Green Belt of the Bay of Santander Impact Report

## Seeds of natural life







## Green belt of the bay of Santander

#### On the front

Wetlands are key ecosystems for the survival of species such as the Common Spoonbill (Palatela Leucorodia). The Bay of Santander, in Cantabria (northern Spain), is made up of different natural ecosystems such as intertidal zones, islands, holm oak groves, small cliffs and wetlands. In its recent history, this area has lost almost half its surface area, and it's currently relegated to around 2,500 hectares, with only 80% of its original coastline remaining. One of its most outstanding enclaves is the Alday Marshes.

In the past, a large part of the arc of the Bay of Santander was a large marsh: a very special plain where the fresh waters of the tributary streams of the Raos and Alday estuary mixed with the salty waters of the Cantabrian Sea, generating brackish waters. This unique mixture of environments gave rise to a great diversity of species. From lichens to algae, passing through millimetric molluscs as well as large ones, such as clams and limpets. All of these served as exceptional food for a variety of birds, crabs, starfish, anemones, etc.: a biologically rich and extremely productive environment.  $\rightarrow$ 



However, just like in so many other parts of the planet, human beings have invaded the Alday Marshes, altering, modifying and destroying them almost completely. In this case, on what was once a marshland of more than 1,000 hectares in surface area, today we find an airport, motorways, shopping centres, housing areas and industrial estates that have reduced it to a mere 75 hectares. It is as if we humans were not looking after our own future, since **these ecosystems control erosion** - by retaining sediment from inland waters - contain floods - by maintaining surface water - and help regulate the climate and the nutrient cycle. They also support and shelter rich wildlife, provide food and fodder for livestock, and provide recreational and cultural services.

But not all is bad news: thanks to the work and determination of a small group of people - who came together to stop the filling in and total destruction of this natural space - today we can enjoy the Alday Marshes, greatly reduced in surface area, but recovered to shine again in all their splendour.

The initiative began in 1994 and was the seed of FNYH. Different actors (citizens, town councils, private owners and the Coastal Demarcation) joined forces to reach a Land Stewardship agreement in which the foundation would carry out environmental conservation work for the benefit of all citizens. This figure, today known as Land Stewardship, is a fundamental figure for the conservation of regional and autonomous natural spaces, which we apply in many of our areas of intervention.

Thanks to the recovery of this emblematic natural pace, we can today enjoy an ecosystem home to a large number of birds, mainly aquatic, which find refuge and food in the Alday Marshes during their migrations.

This is the case of the tufted duck, the shoveler, the gadwall or the small teals. Other protected wading birds, such as spoonbills, also rest in the marshes among grey herons, purple herons and many other species.

A green refuge of rushes, reeds and bulrushes, and vegetation adapted to these brackish water areas: flora that not only tolerates permanent waterlogging of its roots, but also withstands salinity. They are plants that filter water and have been widely used throughout history by humans as food, to make baskets or shelters and bedding for domestic animals.

Along the edges of the marsh paths, we find plant species associated with wetlands or riverside woods, such as hazelnut, willow, birch, dogwood and ash trees. All of them have been progressively planted over the last twenty years, forming a beautiful riverside woodland that we can all enjoy today.



**One of the greatest problems of world biodiversity, invasive species,** was also one of the major issues we faced in the Alday Marshes. Invasive exotic species such as the Pampa grass (*Cortaderia selloana*), the Sea myrtle (*Baccharis halimifolia*) or the Water primrose (*Ludwigia peploides*) end up taking up all the space, preventing local and native species from surviving.

Hundreds of volunteers help us, year after year, to eradicate these invasive species, in the volunteering activities we organise for the cleaning activites, planting of autochthonous species and waste collection.

We also have a fabulous ally in this work: the Losino horse, the only native breed of horse in Castilla y León. A horse named after a valley north of Burgos, but which is widespread throughout the Eastern and Pasiega Mountains of the Cantabrian Cordillera.

These horses, doomed to extinction due to the mechanisation of the countryside, are helping us to eliminate the Pampa grass, and in this way, we can also contribute to keeping their breed alive.

Thanks to the efforts of all of them, native species have now their place in this environment and are able to compete with invasive plants, which are always stronger and better able to withstand any alteration of the environment in which they live. Our dream is that these marshes will continue for a long time to be an oasis in the middle of the asphalt. Thanks to their accessibility, the area has become a very popular place for local residents, ornithologists and schoolchildren from many schools in Cantabria, who get to know it under the guidance of the foundation's environmental educators. In this way, we achieve one of our main objectives: to involve all citizens in the conservation of these spaces.

The Alday Marshes were the beginning of everything for us. FNYH was born from the first actions carried out for their conservation.

The Bay of Santander thus became one of the priority areas for our work, generating the initiative 'Green Belt of the Bay of Santander'. This green belt is now made up of a total of ten reserves such as the Peñas Negras Holm oak grove, the Pozón de la Yesera and the Engoa Marshes.

Our aim is to add many more, to continue contributing to the enrichment of green spaces in urbanised areas and to promote connectivity between these territories, which will have a positive impact on their conservation. •

# The SDGs in our conservation projects

Direct relationship of our activity with the Sustainable Development Goals of the United Nations 2030 Agenda for all the areas of work contained in this report of 25 years of activity.





**6.b** Support and strengthen the participation of local communities in improving water and sanitation management.

**6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimising the release of chemicals and hazardous materials, halving the proportion of untreated

wastewater, and significantly increasing recycling and safe reuse globally.

**6.6** By 2020, protect and restore water-related ecosystems, including forests, mountains, wetlands, rivers, aquifers and lakes.



11. Sustainable cities and communities

**11.4** Strengthen efforts to protect and safeguard the world's cultural and natural heritage.



12. Responsible production and consumption

**12.b** Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

**12.2** By the year 2030, achieve sustainable management and efficient use of natural resources.

**12.8** By 2030, ensure that people everywhere have the information and knowledge relevant to sustainable development and lifestyles in harmony with nature.



**13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

**13.2** Integrate climate change measures into national policies, strategies and planning.

**13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



**15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and in-

land freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with the obligations under international agreements.

**15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and

substantially increase afforestation and reforestation globally.

**15.3** By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

**15.4** By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

**15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

**15.7** Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

**15.9** By 2020, introduce measures to prevent the introduction of invasive alien species, and significantly reduce their impact on land and water ecosystems and control or eradicate the priority species.



17. Partnerships for the goals

**17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Our achievements in the Green Belt of the Bay of Santander

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## Creating biological richness in the heart of the city

The Alday marsh is today an accessible space, that achieves the objective of involving the citizens in its conservation.

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### Wetland Restoration



Wetlands are ecosystems of high ecological value, not only because they are home to a great diversity of both animal and plant species, but also because they provide important ecosystem services to the population. Historically, however, wetlands have been undervalued and mistreated, perceived as worthless wastelands and even as sources of infection.

The FNYH began its work with the project to recover the wetland of the Alday Marsh. This wetland had been dramatically reduced from its original area of 1000 hectares to just 75. Thanks to the initiative of the FNYH, its destruction was halted. **The numerous restoration works carried out through different projects have led to an impressive recovery** of an area that now has a high richness of species, with the presence of resident and wintering birds, and which also offers a space for recreation and leisure to the residents of the area.

**FNYY managed to transform a highly degraded space into a small natural oasis.** Its ecological value has increased mainly due to the elimination of the invasive species that used to occupy a large part of the reserve, the replanting with native species, and the filling of the lagoon that now provides shelter and food for numerous bird species.

In addition, the FNYH uses this enclave, with the support of **the Green Belt Wetlands Interpretation Centre - Casa de la Naturaleza**, as an environmental education tool to highlight these ecosystems and raise awareness of the importance of their conservation. Thousands of people attend our workshops, talks and seminars every year. Thanks to this, we are succeeding in changing the perception of wetlands and bringing nature closer to people's lives.

## **13 15** Creation of the Green Belt of the Bay of Santander

## A green and blue infrastructure for a more sustainable future

The Green Belt of the Bay of Santander started with the idea of creating, on the one hand, a green and blue infrastructure, that is, a network that would allow the different green spaces to be connected, improving mobility between the areas that made it up, and on the other hand, for the rehabilitation and restoration of the rivers and wetlands.

To this end, a series of natural areas were selected in the bay's surroundings, which were in a state of degradation, and which included a great variety of ecosystems characteristic of the bay's surroundings, such as coastal wetlands, inland wetlands and relict oak groves. The selected areas cover a surface area of more than 200 hectares and are present in 9 municipalities in the area. Through the Land Stewardship scheme, the town councils and neighborhood councils of the various municipalities got involved in the management of the conservation and restoration of their environment. The FNYH places public participation at the centre of the negotiations about the management of natural resources. Thus getting citizens involved and achieving a greater degree of awareness and sense of identity and pride in their environment.

Thanks to the work carried out, not only for the restoration and conservation, but also for the conditioning of the reserves, and due to the proximity of all of them to urban areas, one of the main objectives of the project and its slogan has been achieved. This is to connect nature and the city.





### Restoration of the Peñas Negras Relict Holm oak groves (Maoño-Cantabria).



The presence of relict oak groves is a remnant of a time when the climate was more arid, close to the conditions of the interior of the peninsula. This is a perennial forest that has remained in the Cantabrian Mountains in the soils with less water retention capacity, mainly limestone and steep mountains. It therefore has a unique value as an indicator of the natural history of the Cantabrian region.

The most characteristic species of these forests is the holm oak, accompanied by other species with succulent fruits such as the strawberry tree, holly, sloe, hazelnut or Butcher's broom.

The FNYH has carried out various restoration and recovery works on this unique ecosystem, **managing to recover a total of 56,26 hectares distributed throughout the different reserves of the Santander Green Belt.** 

This has meant a notable improvement in the state of conservation of **areas that naturally shelter a great deal of fauna**, where nocturnal birds such as the barn owl, tawny owl or little owl, and diurnal birds such as the buzzard, sparrow hawk or kestrel stand out. In addition, among the most common mammals we can find foxes, badgers, martens and weasels.

The fight against climate change also benefits from these restorations, as by increasing the surface area of holm oak, we increase the CO2 absorption capacity of our forests. A further achievement that the FNYH has accomplished through this work is the **elimination of almost 7 hectares of invasive exotic species** that have been replaced by native holm oak plantations.



## Elimination of invasive species in the Bay of Santander



The FNYH has made an enormous effort in this regard. The fight against the spread of invasive exotic species is a central action in all our conservation and restoration projects.

More than **160 hectares of invasive exotic species have been removed** so far in the different ecosystems around the Bay of Santander.

It should be noted that **the water fern** (*Azolla filiculoides*) that was present in the Alday marsh **has been completely eradicated**, and the water primrose (*Ludwigia peploides*) has been managed in such a way that its expansion has been controlled by containing it in one of the lakes of Alday. We are getting closer to eradicating it.

The elimination of invasive species is a key activity in the fight against climate change, as it allows the regeneration of native species and the conservation of ecosystems that would otherwise disappear. This in turn means a recovery of biodiversity, which is essential for the proper functioning of our ecosystems. Healthy ecosystems with high levels of biodiversity will be more resilient, and therefore better and faster able to recover from external threats such as fires and other natural disasters.



#### Restoration of dune ecosystems



We have carried out a major restoration work on the Somo dune ecosystem, eliminating invasive exotic species from an area of more than 28 hectares.

In addition, FNYH has managed to halt the project for 'Improving Public Use of Mount Arna, T.M. Ribamontán al Mar', which aimed to consolidate the unofficial accesses that crossed the Somo dune. Thanks to the work of the FNYH, an irreparable impact on these valuable habitats included in the Natura 2000 was avoided.

#### Costal Heath Restoration

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On the island of Santa Marina, within the Site of Community Importance of the Dunes of El Puntal, we find the main distribution area of coastal heath, an ecosystem that due to its scarcity on the Cantabrian coast has a high ecological value.

The FNYH has contributed to the restoration of this unique ecosystem, achieving very positive results thanks to the elimination of the invasive species that occupied almost the entire surface of the island, and the subsequent **planting of a total of 4,640 coastal heather specimens** produced at the Vivero



el Pendo nursery. Action was undertaken on an area of 8 hectares out of the 10 on the island, **completely eliminating the presence of invasive plants.** 

The elimination of the tree cover formed by the sea myrtle allowed more light to enter and improved the development of the heather colonies (*Erica vagans*) on the island, as well as the appearance of other species of flora that usually accompany the coastal heather.

### Use of native breeds: the 'Caballo Losino' project

In 2008, the FNYH introduced a total of 16 Losino horses, originally from the Losa Valley, into the Alday Marsh, with the aim of **contributing to the elimination of invasive flora species.** 

Twelve years after their arrival, it has become apparent how these equids, eating the shoots of existing pampa grass, have proved an excellent control method for some species of invasive flora that was causing damage to the marsh and other areas of the bay where grazing has been abandoned.



## 1227 internet in a start **Our impact on figures Green Belt** Future

of the Bay of Santander

challenges



holm oak groves



planted specimens of coastal heather Sta. Marina Island



of land free of invasive species Plumero · Chicla · Onagraria

ha

In relict holm oak groves







Trees planted

Growth

Extend the extension and connect the private reserves of the Club de Fincas.

## Conservation

Black Vulture · Lynx Black Stork European Turtle Wigeon



Recovery

Of more wetlands, a unique ecosystem that is key to biodiversity



Do you want to know more? Would you like to support our actions? Contact us

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