



LIFECHARCOS

“Conservation of Temporary Ponds in Southwest Coast of Portugal”

LIFE12NAT/PT/000997

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Who lives in Mediterranean Temporary Ponds?

The [LIFE Charcos Project](#) assembled all the ecological, present and historical, information about Mediterranean Temporary Ponds (MTP's). Thus, a benchmark was created for the MTP's of the [Site of Community Importance of Southwest Coast of Portugal](#). To carry out this task, ponds were visited regularly in order to make a qualitative and quantitative biodiversity assessment. It was used different species group such as plants, amphibians, micro mammals, large brachiopod crustaceans, among others.

As a result, a total of 248 species of plants were identified. In each ponds, the richness varies between 13 and 72 species of plants. It is worth to mention that 11 species of protected plants or plants with restricted distributions were also founded. For instance, [Caropsis verticilato-inundata](#), a plant considered a priority species in the Habitats Directive was present.

Regarding the amphibians, 13 species were found in the MTP's, and those detected more often were: [Iberian Spadefoot toad](#), [Iberian ribbed newt](#), [European tree frog](#), [Parsley frog](#), [Iberian painted frog](#) and [Southern marbled newt](#).

For micro mammals, like [Cabrera's vole](#) and the [Southwestern water vole](#), the most important set of ponds are located in the region of Vila Nova de Milfontes. In addition, 17 species of bats were detected, among them some highly threatened such as the Mehely's horseshoe bat which was recorded at only two MTP's.

In terms of the [Crustaceans - Large Brachiopoda](#), 6 species inhabit the MTP's, representing 50% of all the species found in temporary wetlands on the mainland of Portugal. The presence of [Triops vicentinus](#), endemic in the west coast of Algarve, it was found in 13 ponds in Vila do Bispo municipality. [Cyzicus grubei](#), a clam shrimp species endemic to the Iberian Peninsula, is noteworthy since it was only register in 3 ponds in Sagres. Another extremely rare specie of clam shrimp, [Maghrebestheria maroccana](#), was only found in one pond in Vila Nova de Milfontes. The fairy shrimp [Branchipus cortesi](#), [Tanyastix stagnalis](#) and [Chirocephalus diaphanus](#) were also recorded.

The results obtained clearly show the importance of these ponds, not only due to their biodiversity richness but also due to the occurrence of unique and threatened species.

Caropsis verticilato-inundata



© José Pacheco

Tadpole of Iberian ribbed newt



© Vasco Flores Cruz

Eryngium corniculatum



Cyzicus grubei



© Luís Quinta

Hyacinthoides vincentina



Iberian Spadefoot Toad



© Bruno H. Martins

Triops vicentinus



© Luís Quinta

Testimony:
Telma Guerreiro, Mother



This is a very interesting project which presents an opportunity for research and protection with a strong principle of pedagogy for the community. The most interesting aspect is the possibility of joining scientific research/knowledge to the day-to-day pedagogy of schools and families.

The strengths of this project are: its ability to mobilize and involve the school community (the children learned a lot and made wonderful pieces of work that touched the entire community); its ability to communicate the impact of the message "save the ponds"; the fulfilment of all the objectives regarding the call for attention to this natural patrimony (which I had no idea was such a unique and special one); the diversity of activities; sense of belonging of the project by the school; and the fascination of the children by the subject.

I participated in all the activities to which my daughter challenged me for: visit to the pond at night [...] exhibition; dance with the campaign to save the ponds; final school year party in the theatre with plays and dances about the subject. It has been a constant challenge to our knowledge, to our capacity and duty to preserve. We always like the activities for involving everyone, for the surprise of discovery, for the professionalism of the project technicians and particularly for the children's passion!

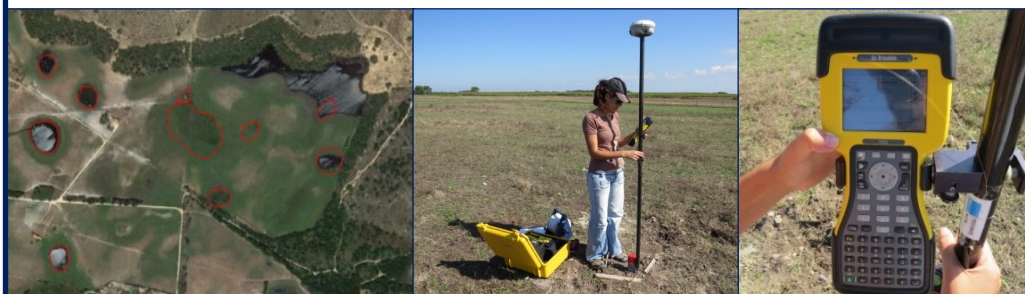
Ponds in the Southeast Coast: How many and where are they?

Mediterranean temporary ponds, considered priority habitats in the Habitats Directive, may be easily confused with other bodies of stagnant water, temporary and not of priority for nature conservation.

The cartography was scattered and out of date, and it was necessary to update it. As a result of cartographical surveys and ground prospections, the project team was able to obtain the following results:

- **106** Mediterranean Temporary Ponds identified;
- **24** ponds which were not referenced before the Project;
- Area of the largest pond: **73,000 m²** and area of the smallest pond: **50 m²**.
- Total area occupied by ponds in the coastal plain of southwest Portugal (Costa Sudoeste): **78 ha**.
- Percentage area occupied by ponds in the total terrestrial area of the Costa Sudoeste SCI: **< 0,1%**.
- Usage of the soils surrounding the ponds: **45%** agriculture, **49%** forestry or uncultivated and **6%** other uses.

The compilation of all ecological and biological information, as well as the cartography of this habitat were integrated in a Geographic Information System and will be made available to the authorities in charge of land management and fiscalization. In this way it is intended to provide decision-makers and managers with efficient tools for making effective decisions towards the conservation of biodiversity associated with this priority habitat.



Hottentot fig removal in Sagres

Aiming for an active contribution for the conservation of Mediterranean Temporary Ponds, 16 volunteers removed 2,900 kg of Hottentot fig (*Carpobrotus edulis*) in just 3 hours around the temporary pond of Vale Santo in Sagres.



Opinion of: Ronja Lunke, project Intern



Due to my studies in Geography with specialization on landscape ecology I decided to do my internship at LPN in the LIFE Charcos project. In Germany I have never heard something about Mediterranean Temporary Ponds and therefore was very curious about getting to know as much as possible about this natural habitat.

The more I learned about it, the more I was fascinated by the biodiversity and the importance of the MTP's. But not only some specifics were impressive. Also the different elaborate and clever strategies, these inhabitants of the MTP's developed, to deal with the different water conditions the ponds are facing were stunning. Plants, that completely change their appearance depending on the season, animals producing eggs that can survive until there is enough water to hatch and much more. Besides that I was fascinated about the complexity of the interactions existing between the different animals, plants and the habitat itself and how fragile the whole system is therefore.

I valued the environmental education work with children as well as with grown-ups a lot and was happy to contribute to it. I had the feeling, that this is indeed a very important task in this project to make sure, that also in the future, after the end of the project, the preservation and survival of the MTP's is guaranteed.

Pond restoration in Vila do Bispo

The restoration and rehabilitation of degraded ponds is one of the main actions of the LIFE Charcos Project, in order to reinstate the natural conditions that allow the long term sustainability of these habitats. These restoration actions have therefore already taken place in two temporary ponds in the Forest Perimeter of Vila do Bispo, in Algarve.

In one of the ponds it was necessary to control invasive vegetation, such as acacias, which were invading the pond area and constraining the conservation status of the habitat. In about 20 metres around the pond, in an area of 6,000 m², hundreds of acacias were cut down and removed, making up about 10 tons of firewood. For this activity, the support of the forest fire fighters of Vila do Bispo municipally was essential.

Another restoration action performed was the topography recovery of the water retention basin in two ponds, creating the necessary conditions to ensure the survival of three vegetation belts which are characteristic of this habitat. This action also included planting shrubs and sowing of grasses at the margin of one of the restored ponds.

These interventions were followed closely by the Project team to ensure the protection of the flora and fauna associated with these singular habitats. For example, special attention was given to the most superficial sediment layer, which were collected and relocated to the same place, since these contain the seed banks with plant spores and brachiopod cysts, which are characteristic of this habitat and essential for its natural recuperation after intervention.



Pond connectivity improvement

At the Forest Perimeter of Vila do Bispo, besides the restoration actions of temporary ponds, an attempt was made to improve the connectivity between ponds, in order to promote the movement and exchange of amphibians between ponds. Towards this end, two small pools were built and several shelters were created along the margins of these pools (with small mounds of rocks or logs), which will provide protection and facilitate movement of amphibians between the two existing temporary ponds.

Habitat connectivity and in particular that of ponds or wet grasslands is essential for the long-term survival of the associated biodiversity, especially of the populations of specialist species with less agility, such as amphibians or micro mammals.



LIFE Charcos Project

"Conservation of Temporary Ponds in the Southwest Coast of Portugal"

(LIFE12NAT/PT/000997)

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LPN – Liga para a Protecção da Natureza

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Vigilantes and guards of Nature in training session about MTP's conservation

The Project carried out a training course called "Conservation of Temporary Ponds" addressed to the vigilantes and technicians from the Institute for Nature Conservation and Forestry (ICNF in Portuguese), Portuguese Agency Environment (APA) and Military Nature Protection Service and the National Environmental Guard (GNR-SEPNA).

The main goal was to improve knowledge in implement the regulatory instruments for the protection of temporary ponds, report on habitat identification in the field, the main indicator species and their conservation status. These tools and knowledge acquired will provide the competent authorities responsible for the supervision and control of the territory so that they can advise and intervene in conflict situations, acting to safeguard this threatened habitat that are conservation priorities.

The training session was attended by 27 participants in the course of action and it was discussed some problems that they have encountered, clarified some doubts, and possible solutions were presented.

In addition to the theoretical sessions that took place during the morning, it was important a field trip to observe the biodiversity of the ponds, identification of threats and some knowledge of recovery interventions carried out within this project.

At the end of the training session it was notorious the learning acquired since it was identified on the field some of the indicator plants of this habitat present and realized their rarity and importance for the species that depend on it, creating an emotional connection with this habitat.



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FOR MORE INFORMATION,
PLEASE VISIT THE WEBSITE:

www.lifecharcos.lpn.pt

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