix 2](#), Duncan et al. (1982)). Today the running costs could easily be covered by the benefits from the cattle, from tourism (bull games called Courses à la cocarde) and the sale of the meat: since 1996, meat from Camargue cattle can be sold as 'Appellation d'Origine Contrôlée (AOC) Taureau de Camargue'.

→ IMPACT

The height of the vegetation over most of Saint Seren was reduced to <50cm in late summer (before the arrival of wintering birds), and water was available (<40 cm in most years) from September to April (for more detail please see [Appendix 1](#). Duncan & d'Herbès 1982, Fig. 1).

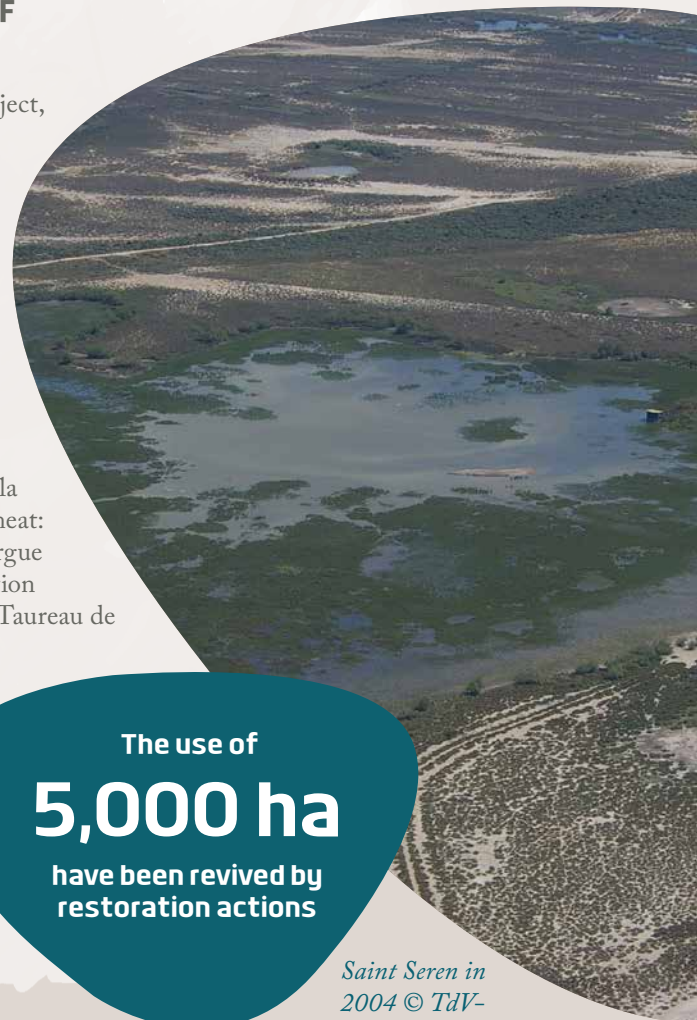
→ WHO BENEFITS?

The main beneficiaries have been the waterfowl: after restoration the marsh hosted >20% of the gadwall (*Mareca strepera*), shoveler (*Anas chryseata*) and red-crested pochard (*Netta rufina*) which were wintering in France during the 1980s and 1990s. People visit the site on open days (600-1200 people);

while the local hunters of the Groupe Cynégetique Arlesien (c. 100) are allowed to shoot on the edges of Tour du Valat. This increase in the numbers of waterbirds benefits both groups.

The use of
5,000 ha
have been revived by
restoration actions

*Saint Seren in
2004 © TdV-
Gauthier-Clerc*



→ LESSONS LEARNT

Since 1980 the St. Seren has again become an important wetland for wintering waterbirds in France with >1.7 million bird-days for ducks-coots 1980-2, and geese began to use the Saint Seren in this period; it has since, with the Marais de Viguérat, become one of the main sites for wintering *Anser anser* in France.

Restoring the vegetation using cattle rather than a tractor not only provides food for people and functional benefits for the system (e.g. faster nutrient cycling), it's also cheaper and it allows Tour du Valat to reduce its dependence on fossil fuels.

Given the fact that the important herbivore component of Europe's ecosystems has been strongly reduced by the extinction of all the mega- and many of the large herbivores over the last 30,000 years, the restoration of this site has helped to develop the idea that domestic animals can restore some of the functions of large herbivores in semi-natural systems. The general ideas developed at Tour du Valat at that time have been published in Duncan & d'Herbès 1982 (Appendix 1) and Duncan 1992 and contributed to the emergence of a new paradigm in conservation, rewilding (Schulte to Bühne et al. 2021).

→ REFERENCES

1. [Tour du Valat website](#)
2. Duncan P., Hoffmann L., Lambert R. & Walmsley J.G. 1982. Management of a day roost for wintering waterfowl, especially Teal (*Anas crecca*) and Gadwall (*Anas strepera*). In D.A. Scott (Ed.) *Managing Wetlands and their Birds*. Publ. International Waterfowl Research Bureau, Slimbridge, Glos., U.K. 73-82.
3. Duncan P. & d'Herbes J.M. 1982. The use of domestic herbivores in the management of wetlands for waterbirds in the Camargue, S. France. In D.A. Scott (Ed.) *Managing Wetlands and their Birds*. Publ. International Wildfowl Research Bureau, Slimbridge, Glos., U.K., 51-67.
4. Cohez D., Paix L., Gabrie L. & Olivier A. 2016. Plan de gestion 2016-2020 de la Réserve Naturelle Régionale de la Tour du Valat. Tour du Valat, Arles, France, 2 vols.
5. [Schulte to Bühne H., Pettorelli N., Hoffmann M. 2021. The policy consequences of defining rewilding. *Ambio*.](#)

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