

ARTHROPODS

Droetus oceanicus oceanicus Machado, 2009: Species of Coleoptera of the Azores, endemic found exclusively in Paul do Belo Jardim.



BIRDLIFE

Gallinula chloropus and *Fulica atra*, nesting species in Paul da Praia da Vitória and *Charadrius alexandrinus*, nesting species in Paul da Pedreira do Cabo da Praia and occasionally in Paul do Belo Jardim, protected by the Birds Directive (DIRECTIVE 2009/147/CE, November 30, 2009).



ENVIRONMENTAL INTERPRETATION CENTER

Building to support all activity in the area of environmental awareness and bird watching, which will ensure the perpetuation of the project over time. Throughout the development of the project was visited 760 times; 591 by local visitors and 169 by foreign visitors.



DISSEMINATION

The dissemination of the project and its results were carried out through the publication of 16 newsletters, 7 scientific articles, 59 news in the media, 3 local television news reports, 3 interviews and 4 local advertising spots on local radio.



FLORA

Habitats protected by the Habitats Directive (Directive 92/43 / CEE of 21 May 1992), namely: Mediterranean Salty Meadows Habitat consisting of the species *Juncus acutus* L. and *Juncus maritimus* Lam and Meadows of Spartina Habitat being the dominant plant community the species *Spartina versicolor* Fabre.



ICHTHYOFAUNA

The species *Anguilla Anguilla* (European eel species) is present in Paul da Praia da Vitória and occasionally in Paul da Pedreira do Cabo da Praia, adapting well to these ecosystems, since it supports variations of salt level in the water. Species considered in the Red List of Threatened Species, with classification "critically endangered".



INTERVENTIONS

Paul da Praia da Vitória had 4 physical interventions, namely: wet area increase, hydraulic passage replacement, valve system implementation and pumping system. Paul do Belo Jardim was uncovered to recreate a water body area and Paul da Pedreira do Cabo da Praia started hosting the Environmental Interpretation Center in a restored building.



PARTICIPATION IN EVENTS

The LIFE CWR Project team participated in 3 international bird-watching fairs, 9 training related wetland methodologies / data processing, 3 workshops related to nature conservation and 6 events to disseminate the project and its preliminary results.



OFFICIAL WEBSITE

The official portal is an instrument for disseminating project results throughout its evolution as well as for optimizing the exchange and dissemination of information. The portal, recently hosted on www.lifecwr.com, has already been visited by 4,903 people, with 42 different nationalities.



WATER QUALITY

Several physical interventions were carried out at Paul da Praia da Vitória, in order to promote an improvement in the circulation of water in this wetland, through the entrance of salt water, as a way to combat the proliferation of algae.



ENVIRONMENTAL AWARENESS

Environmental awareness aims to raise awareness of each individual for the importance and responsibility of preserving wetlands as a natural heritage. Throughout the project, 108 environmental awareness activities were developed, with the participation of 8.567 individuals with different age groups.



ORNITHOLOGICAL TOURISM

The wetlands of Praia da Vitória city were visited by 441 birdwatcher's: 231 of European origin, 80 of British origin, 24 of national origin, 8 of American origin, 1 of Asian origin and 2 of Australian nationality.



LIFE CWR PROJECT



The LIFE CWR Project is a project of ecological restoration and conservation of Praia da Vitória Coastal Wet Green Infrastructure (IVHPV), which aims to RECOVER, RESTORE and REORDENATE 3 wetlands located on the coast of Praia da Vitória, namely Paul da Praia da Vitória, Paul do Belo Jardim and Paul da Pedreira do Cabo da Praia.

BENEFICIARY ENTITY



Municipality of Praia da Vitória

TOTAL BUDGET



€ 1,383,489.00 being co-financed at 50% by the European Union.

DURATION



The LIFE CWR lasted 5 years, starting on 1 August 2013 and ending on 31 October 2018.

GENERAL OBJECTIVES



- Recovery and restoration of a network of wetlands in the coastal town of Praia da Vitória;
- Providing more and better sheltered area for migratory birds;
- Increased socio-economic sustainability of Praia da Vitória by increasing the ecological services of wet green infrastructure and its utilization and potentiation by the local economy;
- Demonstration of the possibility of synergy in the co-existence of highly humanized areas and ecosystems so rich in biodiversity such as wetlands.

EXPECTED RESULTS



SOCIO-ECONOMIC LEVEL

- Increase socio-economic sustainability of the city;
- Development of an economic system that is based on the ecological services produced by the wet green infrastructure including support and international support for birdwatching;
- Creation of a team specializing in environmental restoration of wetlands;
- Increase visitation from international birdwatchers;
- Development of a society more respectful of the environment and the natural vocation of the territory.

ECOLOGY LEVEL

- Increase the biodiversity;
- Establishment of a network of wetlands that integrates three areas with very different characteristics;
- Increase the available area and improvement of ecological conditions of the structure to support migratory birds;
- Renaturation areas heavily humanized;
- Increased visitation of species and individuals by resident species;
- Increased knowledge of wetland ecosystems;
- Possibility of discovery of new species.



LIFE CWR PROJECT

ECOLOGICAL RESTORATION AND CONSERVATION OF PRAIA DA VITÓRIA COASTAL WET GREEN INFRASTRUCTURE PROJECT

LAYMAN'S REPORT

August 2013 - October 2018



Co-financed by



PLANNING • CHARACTERIZE • DEVELOP • MONITORING • EVALUATE

33 DEVELOPED ACTIONS

Preparatory, concrete actions of conservation, monitoring, environmental awareness and dissemination and general management of the project. Each action contemplated a schedule of development adapted to their needs.

5 YEARS
Beginning in August 2013 and ending in October 2018.

RECOVER RESTORE REORDENATE

3 Wetlands

Visits ENVIRONMENTAL INTERPRETATION CENTER

760

At Paul da Praia da Vitória several interventions were carried out to avoid eutrophication of the water body, namely: implementation of a pumping and valve system and replacement of existing hydraulic passage. The increase of the wet area was done with the intention to create habitats with different characteristics, as well as to create a bigger nesting area, feeding and shelter for the species of the several biotic groups. In Paul do Belo Jardim a land removal was made to create a body of water. In Paul da Pedreira do Cabo da Praia, the Environmental Interpretation Center was restored in an existing building and asphalted the access road as a protection measure for the nesting of the *Charadrius alexandrinus* species.

7 INTERVENTIONS

2 ICHTHYOFAUNA SPECIES 

The species *Anguilla* e *Chelon labrosus* were identified in Paul da Praia da Vitória and Paul da Pedreira do Cabo da Praia.

1 PRAIA DA VITÓRIA COASTAL WET GREEN INFRASTRUCTURE

Connecting the three wetlands belonging to the Coastal área of Praia da Vitória city, namely: Paul da Praia da Vitória, Paul do Belo Jardim and Paul da Pedreira do Cabo da Praia.

216  SPECIES ARTHROPODS

Among which the following species were discovered *Bembidion semipunctatum* (Donovan, 1806): a rare native species of the Azores found in Paul da Praia da Vitória | *Drouetius oceanicus* oceanicus Machado, 2009: species of Coleoptera of the Azores, endemic exclusively found in Paul do Belo Jardim | *Conocephalus chavesi* (Bolivar, 1905): a rare endemic species of the Azores found in Paul da Pedreira do Cabo da Praia.

441 BIRDWATCHER'S

The normal visitation period is from August to October, between the summer and autumn seasons. Activity mostly practiced by male individuals, aged between 40 and 60 years, belonging to the third sector of activity, in the areas of environment, science and engineering and production or the reformed population. They usually stay on Terceira Island for 1 to 4 days.



hectares **27** WETLANDS

Paul da Praia da Vitória: 16 hectares | Paul do Belo Jardim: 3 hectares | Paul da Pedreira do Cabo da Praia: 8 hectares

9 FORMATIONS

The technical team participated in several formations related to methodologies of field work in wetlands, namely in the area of birdlife, flora, biophytes, arthropods and management of wetlands.

Have accessed the official LIFE CWR project site, available at www.lifecwr.com, which contains general information about the project and data collected during its development. This site is interactive, fast and informal, which allows its user to consult and share information

4.903 PEOPLE

BODY OF WATER

53.175,21 m²

Paul da Praia da Vitória: 30,280 m² | Humid coastal zone with rich substrate in organic matter, permanently flooded by brackish water, resulting from the mixture between freshwater coming from the base aquifer, precipitation and drainage and salt water, from the infiltrations and artificial conduits existing in the wetland, which connect this wetland to the sea.

Paul do Belo Jardim: 580 m² | Humid coastal zone with sandy subsoil, permanently flooded, its body of water is fed mainly by fresh water, coming from the base aquifer and precipitation.

Paul da Pedreira do Cabo da Praia: 22,315 m² | Coastal wetland with muddy substrate, temporarily flooded, the presence / absence of water depends on the tide cycle. Its a body of water, mostly salty, is fed by fresh water, from the base aquifer and precipitation and by salt water, coming from natural channels existing in the rocks that surround this ecosystem.

106 SPECIES BIRDS

Of which 19 are resident, 22 nesting, 8 endemic, 6 native, 3 introduced, 3 summer and 87 migratory. Of the migratory ones 48 are regular, 16 occasional and 23 rare.



22 NESTING BIRDS

In a particular note the bird species *Gallinula chloropus* and *Fulica atra* at Paul da Praia da Vitória and the specie *Charadrius alexandrinus* which nest regularly in Paul da Pedreira do Cabo da Praia and occasionally in Paul do Belo Jardim.

3 BIRD WATCHING International Fairs

Participation in BIRDFAIR in Egleton, England, where the project and the wetlands of the municipality of Praia da Vitória were promoted as places of interest for birdwatching.

FLORA CHARACTERISTIC OF WETLANDS AND DUNE SYSTEMS

13 SPECIES

To highlight the species: *Spartina versicolor* Fabre, *Juncus acutus* L., *Juncus maritimus* Lam., *Lotus creticus* L. It should be noted that throughout the project the

the specie identified for the first time *Spartina versicolor* Fabre at Paul da Praia da Vitória. The existing seed bank in the wetlands allowed that after the interventions there was a rapid repopulation of the species *Juncus acutus* L.

9 INFORMATION BIRDS



Three information boards were placed in each wetland, at different times, with relevant information about the project.

57 BRYOPHYTES

Among which the following species *Psychostomum bornholmense* (Wink. & R. Ruthe) D. T. Holvoak & N. Pedersen, new species for the Azores found in Paul da Praia da Vitória. *Bryum klinggroeffi* Schimp., new species for the Azores found in Paul do Belo Jardim and *Fissidens crispus* Mont., species not described in Terceira Island, since 1937, found in Paul da Pedreira do Cabo da Praia.

87 MIGRATORY BIRDS



At Paul da Praia da Vitória, there were 39 migratory birds: 23 regular, 8 occasional and 8 rare, to highlight *Branta canadensis* e *Lophodytes cucullatus*. In the Paul do Belo Jardim, 26 migratory birds were identified: 23 regular, 1 occasional and 3 rare, of which stand out *Larus glaucooides* e *Larus hyperboreus*. At Paul da Pedreira do Cabo da Praia, 66 migratory birds were registered: 41 regular, 11 occasional and 14 rare to highlight *Platalea leucorodia* e *Tringa brevipes*.

7 SCIENTIFIC ARTICLES

To date, 7 scientific articles have been published on the studies carried out in the wetlands of the city: 5 in the area of bryophytes and 2 in the area of arthropods.

14 NATIVE FLORA

Of which the species *Bolboschoenus maritimus* (L.) Palla, *Juncus acutus* L., *Juncus maritimus* Lam., *Polygonum maritimum* L., *Morella faya* (Aiton) Wilbur, *Ruppia maritima* L.

16 NEWSLETTER'S

It is published on the official site of the project and in the list of contacts that includes other municipalities, LIFE projects, entities, schools and others who have expressed their interest.

1 MANAGEMENT PLAN

The Praia da Vitória Coastal Wetland Infrastructure Management Plan was prepared, which includes the management measures to be implemented in Post-LIFE and its timing as well as pertinent information on the various biotic groups collected throughout the project.

108 ENVIRONMENTAL AWARENESS ACTIONS

Throughout the implementation of the project, 108 environmental awareness activities were implemented for various target groups with various age groups, including: 71 activities for people aged between 3 and 18 (7.197 people covered), 23 activities for people aged 19 and 64 (484 people covered) and 9 activities for people over 65 (886 people covered).

