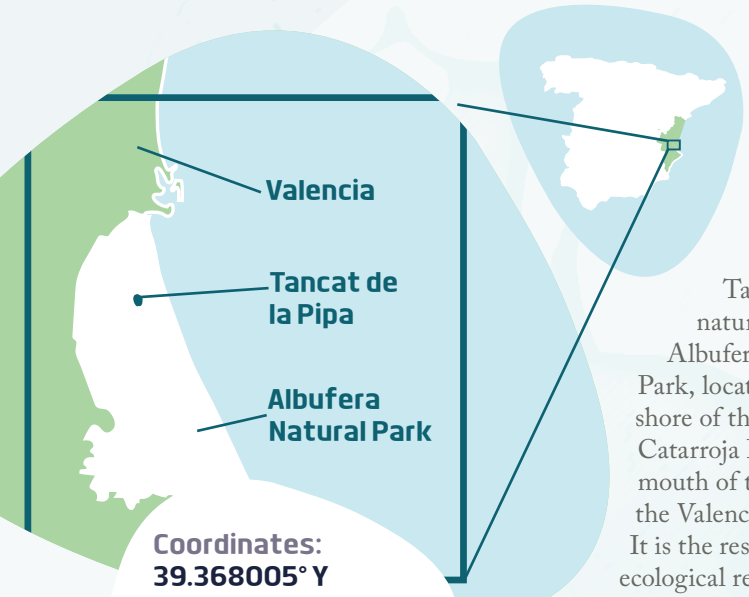
TANCAT DE LA PIPA

ALBUFERA NATURAL PARK - VALENCIA, SPAIN



Coordinates:
39.368005° Y
0.346156° X

Site Size: 21,120 HA

Area Restored: 40 HA

Wetland Type:

ARTIFICIAL:

3 - Irrigated land; includes irrigation channels and rice field

NATURAL:

K – Coastal freshwater lagoons; includes freshwater delta lagoons

→ BACKGROUND

Tancat de la Pipa is a nature reserve within the Albufera de València Natural Park, located on the north shore of the lake between the Catarroja Port Canal and the mouth of the Poyo Canal, in the Valencia Municipal District. It is the result of a process of ecological restoration carried out in 2007 by the Júcar River Authority (Confederación Hidrográfica del Júcar), when 40 hectares of rice fields were transformed into a freshwater wetland habitat. The area now functions as a biodiversity reserve thanks to the continual process of water improvement that takes place through its green filters and lagoons. The reserve is managed by two non-governmental organisations (NGOs) – Acció Ecologista-Agró and SEO/BirdLife – who monitor its biodiversity and carry out environmental education and public awareness activities. This is possible thanks to the establishment of land stewardship agreements between the NGOs and the owner of the site, the Júcar River Authority. Formal collaboration agreements with the València and Catarroja City Councils also give support to the project. The Polytechnic University of València and València University study the ecological processes within the reserve.

WETLAND BASED SOLUTIONS

→ BEFORE RESTORATION

Protection Status:

Natura 2000 site
- **Special Protection Area (SPA) - Birds Directive**
- **Site of Community Importance (SCI) - Habitats Directive**

RAMSAR wetland
- **Important Biodiversity Area (IBA)**

National legislation
- **National inventory of wetlands**

Regional legislation
- **Natural Park**
- **Flora micro-reserves: Llacuna del Samaruc, Muntanyeta dels Sants**
- **Fauna reserves: Llacuna del Samaruc**
- **Species management plans: *Valencia hispanica, Larus audouinii, Circus aeruginosus, Botaurus stellaris, Emberiza schoeniclus subsp. whiterbyi, Marmaronetta angustirostris***

→ THREATS AND PRESSURES

1. Low water quality: high nutrient concentration, excess of phytoplankton
2. Loss of biodiversity due to the poor water quality and lack of adequate habitats
3. Agricultural intensification
4. Invasive species: carp (*Cyprinus carpio*), sunfish (*Lepomis gibbosus*), red swamp crayfish (*Procambarus clarkii*) and blue crab (*Callinectes sapidus*)
5. Hunting

40 HA

of rice fields have been restored to a coastal freshwater lagoon priority habitat 7210 Calcerous fens with *Cladium mariscus*

→ OBJECTIVES

1. Improve water quality in Albufera's lake using phytoremediation
2. Restore natural wetland habitats and increase biodiversity
3. Public awareness and education

→ IMPACT

The restoration of Tancat de la Pipa has created a mosaic of marshland habitats, two permanently flooded lagoons and one 'ullal' (the local name for springs), using species such as *Phragmites australis*, *Typha domingensis*, *Cladium mariscus*, *Iris pseudacorus*, *Juncus* sp. and *Scirpus* sp., favouring the priority habitat *7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*. The reserve has also strengthened the populations of endangered species such as *Limonium* sp., *Ceratophyllum submersum*, *Salsola soda* and *Arundo micrantha*.

Since its restoration, the artificial wetland has filtered 28 Hm3 of water (1.55 Hm3/year on average), reducing the total amount of phosphorus by some 43% (152 kg/year of P), the total amount of nitrogen by 52%, and up to 80% of the total amount of chlorophyll a.

→ RESTORATION ACTIONS & METHODOLOGY

- A 40-hectare rice field located next to the Albufera lake was transformed into a marsh area, through the following actions:
- The construction of four plots planted with typical wetland vegetation (reeds, cattails, irises and saw-sedge). The quality of the shallow water flowing through these plots is improved by phytopurification.
- The creation of one 'ullal' (an underground water source) and two lagoons fed with water from both the ullal and the 'green filter' plots in which submerged vegetation can grow, forming aquatic habitats and typical wetland environments. These help to increase the biodiversity of Albufera Natural Park by providing birds and other vulnerable species with refuge and nesting sites.
- The transformation of the old building into a visitor centre and the construction of bird observatories and a self-guided path.

→ BUDGET & SOURCE OF FINANCE

€6.8 million – Júcar River Authority, Generalitat Valenciana

→ SOCIAL SUPPORT

Since the reserve has been open to the public, visitors have very much enjoyed their experiences, and their gratitude is clearly reflected in the centre's visitors' book.

- "9/12/11 Fantastic. Excellent welcoming and information. Extremely interesting. Bravo for all the work done. And a thousand thanks. Ser&Mar Switzerland"
- We loved the visit and the explanation. Very interesting and very good conservation and recovery work in this area that is so representative of our community. Congratulations for so much and such a good job. 01/04/2018.

The newly created habitat, along with the improved water quality, has led to the reserve becoming a biodiversity hotspot in l'Albufera, increasing the breeding populations of bird species linked to good water quality. It hosts almost half of the breeding pairs of red-crested pochard (*Netta ruffina*) and common coot (*Fulica atra*) in the Albufera Natural Park, and the only breeding pairs of gadwall (*Mareca strepera*), garganey (*Spatula querquedula*) and northern shoveler (*Spatula clypeata*) in l'Albufera. It also hosts stable breeding populations of moustached warbler (*Acrocephalus melanopogon*) and Savi's warbler (*Locustella luscinioides*), as well as wintering species such as the Eurasian bittern (*Botaurus stellaris*). Restoration has also favoured colonisation by endangered species such as the endemic Spanish toothcarp (*Aphanius iberus*) and the European pond turtle (*Emys orbicularis*).

PROJECT DATES:
2007 - 2009

→ STAKEHOLDERS

Júcar River Authority (landowner), TRAGSA (public company responsible for the construction works and in charge of site maintenance).

→ AUTHORITIES SUPPORT

Valencia regional government (Generalitat Valenciana), local government (València City Council, Catarroja City Council)

→ OTHER PARTNERS

SEO/BirdLife and Acció Ecologista-Agró (NGOs in charge of site management and public awareness), Polytechnic University of València (analysis of physicochemical water quality and water flow measurements), and València University (analysis of chlorophyll a, phytoplankton and zooplankton)

→ WHO BENEFITS?

The reserve is open to the public, who can visit it independently, enjoy a guided tour, participate in activities, or get involved by engaging in the volunteering programmes and citizen science projects. Since it was opened to the public in October 2009, more than 60,000 people have visited the reserve or participated in the activities run in Tancat de la Pipa.

Visitors can access the reserve on foot or by bicycle. There is a 1.2 km self-guided trail accessible only on foot and suitable for wheelchairs that passes through the reserve's different habitats. There is one observatory at the lagoon and a viewpoint on top of the visitor centre. There is also a pontoon to access the reserve by boat from any of Albufera's lagoon ports.

→ LESSONS LEARNT

In a space where management seeks to achieve both biodiversity recovery and water quality improvement, it has been essential to develop a complete multi-parameter monitoring scheme. This has allowed a balance to be struck between the different environmental objectives. Likewise, the continuation of monitoring activities allows for a constant evaluation of the success of all the management measures developed (e.g. mowing and lagoon drying, among many others) for biodiversity, habitats, and the ability to improve water quality.

The Albufera wetlands have suffered from intense agricultural activity and a scarcity of marsh habitats. Generating hotspots of biodiversity generally leads to the appearance of density-dependent problems (e.g. the development of abundant submerged vegetation that is intensively foraged by herbivorous birds, which prevents aquatic vegetation from regenerating year-on-year). High intensity use by some species and an increase in competition dynamics can, in fact, create ecological traps in those spaces. As an example, they can be suitable places for breeding, but then suffer a high rate of predation. In the same way, it is essential to know in detail the biology of a species in order to implement specific actions that allow for the smoothing of competition relationships and conflicts over the use of the space. All these reasons make the design of management plans essential to help us in achieving specific objectives, which include public use.

The implementation of governance models such as participatory management involving third parties, along with co-management agreements, favours the sharing of information and decision-making based on evidence, experience and consensus. In this sense, involving the local community and citizens in the management and monitoring of processes through citizen science and volunteering has been a great success. All these actors now understand and value the ecosystem services provided by the recovery of the area.

→ REFERENCES

1. www.tancatdelapipa.net
2. 10 years of Tancat de la Pipa (in Spanish)

"Tancat de la Pipa is a space that reproduces the environmental conditions of l'Albufera before the environmental collapse of the 70s. It is a great pride to sign this agreement with the entities that guard it and work so hard to conserve it."

SERGI CAMPILLO, DEVESA-ALBUFERA CITY COUNCILLOR, ON THE DAY WHEN THE AGREEMENT BETWEEN VALÈNCIA CITY COUNCIL AND TANCAT DE LA PIPA WAS SIGNED

→ CONTACT DETAILS

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With support from MAVA

WETLAND BASED SOLUTIONS

wetlandbasedsolutions.org