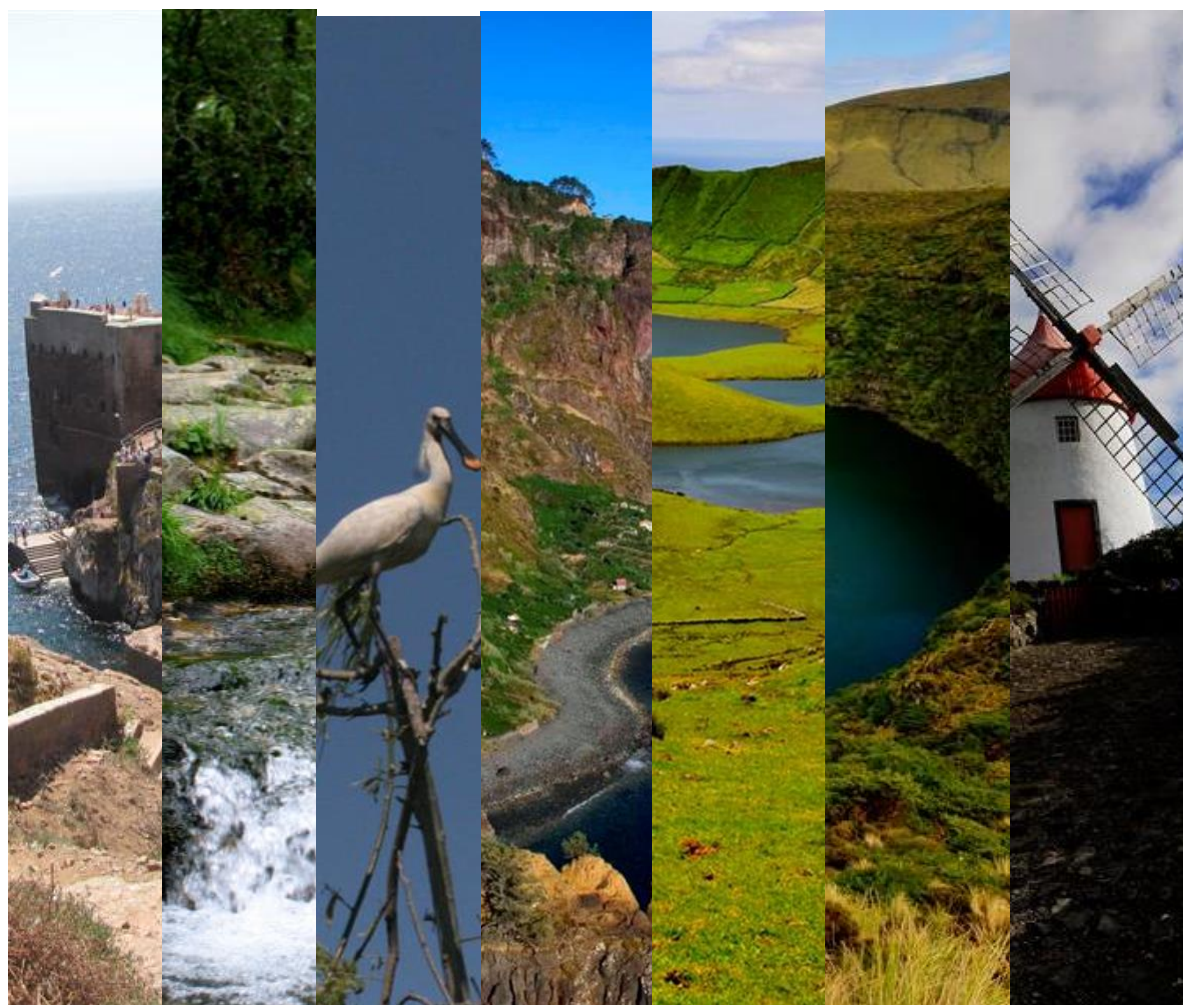


# **Portugal** Report of activities under the Programme **'Man and Biosphere'** **(MaB) - UNESCO**

2014 – 2015



National Committee



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## 1. INTRODUCTORY NOTE

Portugal is associated with the Man and Biosphere Programme (MaB ) since late 1981. Presently there are seven (7) Biosphere Reserves, an important number in a country with the geographic dimension of Portugal, whose designation was based on the presence of natural values of special relevance for its rarity and value in scientific, ecological, social or scenic terms. Biosphere Reserves of Portugal cover different types of ecosystems, such as islands in the regions of Macaronesia and in the Atlantic sea, marshes of the Tagus and mountainous areas in the north of mainland Portugal.

Biosphere Reserve from Paul do Boquilobo was designated in 1981, some years before Seville Strategy, and presented last years is Report of the Periodic Review and we are now taking the necessary arrangements to meet all mandatory World network statutory framework criteria.

Three new areas are now being assessed. Two proposals are transboundary Biospheres Reserves which demonstrates very clearly the geographical continuity of natural values in the Iberian Peninsula and a strong element of cooperation between Portugal and Spain with regard to policy of biodiversity conservation and its sustainable development/green growth potential. One of them, the Transboundary Biosphere Reserve Iberian Meseta was appreciated in the last International Advisory Board meeting and it was worthy of a recommendation for its approval by the International Coordination Council (ICC) at its 27th meeting in June. If it goes ahead, Portugal will face another challenge of biodiversity conservation and sustainable development in a very next future.

The third proposal is being prepared in Azores archipelag.

In the present report the activities carried out between May 2014 and April 2015 are presented.

## 2. Biosphere Reserves

### A. Mainland Portugal

#### A.1 - Biosphere Reserve of Paul do Boquilobo

World Network of Biosphere Reserves since 1981

Managed by ONGATEJO, Golegã Municipality and Institute for Nature Conservation and Forests (ICNF, IP).



The management of this Reserve is intended to be a development model focused on the conservation of environment and cultural heritage, where management objectives are developed around three complementary axis/functions:

- CONSERVATION- contribution to the conservation of landscapes, ecosystems, species and genetic variability,
- DEVELOPMENT- contribution to an economic and human development which is social-cultural and environmentally sustainable;
- LOGISTIC- Laying the bases for research, monitoring, education and information exchange on issues of conservation and local, national and global development.

The most relevant actions carried out in 2014/2015, are the following:

## CONSERVATION



Follow-on of the conservation and monitoring actions regarding species of flora and fauna, namely:

- The conservation actions to increase the population of *Narcissus fernandesii* continued with the purpose to maintain the current population and the establishment of another population in the area owned by the Portuguese state;

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- The mapping of different flora species has been performed;

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- The recuperation of the Water-Lilies area (*Nymphae alba*) that is extinct within the natural reserve is conducted in two different areas;

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- The maintenance and conservation of the two Cork oak forest habitats (*Quercus suber*), with ecological interest and didactic value, identified in the CCE Directive nº 97/62/EC from 27 October (habitats number 6310 and 9330) continues;

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- The survey to maintain the certification of the Ash populations (*Fraxinus angustifolia*) continues;

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- Monthly census of birds occurring in the reserve with special emphasis on the wildfowl species and the breeding species, in the herons colony;

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- The regular ringing station, under the terms of the EURING, continues and has proved to be a successful way to sensitize local population and schools regarding the passerines protection. Some sessions were attended by local schools and surrounding population;

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- Participation in the National and European ATLAS census of the breeding birds;



- A program to monitor the fish species within the Biosphere Reserve area has started with the collaboration of Tomar Polytechnic School (IPT).

## DEVELOPMENT

In the sustainability axis, the actions to promote a participative management of Biosphere Reserve (BR) was very successful and an Executive board with ONGATEJO, a local NGO, the Golegã Municipality and the ICNF, Institute of Nature Conservation and Forest was created in 2014.



This group is supported by an Advisory commission, an enlargement group of major representative stakeholders which include sectors such as agricultural, cattle grazing, touristic operators, private land owners, schools and

universities.

A large meeting to discuss the management model of the BR was held in January 2014.

Nowadays, work to enlarge the existing BR and answer to Unesco recommendation, namely to define the three zoning areas, which is being discussed among executive board, advisory committee and stakeholders. The Executive board created management guidelines to be discussed among users and stakeholders and these reports are intended to be deliver by June 2015.

In 2014, the following activities are worth mentioning:

- In 23 June a conference was organized under the theme Boquilobo Marsh, Natural Reserve/ Biosphere Reserve;
- In 23 June a protocol has been signed by ONGATEJO, the Golegã Municipality and ICNF to establish the means to improve the Biosphere Reserve by the creation of a new Executive Board for the BR;
- In July disabled persons attended a dedicated visit to the Reserve;
- In September, in response of a demand from the municipality, the II Triathlon of the Golegã, was partially realized inside the Reserve;

- In October, with the collaboration of two non-government environmental associations (QUERCUS and SPEA) the Reserve participate in the EurobirdWatch 2014 event:
- 
- In November a horse ride, related with the Annual International Horse Fair, associated with Golegã Municipality, was organized;
- 
- Torres Novas Municipality continued the program to improve water quality of the Almonda River with the construction and improvement of several industrial water sewage treatments;
- 
- An open on-line inquiry was made in august, in order to receive feed-back from public and stakeholders concerning new proposals for governance, guidelines for management and support for the new Executive board.
- 
- ONGATEjo sent to all regional and local Development Associations, new guidelines for the RB management.
- 

In 2015, the following activities are worth mentioning:

- A volunteer program for work on the maintenance of the natural trail inside RB, one day per week.
- 
- On the International Wetlands Day there were several group visits;
- 
- A primary inventory of archeologic sites was made. with the collaboration of the local archeologic authority;
- 
- On the International Forest Day a photographic safari activity was performed with the collaboration of a regional photographic association;
- 
- The Presidency of the Republic of Portugal advisors visit to the Biosphere reserve ;
- 
- Two local Tourist Associations were authorized to perform visits, to implement a new natural trail and to improve the existing trail. This programme was implemented with the collaboration of the Golegã Municipality, regarding pedestrians visits, horse riding and cycling visits ;
- 
- A new bird observatory is built and a program to renovate the existing one is being implemented.
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## LOGISTICS

- A local schools competition with a large participation of students. was made in order to choose a new logo for the Biosphere Reserve;

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- A Web page of the Biosphere Reserve was created and is under construction with the support of interested parties and stakeholders;

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- The protocol with the Tomar Polytechnic Institute continues and was enlarged to other themes beyond the water quality monitoring, namely the impact of electric fishing and the impact of sheep grazing;

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- A protocol with the Santarém Polytechnic Institute has kick-off with a study of the herons colony evolution;

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- A new power point presentation was created, in order to be used as introduction to visitors at the Information Centre.



## **A.2. -Berlengas Biosphere Reserve**

**World Network of Biosphere Reserves since 2011**

**managed by the Municipality of Peniche and Institute for Nature Conservation and Forests (ICNF, IP)**



### **CONSERVATION**

In the context of the conservation pillar, some major projects are underway:

**1. LIFE + Nature project LIFE13 NAT/PT/000458 "Conserving threatened habitats and species in Berlengas SPA through sustainable management" (LIFE Berlengas - 01/06/2014 until 30/09/2018)**

Partnership: SPEA (coordinating partner), ICNF, Faculdade de Ciências Sociais e Humanas of the Universidade Nova de Lisboa, Centro de Estudos de Geografia e Planeamento Regional and Peniche Municipality.

Under this project the following main monitoring and management actions have started in 2014:

**Action A.1** - Characterization of breeding populations of seabirds, trends and threats. In June 2014 took place a partial shearwater census only on the island of Berlenga. Between October and December Farilhão do Nordeste and Farilhão da Cova

islets were prospected to enumerate the breeding population of Madeiran Storm Petrel. In Farilhão Grande were mounted bird nets and automatic cameras to assess the size of the population and monitor reproduction. In January 2015 was held a partial census on the island of Berlenga and automatic cameras were also mounted.

**Action A.2** - Monitoring the reproductive success of Yellow-legged-gulls and identification of areas of exclusion. Was conducted a census of nesting population of gulls on the island of Berlenga in 2014. A technical visit to the island was done to determine the locations of exclusion areas of seagulls and definition of the sampling methodology was made. In accordance with this methodology, the area where the seagulls exclusion structures will be placed has been identified. This action provides the purchase of semi-rigid boat whose acquisition process is underway by ICNF.

**Action A.3** - Characterization of introduced populations of mammals, including their genetic characterization. This action was initiated in July 2014 and the following activities were done:

- Test with wax blocks with different baits to determine what type of bait attracts the black rat and the rabbit. Baits tested were: peanut butter, apple juice and carrot puree.
- Wax blocks with were placed Soldados islet, Maldito islet, Da Ponta islet and Da Velha islet, to check the occurrence of black rat. We did not find any evidence of presence in these islets.
- The work to characterize the abundance of black rat on the island of Berlenga started in July 2014. Two sampling areas were established were a capture-recapture scheme using Sherman traps was implemented in order to estimate the size of populations.
- Sampling of black rat and rabbit tissue for genetic characterization of populations began. Samples were sent for analysis at the Faculty of Science, University of Lisbon.

**Action A.5** - Mapping and characterization base of invasive alien plants, and preparation of the eradication plan.

Orthophotomaps were acquired of all Berlengas archipelago and the large patches of Hottentot-fig have been identified. Subsequently have been confirmed on the ground the great spots of Hottentot-fig and mapped the small patches (photographed and recorded the geolocation with a GPS unit) of the island of Berlenga.

**Action A.6** - “Gathering baseline information of visitors” a pilot survey was conducted between 6 and 11 of august 2014, during which 60 visitors were questioned. Sampling focused on the areas with the highest concentration of visitors, seeking to maximize the number of respondents. The questionnaire was composed by 34 questions plus personal data about the respondent. Response time was around 15 minutes. The pilot survey formed an essential basis for the field campaigns to be conducted in 2015 and 2016, contributing to a first idea of the visitor profile. From the preliminary results it is worth mentioning the positive image of the area and the high degree of satisfaction with the recreational experience. A strong spatial concentration of visitation can also be noted, for example at the beach, which may explain the perception of an excessive number of visitors, expressed by 38% of respondents, a clear indication of a problem that must be properly studied”.

**Action A.7** - “Characterizing the impact of seabirds predation by yellow-legged gull”.Between July and August 2014, 23 automatic cameras were mounted to monitor the possible predation shearwater nestlings by Yellow-legged-gulls. Also automatic cameras were placed in the colonies of Madeiran Storm-petrel and Shag.

**Action C.4** - “Construction of artificial nests for shearwater and Madeiran Storm-petrel”. In September 2014 a team stayed in Farilhão Grande to build 42 nests of Madeiran Storm-petrel. Nests were aggregated into 4 cores with a variable number between 6-14 nests per core.

**Action C.5** - “Control and eradication of invasive alien plants”. All small patches of identified and georeferenced Hottentot fig (action A.5) have been uprooted and left to dry on the ground, between 23 to 30 July 2014, with a total area of about 390 square meters. Small Hottentot-fig patches were removed in islet of the Northeast Farilhão. The removal work by tracks in large patches began in August 2014.  
<http://www.spea.pt/pt/noticias/retirada-de-chorao-cria-logo-life-berlengas/>



**Action E.3** - “Definition of a communication plan for promotion of natural values of Berlengas.” This action was initiated in July 2014 and has been developed to date, already with some results:

- A Communication plan Development with a special focus on actions for 2015 have been taken into account the target groups and project objectives.
- The launch event of the project in Peniche, on 7 February, was attended by about 60 people and three local/regional journalists. For this event open to the public were invited stakeholders. The participants were interested and when the debate was open to all, expressed their doubts and concerns. This event was the time to explain the actions of the project and ask questions about what was being done;
- A partnership is done with the local newspaper Voz do Mar, which ensures the publication of an article about the project every two editions.
- It was also made a partnership with the regional Radio 102 FM (issued on Peniche, Caldas da Rainha, Óbidos and Lourinhã) that will ensure a regular highlight to the project;
- 4 press releases were sent, which resulted in 34 news relating to the project, including 4 interviews on national radio;

**2. LIFE+ MarPro Project- Conservation of marine protected species in Mainland Portugal** (LIFE09 NAT /PT/00038; Duration: 2011-2015; aims: reduce the conflicts between fisheries and cetacean and seabird species by implementing solutions, concerning:

- by-catch and fish depredation; understanding the complex relations between the exploitation of pelagic fishes and the conservation of protected species; ensure the long-term socio-economic viability of the management, surveillance and monitoring activities of the target species and their habitats, together with the promotion of a sustainable exploitation of marine fishery resources of Mainland Portugal). Partnership: University of Aveiro (coordinating partner), IPIMAR (Portuguese fisheries institute), University of Minho, SPEA and ICNF, I.P.

This project gives continuity to the project “Spatio-temporal dynamics of seabird-marine prey interactions in the Portuguese coast”, aiming to understand the complex interactions between four trophic levels of the Portuguese pelagic ecosystem:

primary production, secondary production, distribution of pelagic fish and seabirds along the Portuguese continental shelf.

### **3. Other Actions underway in Berlengas and Peniche coast:**

- Census of cetaceans in the marine area of the Biosphere Reserve - 2,800 Nautical Miles  $\approx$  5 Km;
- Seabirds monthly counts from Cabo Carvoeiro;
- Observation of Seabirds behaviour from Cabo Carvoeiro;
- Coastal Inspections from April to October for the detection of marine mammals and birds strandings.

Updated results can be consulted in this link:  
<http://marprolife.org/index.php/en/progress/action-results#.VVx4grlViko>

## **DEVELOPMENT**

### **1. Biosphere Reserve of Berlengas (UNESCO) welcomed environmental volunteering.**

The School of Tourism and Maritime Technology (Peniche) of Leiria Polytechnic Institute (IPL), in conjunction with the Institute for Nature Conservation and Forestry and the Municipality of Peniche, promoted between July and September 2014, a programme of environmental volunteering on the island of Berlenga.

Volunteers participating in this programme, did activities to assist visitors, informing and sharing the unique values of the Biosphere Reserve of Berlengas (UNESCO). In addition to the information provided, young volunteers raise awareness of appropriate behaviours in a marine ecosystem of great importance at national and international level. The environmental volunteer programme has the support of the Captainship of the Port of Peniche and the Portuguese Navy.

**2. The IPL new scientific and technological infrastructure, named CETEMARES** launched in 2013, is almost concluded. The building constructed in the fishing harbour of Peniche will be the headquarters of the Marine resources research group from the School of Tourism and Maritime Technology (ESTM). The investment amounts to about 3 million euros and is supported by European funds.

## LOGISTICS

Regarding logistics, the Biosphere Reserve of Berlenga performed the census of reproductive populations of seabirds in the Berlengas Archipelago - Yellow-legged Gull *Larus michahellis*, Shag *Phalacrocorax aristotelis* and 3 major initiatives as follow:

1. **The Do\*Mar Student Day** occurred a day before the IMMR 2014 (9th of July) and gather students and prospective PhD students in the unique scenario of the Berlengas Biosphere Reserve - UNESCO World Heritage. The IMMR 2014 is an international congress planned to communicate novel scientific knowledge on marine resources and research towards the sustainability of our planet. The 2014 edition of the IMMR was under the frame of Campus do Mar - International Campus of Excellence and was organized by the Marine Resources Research Group (GIRM) of the Polytechnic Institute of Leiria.

( [http://campusdomar.es/?post\\_type=noticia&p=8620&lang=es](http://campusdomar.es/?post_type=noticia&p=8620&lang=es))



2. **“Tanto Mar” 2014 Week** - cultural and adventure week on the valorisation of the strategic role of the sea which involved 50 pre-university young individuals. It was an initiative of the Forum Estudante (Student Forum), in partnership with the Municipality of Peniche and the School of Tourism and Maritime Technology (ESTM-IPL), sponsored by Caixa Geral de Depósitos (Bank) and with the support of the Ministry of Defense, EMAM, Naval School and ICNF.





Students received dive instructions from underwater instructors who explained them the equipment, its operation and what are the main actions used underwater when something goes wrong. Through diving, many marine species and an anchor of a wrecked ship were observed.

Apart from diving, the students were able to learn more about the biodiversity of the Berlenga through an island guided tour and a visit to its lighthouse, where they had a fantastic panoramic view.

3. The Higher School of Tourism and Maritime Technology Peniche - Leiria Polytechnic Institute, through the coordination degree course in Marine Biology and Biotechnology, held from 6 to 8 June, another edition of **Be@Berlenga**.

Be@Berlenga is an initiative whose main objective is to provide to future biologists a direct contact with the Biosphere Reserve of Berlengas (UNESCO), in order to arouse increased interest around the sea and check extracurricular skills for their training. Over the three days of the Be @ Berlenga'14, the 40 future biologists participated in various activities such as scuba diving, workshops, guided tours and nature conservation actions. The organization of the Be @ Berlenga'14 had the support of the Municipality of Peniche, the Institute for Nature Conservation and Forestry, of the Captainship of the Port of Peniche and the UNESCO National Commission.



### **A.3 - Transboundary Biosphere Reserve of Gerês-Xurés -**

**World Network of Biosphere Reserves since 2009**

**Managed, in Portugal, by the Institute for Nature Conservation and Forests (ICNF, IP).**



Various activities were held during 2014/2015 in the context of the Action Plan of the Transboundary Biosphere Reserve of Gerês-Xurés (TBRGX). These activities are hereby presented in accordance with each of the main axis of the Action Plan.

#### **Axis 1 - Image and Identity of the Biosphere Reserve**

##### **1.1 Communication and image of the Biosphere Reserve**

An information map of the Portuguese area of the Transboundary Biosphere Reserve of Gerês-Xurés was produced to help visitors and inhabitants to visit the area and know the highlights of the TBRGX.

#### **Axis 2 - Socio-economic development**

##### **2.1 Training and awareness-raising**

An initiative named "Open Day " was organized on the 26th June. The program of this day consisted in a visit to the western part of the Biosphere Reserve in the municipality of Ponte da Barca and was held in the parish of Entre Ambos-os-Rios. A brief presentation of the natural and cultural value of the Peneda-Gerês and of

Serra Amarela was included, with a pedestrian footpath to the ancient village of Ermida -Ponte da Barca. This activity was attended by 15 persons.



On the 27th de September, in Ponte da Barca, the RBTGX received several technicians and leaders from ICNF and from Ministry of the Environment in a canyoning activity and a fair exhibition of regional products and local nature tourism companies. In the same day the new headquarters of ADERE-PG (PGNP's Development Association) was inaugurated.



Canyoning Activity

Also in 2014/2015 several environmental education activities were held in the context of initiatives such as the "Forest Day", "Monument e Places International Day", the "Green Days" sowing and planting of native species, "Open Day", "Animal Day" and "Autochthonous Forest Day" with a total participation of 1661 persons.





"Autochthonous Forest Day" in Montalegre

"Animal Day": releasing a recovered bird of prey with the family that found it



70 persons participated in volunteer activities towards invasive plant control, mainly with volunteer companies programs (EDP and Inforap):



**Invasive species (*acacia dealbata* and *hakea sericea*) control**

In several information centers throughout the territory of RBTGX a total of 75317 visitors were recorded to visit these centers to collect information on the territory.

Various guided visits to the territory of RBTGX took place, mainly related to the observation and interpretation of natural heritage and also the cultural heritage, in a total of 148 participants.

Several environmental education sessions about the RBTGX natural and cultural values, forests and its importance in water conservation and quality, mountain areas safety, among others were performed reaching 581 participants.



**Guided visit to a footpath in RBTGX**

All the trails promoted by the RBTGX and several of others promoted by the municipalities and development associations of the territory were subject to remarking and cleaning.

## **2.2 Conservation and Valorization of cultural, material and immaterial heritage**

Following the submission of 38 applications of common-lands to non-productive investments (INPS) within ITI/PRODER (UE Funds from Rural Development Program) resulted in the following actions of heritage recovery:

Type of action	Values
Shepherd hut	62
Wolf trap	13
Livestock management trunk	9
Corrals	12
Water Mills	3
Watering points	19
Shepherd trail recovery (m)	213.533,50 m
Densification of forest areas with native species	149 56 square m

These interventions have helped to protect many areas from forestry fires, with a decrease of its occurrences in many of the involved areas and also the recovery of vast areas of pasture, verifying that pastors themselves have recognized the benefits of trenching the bushes to the improvement of grassland instead of the fire. Also the forest areas already experience the recovery of native forest mostly oak and holly groves.

A delegation of the Picos da Europa National Park also came to the RBTGX for a visit and exchanging of experiences who were accompanied by technicians of the ICNF and several representatives of the common-lands local organizations.



**Field trip with the delegation of the Picos da Europa National Park**

### **2.3 Sustainable tourism promotion**

In this context, it is noteworthy the participation of the European Space Agency as a partner in the European project "Sensa - Ecotourism - Sustainable, Environmental and Safe Tourism in Protected Areas", involving the preparation of digital information to help visitors and to put them in permanent contact with the local ICNF administration. A lot of work was done to prepare the Alpha Test phase which was developed from the 4<sup>th</sup> to the 7<sup>th</sup> February 2015 and the Beta Test which is still occurring in May 2015.





Testing SENSA application

The Nature Sports Charter was prepared, with the respective regulation and cartography which establish the rules, places and activities that can be developed inside the RNTGX. It is an essential tool in the regulation of nature tourism in this territory. A public consultation was held.

The renovation of the European Sustainable Charters was initiated with the development of several technical meetings and its 1<sup>st</sup> stakeholders forum .



European Sustainable Charters forum

### Axis 3 -Nature Conservation

#### 3.1 Enhancing knowledge in the area

In partnership with the University of Aveiro, the winter census of the population of Mountain goat of the RBTGX was made.

This action is part of a monitoring program in place since 2011, whereby routes in their area of distribution were traversed and fixed observation points were defined to count individuals and subsequently calculate population parameters.

The update of existing data on wildlife is still occurring in the Database on Fauna of RBTGX.

Monitoring of losses attributed to wolf continued through inspections made to sites where attacks happened, which in 2014 amounted to 1788, with 353 cases being denied as it was not confirmed that it was a wolf attack.

### **3.4 Planning, protection and restoration of flora**

In order to protect the habitats of native forest, vegetation cleanup actions were performed, resorting to bush trenching, planting and replacement. Through the kind of actions of protection of the forests from forestry fires or bush trenching, 893.48 ha were cleaned, through the afforestation cleaning actions 282.67 ha were operated upon and were controlled 25.65 ha of invasive plant.

Regarding the conservation of native climax forest habitats of *Quercus robur*, (Habitat - 9230 "Galician-Portuguese oak woods of *Quercus robur* and *Quercus pyrenaica*") occurring in RBTGX, restrictions were implemented to the transit of motorized vehicles in Albergaria woods, the single habitat of its kind in Portugal. This conditioning took place between 1st June and the 30th September. 45 459 vehicles crossed the Albergaria woods in this period and had to be controlled.

Life project "TAXUS - Restore yew groves [9580 \* Mediterranean *Taxus baccata* woods]" is still occurring, with the aim of contributing to the conservation and regeneration of yew forests existing in RBTGX. This project is being promoted by Quercus - National Association for Nature Conservation, a national environmental non-governmental organization, with the close collaboration of ICNF.

A project is ongoing on the conservation of the population of RBTGX autochthonous scots pine (*Pinus silvestris*), which includes the genetic study of the population, production in nursery of plants from this population and subsequent planting to conserve this population.

## **Axis 4 - Social participation and integration of the community and local actors involved in RBTGX**

### **4.1 Public information and social participation**

The Strategic Council of National Park of Peneda - Gerês, under the aegis of RBTGX, held a meeting where, among other things, the cooperation among the entities

present in the Biosphere Reserve was debated with a view to maximize the development and promotion of the territory.

In January 2015 in Lobios, Spain a meeting of the Executive Committee of the Transboundary Biosphere Reserve Gerês-Xurés took place. The object of this meeting was the approval of the "Action Plan for Development and Territorial Cohesion of RBTGX", carried out by ICNF in partnership with the 5 Municipalities integrated in it (Ponte da Barca, Arcos de Valdevez, Terras de Bouro, Melgaço and Montalegre).

This Action Plan provides for the implementation of actions in the following strategic 4 areas of action: Image and identity of the Transboundary Biosphere Reserve Gerês-Xurés; Socio-economic development; Nature conservation; Social participation and integration of the community and actors involved in the Transboundary Biosphere Reserve Gerês-Xurés.

This Plan calls for the period 2015-2020, the strengthening of cooperation and joint work between the two border regions of RBTGX, Peneda-Gerês, in Portugal and Baixa Limia-Serra do Xurés in Galicia, Spain.

The implementation of this Action Plan not only aims to promote these territories, but also seeks for the preservation of nature and environment, enhancement of endogenous resources, the conservation and enhancement of cultural heritage, the promotion of sustainable tourism and preservation of fauna and flora.



Executive Committee of the Transboundary Biosphere Reserve Gerês-Xurés (Lobios, Spain)

## B. AZORES ARCHIPELAGO

### The Azores Biosphere Reserves



Graciosa

Corvo

Flores

Under the provisions of the Regional Legislative Decree No. 15/2012/A, of April 2<sup>nd</sup>, the Biosphere Reserves (BR) located in the Autonomous Region of the Azores are administered within the Natural Park of the island where they are located, and are coordinated by the Services of the Regional Directorate of Environment.

The Azores have three areas awarded under the MAB Programme, the Biosphere Reserve of Corvo Island, the Biosphere Reserve of Graciosa Island, both approved in 2007, and the Biosphere Reserve of Flores Island, adopted in 2009.

The area of each Biosphere Reserve includes all land area of the respective island and the surrounding marine area.

The management strategy of the Azores Biosphere Reserves aims to promote the sustainable development of local communities through projects and actions, with the aim of fulfilling the three basic functions of BR:

- The function to conserve genetic resources, of the species, ecosystems and landscapes
- The role of development in order to promote sustainable economic and human development
- A function for logistical support, encourage and support research, education, training and continuous observation of local, national and global interest activities that contribute to the conservation and sustainable development.

The 12th Meeting of REDBIOS Network took place in the Azores, from 22<sup>nd</sup> to 26th September 2014, organized jointly by UNESCO and the Government of the Azores, took place on the islands of São Jorge, Pico and Faial, with the central theme 'Biosphere Reserves - a contribution to local development'. At the meeting attended the representatives of UNESCO, of the Azorean Government, the Responsible Tourism Institute, the MAB Committee of Portugal, the Biosphere Reserves of the Canary Islands (La Palma, El Hierro and Lanzarote), the Azores (Corvo, Graciosa and Flores), of Cape Verde, and Sao Tome and Principe, as well as experts from REDBIOS, elected officials and technicians, and the seminars were open to the population of San Jorge and Pico Islands.

In the 'Declaration of the Triangle Islands' designation adopted for the conclusions of the meeting, the REDBIOS Network notes "the high commitment of the Autonomous Region of the Azores to sustainable development and in particular the safeguarding and proper use of natural resources, as a means of promoting development and quality of life of their populations. "

The Declaration stresses also, among other conclusions, "the potential that the current and future Azores Biosphere Reserves have in order to catalyze opportunities and concrete experiences of sustainable development, integrating the natural, cultural, heritage, historical, social and economic values to the service of progress, and while consolidating the Azores authenticity and identity. "

As part of its strategic plan, the REDBIOS Network Reserves also assumed a public commitment to establish itself as a 'cluster' Macaronesian under the new European Union (EU) programming period, in order to consolidate its

position as an action group for the sustainable development in these territories.



Closing ceremony of the 12th REDBIOs Network Meeting in Lajes do Pico, 26th September 2014.

We hereby present the most relevant activities in each of the Azores Biosphere Reserves.



## **B.1. Biosphere Reserve of Graciosa Island (BRGI)**

**World Network of Biosphere Reserves since 2007**

**Managed by the Natural Park of the island where it is located and supervised by the Services of the Regional Directorate of Environment**

**Land area: 60.7 acres**

**Total area (including land area): 12 173 hectares**

**Population: 4391 inhabitants**

**Main economic activities: Livestock farming; Fisheries and Tourism**

On July 10th, 2014 was held at the headquarters of Graciosa Natural Park the 4th regular meeting of the Management Council of the Biosphere Reserve of Graciosa Island.



On August 4th, 2014 was held at the Graciosa Basic and Secondary School the awards relating to participants of the 2nd School Competition "Water that unites us" in the sub-theme Biosphere Reserves, a contest promoted internationally by UNESCO and regionally by the Biosphere Reserves in partnership with the Azores Geopark.



On August 4th, 2014 was held the meeting between two members of the League for the Protection of Nature (LPN) and the BRGI, in particular on the BRGI and the pretension of that association and the City of Castro Verde, on planning an application of the Special Protection Area for Birds (ZPE) of Castro Verde to Biosphere Reserve.



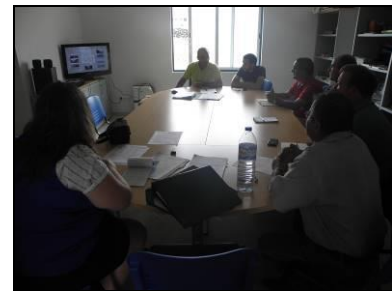
Between 21st and 26th September 2014 the director of BRGI attended the XII International Meeting of the Network REDBIO Network - East Atlantic Biosphere Reserve Network, sponsored by UNESCO and the Government of the Azores and which took place in the islands of Faial, Pico and S. Jorge.



Under the Open Park campaign was promoted during all Fridays between 7th and 28th November 2014, the presentation of the documentary "Graciosa Island Biosphere Reserve" at the time of film projections in the Graciosa Island Cultural Center.



On November 28,th 2014 was held at the headquarters of BRGI the 5th regular meeting of the Management Council of the Biosphere Reserve of Graciosa Island.



Implementation of PRECEFIAS - Regional Plan for the Eradication and Control of Invasive Plant Species in Sensitive Areas - in protected areas, or in classification, of Biosphere Reserve of Graciosa Island.



**Ilhéu da Praia, 2014.04.30**



**Ponta da Restinga, 2014.08.20**

Conducting various Census in Graciosa (Common Birds Census, Census of Coastal Birds, Common Buzzard Census, Census of Wintering and Migratory Birds Atlas, Terns Census and Bats Census).



**IX e X Censo de Milhafres**

**Censo de Morcegos dos Açores (2014)**

Support of Department of Oceanography and Fisheries of the University of the Azores (DOP/UAç) and Portuguese Society for the Study of Birds (SPEA) in the study and monitoring of seabirds of Natural Reserve of Beach islet, particularly the population of Monteiro's storm-petrel (*Hydrobates monteiroi*).



**Ilhéu da Praia, 2014.06.28**

Collaboration with the Azores Biodiversity Group on "Long Duration Ecological Study of Natural Forests of the Azores", under the NETBIOME Project ISLANDBIODIV.





Various activities such as the World Earth Day, European Week of Geoparks, Geosites and Monitoring Workshop "Geoparks in volcanic areas: Sustainable Development Strategies" (October 31st and November 1st, 2014).



**Monitorização de Geossítios 2014.04.04**

**Workshop Geoparques, 2014.10.31**

On June 28th, 2014 BRGI began collaboration with the Portuguese Society for the Study of Birds (SPEA) under the project for the conservation of Monteiro's storm-petrel - "Painho-of-Monteiro (phase 1) " supported by Bird Life International under the Programme "Preventing Extinctions "(PEP).



On 11 September 2014 the NPG collaborated with the Azores Biodiversity Group in implementing the project "CGL2012-38087, CAMBIOS HOLOCENICOS EN LA

BIODIVERSIDAD ANIMAL DE LAS ISLAS DE LA MACARONESIA Y DE BALEARES" coordinated by Prof. Josep Antoni Alcover's the Institut Mediterrani d'Estudis Avançats (CSIC-UIB), Palma de Mallorca, Spain.



Promotion and implementation of numerous actions of environmental education and sensitization, programs of which we highlight Open-Park and School-Park, the Eco-Schools program, the Campaign SOS Cory's Shearwater, the Azores program Entre-Mares, the contest ECO Parish: Clean parish, the Azores Waste Week, More Endemic; Partners for Sustainability; Miosótis; GreenSpiritAzores; Blue Flag and Accessible Beach Flag and commemorative dates.



**Eco-Schools program**



**Azores program Entre-Mares 2014**



**Campaign SOS Cory's Shearwater 2014**



**Contest ECO Parish: Clean parish 2014**



**World Day of the Tree and Forests 2014**



## **B.2. Biosphere Reserve of Corvo Island**

**World Network of Biosphere Reserves since 2007**

**Managed by the Natural Park of the island where it is located and supervised by the Services of the Regional Directorate of Environment**

**Land area: 17.1 hectares**

**Total area (including land area): 25 853 hectares**

**Population: 430 inhabitants**

**Main economic activities: Tourism; Birdwatching; Livestock farming and Fisheries**

Briefing session on the monitoring of Geosites Corvo, under the partnership between the Azores Geopark and the Island Parks.



**Geossítio “Fajã Lávica de Vila do Corvo”**

Guided tour to a group of inhabitants of Corvo, to protected areas of Biosphere Reserve of Flores, and the other places of the island, as part of the exchange between the BRF and the BRC.

**Grupo da Ilha do Corvo (Sta. Cruz das Flores)**



Cutting vegetation and cleaning areas in the Pedestrian Routes. Maintenance of the Signs inserted in classified areas

#### **Percurso Pedestre “Cara do Índio”**



Carrying out eradication efforts and flora control of the Invasive Plants in Sensitive Areas - protected areas of the Corvo Biosphere Reserve.

#### **Eliminação de Cana (*Arundo donax*)**



Priority species seed collection for production in the greenhouse for later planting in protected areas, to be sent to the Botanical Garden of Faial Seed Bank and for afforestation and reforestation different locations of the BRC.



#### **Recolha de Sementes - Área Protegida para a Gestão de Habitats**

Implementation of various census in Corvo (Common Birds Census, Census of Coastal Birds, Terns Census and Bats Census), in collaboration with the Azores University-DOP and SPEA.



#### **Censo de Aves Comuns (CAC)**

Repair and rehabilitation of the fence of the Biological Reserve of Corvo.

#### **Reserva Biológica do Corvo**



Support for the DOP in monitoring actions of marine resources - marine area of the Biosphere Reserve - providing the boat.

**Embarcação “Maré Viva I”**



Between 21 and 27 September 2014 the director of the Corvo Biosphere Reserve participated in the XII International Meeting of REDBIOs Network - East Atlantic Biosphere Reserve Network, sponsored by UNESCO and the Government of the Azores, held on the islands of Faial, Pico and São Jorge.



**Encontro REDBIOs (visita à Ilha do Pico)**

Participation in the XI Regional Meeting Environmental Education and Eco Schools, held in the city of Horta, on 16, 17 and 18 October.



**XI EREA - Horta**

Implementation of a campaign of sterilization and marking of domestic and wild cats. Campaign developed in partnership with the Agricultural Development Office of Flores and Corvo.



**Esterilização de gatos**

Rehabilitation of a juvenile turtle rescued in Flores and sent to Biosphere Reserve of Corvo, which sent her to the Aquarium of Porto Pim - Faial. Collaborative action between the Services of Flores and Corvo.

**Tartaruga**



Rehabilitaion and treatment of birds (sent to treatment by the Region Natural Parks) in the Wild Bird Rehabilitation Center of Corvo (CRAS).

**Milhafre (recuperado pelo CERAS)**



In addition to the actions described, the Reserve of the Biosphere of Corvo participates and promotes in various Campaigns that the Regional Environment Directorate promotes annually, in order to raise awareness of the importance of these issues, namely: Open Park, School Park, Eco Schools program, SOS Cory's Shearwater Campaign, Campaign Açores Entre-Mares, Contest ECO Parish: Clean parish, school competition "Water that unites us," the Azores Waste Week, More Endemics; Partners for Sustainability; Miosotis - Green Lodging; Greenspirit Azores; Quality Coast, as well as various events of environmental anniversaries.



### B.3. Biosphere Reserve of Flores Island

World Network of Biosphere Reserves since 2009

Managed by the Natural Park of the island where it is located and supervised by the Services of the Regional Directorate of Environment

Land area: 141 hectares

Total area (including land area): 58,619 hectares

Population: 3793 inhabitants

Main economic activities: Livestock farming, Fisheries and Tourism

Maintenance / recuperation of the viewpoints, trails and signs in protected areas of Flores Island Biosphere Reserve.





Participation in the XII International Meeting of the Network REDBIO Network - East Atlantic Biosphere Reserve Network, sponsored by UNESCO and the Government of the Azores and held on the islands of Faial, Pico and São Jorge.



Within this meeting, there were several shows of products from the Biosphere Reserve of Flores Island.

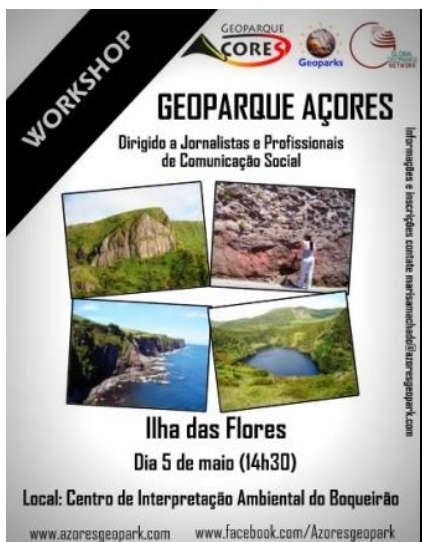


As of January/February 2014 the Biosphere Reserve of Flores Island started and still maintains collaboration with the Regional Biodiversity Group on "Long Duration Ecological Study of Natural Forests of the Azores", under the NETBIOME ISLANDBIODIV Project.



Setting up the SLAM traps, 09/2013 - First sampling 01/2014

Various activities in partnership with the Azores Geopark Association, such as the World Earth Day, European Week of Geoparks, Geosites Monitoring.



Implementation of various censuses in RB Flores (Common Birds Census, Census of Coastal Birds, Terns Census and Bats Census).



Implementation of PRECEFIAS - Regional Plan for the Eradication and Control of Invasive Plants in Sensitive Areas - in protected areas of the Biosphere Reserve of Flowers.



Promotion and implementation of numerous actions of environmental education and awareness programs, of which we highlight: Open Park, School Park, the Eco-Schools program, the SOS Cagarro Campaign, the Azores program Entre-Mares, the contest ECO Parish: Clean parish, the Azores Waste Week, More Endemics; Partners for Sustainability; Miosotis, green lodgings; GreenSpiritAzores; Blue Flag and Flag Accessible beach and environmental anniversaries.



Workshop "Family agriculture"





**Workshop “Winter natural decorations”**



**Guided visits to the Environmental Interpretation Centre of Boqueirão**



**Family Peddypaper “meet the cetaceans”**



**European car-free day**



**Eco-trail for families**



**Photography exhibition on Protected Areas**





Balance Session

Programme “Parque Escola”



Class on endemic plants germination



Distribution of the educational resource “Azores Energy Kit”



Eco-schools 2013/2014





Planting endemic species



Ecoparish, clean parish



**Miosotis, green lodgings awards**



The Regional Secretariat of Agriculture and Environment annually develops the SOS Cory's Shearwater Campaign aimed primarily to alert the Azorean population for the need to preserve this protected species which nests in the Azores.







**SOS Cory's Shearwater Campaign**



**Cleaning coastal areas**

**Opening the Environmental Interpretation Centre of Boqueirão**







## C. MADEIRA ISLAND

### C.1. Biosphere Reserve of Santana - Madeira

World Network of Biosphere Reserves since 2011

Managed by the Municipality of Santana (Madeira).



Santana's Biosphere Reserve, as a motivating instrument and activities promoter based on conservation and sustainable use of natural and cultural patrimony, is realized as a broadening and renewed reinforcement of opportunities to local and regional development. This context may help to identify and promote initiatives capable of improvement, renovation and stimulus to local economy.

Santana's Biosphere Reserve, in addition to the continuity of developed projects, has also outlined local strategies, which actions were based on the defined guidelines by UNESCO.

Therefore and briefly described, the following actions are reported:

- **Project Must@daPT (Local strategies adjustment to climate change in Portugal)** in partnership with CERNAS (Research Centre for Natural Resources, Environment and Society) hosted by the Applied Research Institute, at Coimbra Polytechnic Institute. The project aims the development of an adjusted strategy to climate change, in order to diminish the harmful effects over the natural environment, social structure and the economic matrix at a municipal level. It aims the building of grounds which

primary focus is in the assessment of risk vulnerability, using local governance and planning methods.

- **Cooperation among Reserves** - the Biosphere Reserve has begun a number of contacts towards the accomplishment of partnerships with other Biosphere Reserves worldwide. A first contact was made with a German biosphere reserve, Swabische Alb, located in Baden-Wurttemberg, Stuttgart. There was an acknowledgment visit by Professor Christian Kupfer from Nuertingen University to Santana Biosphere Reserve, in order to expand the scope and the interest of research activities, teaching and information at an international ground.



The Mayor and Prof. Christian Kupfer

- **Pedagogical organic gardens - sustaining and improving organic gardens in schools** Within the introduced activity, aiming the creation of pedagogic organic gardens at county schools, the Biosphere Reserve sought through its conservation and improvement settings, to combine sound environmental practices with a production method that better understands the interaction concerning production between the soil, its organisms, plants and their natural growing cycles. Baring in mind that agriculture is one of the main activities in the Reserve, there was the concern in order to use specific local products and seeds, such as some varieties of wheat, beans and corn.

- **“Madeira Agrícola” - cultivars testing** Realizing that in the market there is a trading possibility of countless cultivars and that some of them require testing *in loco* due to their climate and soil settings sensitivity, there was a strong interest in

conducting a field experiment, testing out some cultivars in different farms, aiming to check both productivity and quality. There were selected for investigation cultivars which seeds were easy to purchase in the market, and technically presented the key features which fitted the requirements of demand, soil and the municipality prevailing climate.



**Cultivars experimental study - broccoli**

- **Ultra Skymarathon® Madeira** - “Clube Aventura da Madeira”, in partnership with the Portuguese Federation of Camping and Mountaineering, organized the 1st edition of this competition. The marathon was exclusively held inside the Biosphere Reserve, enabling to add the touristic potential of trekking, fauna and flora, as well as local culture and traditions, alongside with the promotion of sky running, a sport that has been growing in popularity in several countries around the world, especially in Italy and France. This is the only sky running race taking place in Portugal.



**Madeira's Ultra Skymarathon® 2014**



- **Patrimony and Identity** - Santana's typical houses with thatched roofs are considered a major brand image of Madeira Island, and therefore, its conservation, restoration and maintenance are a priority. In this regard, the municipality and the Biosphere Reserve have been supporting the recovery of this iconic image, since many of these houses are still inhabited. 8 of these traditional houses were recovered with the offer of raw materials (thatch, wicker, rods) and manpower. In this particular case, reconstruction still follows traditional techniques and the knowledge of the few existing thatch workers experts. Santana's council has also began the work regarding the accomplishment of municipal regulation, towards the maintenance and recovery of thatched houses support, as well as, started the houses' classification procedure as a real estate interest for the municipality.



**Repair of typical houses**

Still in the heritage aspect, cleaning and maintenance work were carried out at Faial small fortress, which was considered during the year 2014, by the Spanish magazine Condé Nast Traveler, as one of the 40 locations with the most beautiful sunset in the world.



**Faial fortress in Faial**



Within the context of the fifth centennial celebrations of São Jorge's Parish, restoration work was done on the primitive chapel of São Pedro.



São Pedro Chapel in São Jorge

- **Rocha do Navio Biosphere Center** - the Biosphere Reserve carried out with improvement building at the Biosphere's Center located at Rocha do Navio, gifting it with better accessibilities, undertaking the upgrading of the existing viewpoint by placing a public fountain, protective balconies and the construction of comfort zones all the way along the beach.

This center continues to be a sightseers' leader at the Biosphere Reserve, whether by tourists or by students on their field trips.



Rocha do Navio - site improvement

- **Hiking** - walking is still one of the most exercised sports by locals, as well as, by the thousands of tourists that visit, in particular, the Biosphere Reserve and the Autonomous Region of Madeira, in general. Trails and Levadas are one of the most

beautiful tourist posters, and therefore, from the perspective to maintain quality and the appeal of the existing paths, it was carried out an entire cleanup job, recovery and its maintenance. There was also an assessment for new trails, with potential to be included in the Reserve's own itinerary.



Levada da Água d'Alto Walk

- **Environment** - Within the Biosphere Reserve membership framework to the project “LIFE ECO COMPATÍVEL” from Madeira's Natural Park, as stakeholder, several activities were promoted amid local public, which aimed the communication and providing information among the population, for a better execution, management and protection of Natura 2000 network sites.



Cleaning of Rocha do Navio pebble beach



Eco-letters at Community and Municipal centers

- **Awareness activities** - the Biosphere Reserve incited the implementation of leisure and field trips, both to the county's schools and social and civic centers, in order to

encourage public involvement, by cheering exchange of information and participation of society in general.



**Visit to the Biosphere Center at Rocha do Navio**

- **UNESCO National committee** - Santana's Reserve participation in the Portuguese Reserves managers meeting that took place in the Ministry of Foreign Affairs, at the time of the study presentation "Economic value of Unesco brand" - that was carried out by UTAD -Trás-os-Montes and Alto Douro University.



**The Mayor and the Assembly President at the Portuguese Biosphere Reserves meeting**

