

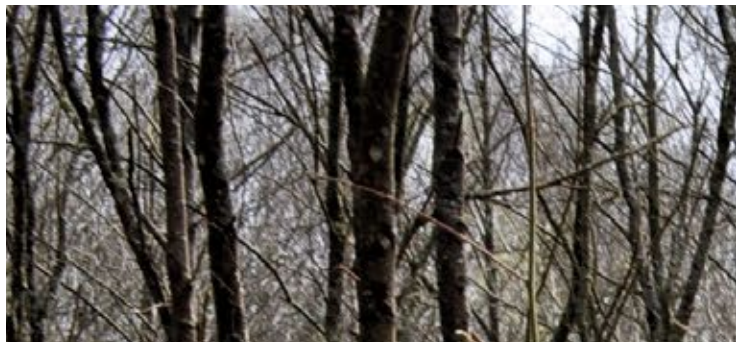


LIFE Lugo + Biodinámico

At the forefront of sustainable urbanism



**Recovery
and enhancement
of a riverbank
forest**



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LIFE Lugo + Biodinámico is a European project promoted by the Concello de Lugo, pioneer in eco-sustainable planning in medium-sized cities, taking advantage of the use of natural resources and boosting the green economy. Among the measures to be developed are the construction of the first public building built with Galician wood, the design of the first multi-ecological neighbourhood in Spain and the elaboration of a catalogue of sustainable urban solutions, exportable to other European cities.

In addition, informative spaces will be created for the scientific community and society in general with plantations of tree species and autochthonous shrubs that demonstrate their potential for the development of sustainable urbanism.



The riparian forest is a deciduous forest that grows on both sides of a river, stream or wetland, on soils that are usually temporarily or permanently flooded with water.

In the industrial estate of As Gándaras (Lugo), there is an autochthonous riverbank forest located at the headwaters of the river Fervedoira/Rato.

The riverbank forests have a **great ecological importance**: they regulate the temperature of the waters, hold them in the ground, provide refuge and food to aquatic animals, amphibians and terrestrial animals, they act as green filters...





Located at **458m above sea level** in the transition zone belonging to the **Terras do Miño Biosphere Reserve**, it has an approximate surface area of **5 ha** and is located at the headwaters of the river Rato, a tributary of Galicia's main river, the Miño, which borders the city of Lugo, to which it provides water throughout the year. The source of the river Rato allows a large part of the surface of the area to be permanently flooded, reaching the water level a higher or lower height depending on the season, but without ever drying up. This constant presence of water creates the necessary environmental conditions for a mixed aquatic-terrestrial ecosystem to develop in the area, which the RAMSAR Convention defines as a Hygrophilous Wetland.



The natural values present in the area are worthy of protection under the figure of Natural Area of Local Interest (**NAIL**) included in the Galician law on nature conservation, among these values are their **natural and semi-natural habitats**, which, because of their degree of threat are protected at European level.



These are the so-called **habitats of Community interest**, listed in Annex I of the **European Directive on the conservation of natural habitats and of wild flora and fauna**, known as the Habitats Directive.

This wetland has a total of **3 habitats** considered to be of Community interest:



1. The riverbank forest and the flooded area

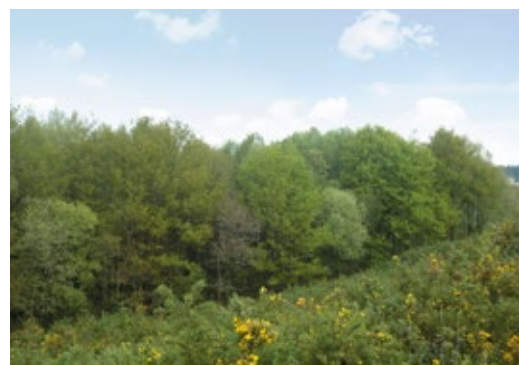
This habitat called in the Habitats Directive as Alluvial forests of *Alnus lusitanica* and *Fraxinus excelsior* [91e0*], is considered a priority, that is, it has special attention within the habitats of community interest, due to its degree of threat to its conservation.

In As Gándaras we find a forest dominated by alder (*Alnus lusitanica*), sprinkled with ash trees (*Fraxinus excelsior*), hazelnuts, elderberries, birches, willows and different herbaceous plants. The presence of stagnant water during the summer allows the appearance in the understory of mint and reed, among others.



2. Oak trees forest

This type of wooded habitat typically Galician is also a protected habitat in the European Union, being named Galician-Portuguese Carballeiras of *Quercus robur* and *Quercus pyrenaica* [9230]. Defined as forests dominated by the dominant tree species, oak and Pyrenean oak.



In As Gándaras we can see vestiges of a Galician-Portuguese carballeira that presents a dense cover in which oak and Pyrenean oak coexist with species such as dogwood and heather at a lower level, and various forest species relatively tolerant to light as the starry or honeysuckle of forests, among others.

The flora of the forest. Zoning:

- ① Area permanently flooded with alders and willows.
- ② Riverbank forest with alders, willows and other trees.
- ③ Meadows.
- ④ Artificial lagoon, with abundance of branched bur-reed (*Sparganium erectum*).
- ⑤ Shrub.



3. Low-altitude hay meadows

This type of grassland is also of Community interest [6510]. They are a semi-natural habitat type, since human activity is an inherent part of it and is necessary for its conservation. It is defined as extensive meadows that are usually cut once or twice a year, once the grasses have bloomed, in order to produce hay or green fodder, mainly for feeding cattle.



Other forest dwellers

The riverbank forests, due to their characteristics of moisture and shade, provide refuge and food to many species of mammals such as the fox (*Vulpes vulpes*), bats (Murciélagos rabudo-*Tadarida teniotis*), reptiles such as the smooth snake (*Coronella austriaca*), the common slizon (*Chalcides striatus*) and birds such as the woodpecker (*Dendrocopos major*), the dunnock (*Prunella modularis*), the common stonechat (*Saxicola rubicola*), the serin (*Serinus serinus*), the blackbird (*Turdus merula*), the common starling (*Sturnus unicolor*), the blackcap (*Sylvia atricapilla*), etc.





Programme of actions






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URBAN PLANNING ACTIONS

-  **C1** Urban Design Solutions Catalogue
-  **C2** Strategic plan for ecological infrastructures: Special Biodynamic Plan
-  **C3** Detailed planning of residential climate comfort zones (RCCZ)

DEMONSTRATIVE ACTIONS

-  **C4** Hardwoods
-  **C5** Energy crops
-  **C6** Souto. Chestnut trees of traditional varieties
-  **C7** Restoration of a wetland - NALI (Natural Area of Local Interest)
-  **C8** Arboretum
-  **C9** Urban agriculture
-  **C11** Impulso Verde Building

Impulsed by:



Financed by:



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Project partners:



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