

*Una manera de hacer Europa*



# BUENAS PRÁCTICAS

## Actuaciones Cofinanciadas

Upgrading of the sanitation and sewage treatment systems  
at the Arousa Estuary. Boiro agglomeration  
Augas de Galicia

# Programa Operativo de Galicia

Año 2019

## Fondo Europeo de Desarrollo Regional



## **Upgrading of the sanitation and sewage treatment systems at the Arousa Estuary. Boiro agglomeration**

The Galician Estuaries constitute a valuable heritage of our Autonomous Community. Their environmental revaluation and the protection of the quality their waters constitute a priority for the Water Administration of Galicia. One of these estuaries, that of Arousa, is an area of undeniable tourist appeal and significant shellfish resources.

This good practice is part of the Local Sanitation Plan of the Arousa Estuary. The interventions carried out improve upon the existing sanitation network and river course, and solve the management of rain water originated at Boiro conurbation in an efficient and sustainable manner.

The highest part of the town of Boiro is endowed with pipe sections that collect only rain water. Further downhill, these pipes connect with sewage pipes, so it becomes a combined sewer were both types of water mix. Upon elaboration of the Local Sanitation Plan of the Arousa Estuary, it was determined that the storm sewer system was working adequately and independently of the rest of the sewer network prior to the connection of both networks.

This prompted to devise a plan to separate both sewer networks, so that rain water from the high part of Boiro wouldn't mix with faecal sewage and could be treated before being poured into Breiro river.

The total eligible cost of this intervention amounted to 1,496,747 euros, of which 898,048 euros were contributed by the European Regional Development Fund. This intervention has allowed to increase the water treatment capacity by a quantity equivalent to the sewage generated by more than 3,000 people. Also, as a result, the volume of water to treat will be reduced by almost 75%; that is, in the future just a fourth of the volume of sewage that had to be processed up until now will have to undergo treatment.



This intervention constitutes a Good Practice since it meets the criteria established to that effect:

### 1. The intervention has been properly publicised among beneficiaries, potential recipients, and public at large

Regulatorily required information and communication measures, regarding temporary and definitive billboards and plaques and website publication, have been carried out:



Temporary billboard



Definitive plaque



Website dissemination

A permanent billboard explaining the intervention has been installed, with explicit mention to EDRF funding. This billboard includes a QR code, giving instant access from, for instance, any mobile phone, to further information about this project, thus helping more effectively publicise the use of Community funds:



In addition, an informative video about the intervention has been published on Augas de Galicia social networks profiles, helping raise awareness of EDRF co-funding:

<https://www.youtube.com/channel/UCty4xUpGNX9WnV9eRjdKQHA>



Several institutional visits have taken place, included that of the Councillor of Infrastructures and Mobility, Ethel Vázquez, in which various informative billboards have been shown and explained, highlighting ERDF's contribution:



Information about all these visits has been properly disseminated, by means of publication in several news media, so the general public remains well informed about the use of ERDF funds:

## El río Breiro estrena un nuevo sistema de depuración a través de lagos artificiales

Ethel Vázquez explicó que esta técnica de drenaje urbano es la primera vez que se pone en práctica en la comunidad



2.077.583 €

**Inversión en el proyecto**

**Aguas de Galicia subvencionó esta actuación en el río Breiro, que se cofinanció con fondos Feder de la Unión Europea.**

## **2. The intervention brings in innovative features**

As an innovative feature, this intervention incorporates a retention pond that will reduce the flowing speed of water during episodes of stormy weather. This will help prevent flooding under bouts of torrential rain, becoming the destination of this water in place of the basement of many buildings. This artificial pond will also provide natural filtration of the water, since storm water drags stones and polluting elements that difficult its treatment. This pond has been integrated in a green area of public use.

Furthermore, a pedestrian walkway has been built over the main pipe in the promenade, that will allow circulation of people as well as a motorised vehicle for maintenance tasks. This, in turn, helps minimising the environmental impact that this intervention entails.



## **3. Compliance of the results with the set objectives**

As already mentioned in the preceding paragraphs, the aim of this intervention has been preventing insofar as possible, the flow of rain water to the waste sewage network. Hence, the sanitation network will work in a better optimized way.

To achieve that, the Breiro river channel has been dredged, its margins have been cleaned, and crossing works adequately resized. All of this will prevent flooding resulting from the insufficient outflow capacity of the riverbed. Also, existing pipe sections that invaded the river course where removed, which adds to a better dispatching of the facilities and ease of maintenance works.

To sum up, this intervention will, during periods of heavy rain, prevent faecal sewage spills to the Arousa estuary, in the Boiro agglomeration, improving marine ecosystem conditions and the quality of its water, of great shellfish producing potential.

#### **4. Contribution to the resolution of a problem or weakness detected within the territorial scope of intervention**

Several issues had been detected in the sanitation system of Boiro. Firstly, there was excess water in the system coming from the sea, groundwater, and particularly from rain. This made the circuit support a flow higher than that for which it was designed, which on occasion would even cause breakage of the pipes. It also meant that the pumps that had to propel the water were working in conditions for which they were not designed either, so they could break down, exacerbating the problem

To solve this, performance and managing of the pumps responsible for pushing water through the sanitation system was improved, and the fragile planning of the network previous to this intervention was corrected.

In general terms, this works have solved the problem that excess water was causing and have improved the water quality of Breiro river and Arousa estuary, which is an important bathing and shellfish-gathering area.

#### **5. High degree of coverage of target population**

The intervention here described, has a high degree of coverage because the whole population of Boiro will directly or indirectly benefit from it, since the improvement in water collection capability will be noticeable, reducing floods and preventing dirt accumulation during torrential rains.

Also, the entire population that enjoy bathing in the Arousa estuary will benefit from it, since, it's worth remarking, this is a tourist destination of the Autonomous Community of Galicia. In the summer months, this estuary is visited by people from all over the Galician geography and from other areas of Spain and Portugal as well.

Due to the shellfish-gathering activity existing in the area, and the sale and export of the products from this economic activity, all those who end up consuming the products obtained from the estuary, national and foreign, will benefit.

#### **6. Observance of horizontal criteria of equality of opportunities and non-discrimination, as well as social responsibility and environmental sustainability**

This intervention outstands for its contribution to environmental sustainability. It has taken into account, at every moment, the environmental situation of Breiro river and the Arousa estuary, and has substantially improved it.

Cleaning works have been performed in Breiro river and its margins to avoid further soiling, and pipes that ran through its course have been relocated, so the river ecosystem has been preserved, and even improved.

The comprehensive intervention has had an enormous impact on the quality of the waters of the Arousa estuary. Water quality has been significantly improved with the clear purpose of having ever cleaner waters.

As has already been mentioned, Arousa estuary has an important shellfish-gathering activity. Clams and cockles are its main production. This shellfish-gathering activity is carried out mainly by women, as in the rest of the Autonomous Community of Galicia. Hence, this intervention will allow a significant number of women to keep their jobs and even new ones to join this professional activity.

It's also been pointed out that this is an important holiday and leisure area during summer months, thus keeping its waters clean greatly contributes to preserve the health of many people and families who bathe in them. Furthermore, the cleaner the water, the greater the chance of new tourists coming

to this area to spend their holidays. Consequently, this will lead to a growth in economy and employment in this area of Galicia.

## **7. Synergies with other policies or instruments of public intervention**

Over the past years, Augas de Galicia has been invested in developing sanitation plans at a local scale.

As such, in November 2013 the Protocol for the development of the Local Pact for the management of the urban water cycle was signed. The objective of this protocol is to strengthen ties of collaboration between Xunta de Galicia and municipal administrations for a better management of the water cycle. This protocol will result in a better service to the citizenry in terms of water supply and sanitation works.

This intervention was also spurred by the Galicia-Coast River Basin Management Plan, now in its 2015-2021 phase. This Plan aims to achieve a good condition and adequate protection of Galician rivers and estuaries, to be able to meet the demands of water of the population, and the balanced development of the entire Autonomous Community. There's an intention to protect the quality of the waters, economising and rationalising its usage.

The Plan seeks to get people to make a sustainable usage of water, working to counter degradation of water resources, and reducing deliberate and involuntary pollution. Lastly, it will help to alleviate the effects of the floods and draughts that Galicia suffers ever more frequently.

This intervention is also complemented by the Galicia-Coast Flood Risk Management Plan, currently in its 2015-2021 period. This plan intends to prevent and minimise flood risk in the areas with higher probability of sustaining these calamities. To that end, a series of measures specific to each location are set, as a result of the studies conducted; such as, for instance, flood predictions before they happen or the installation of warning sirens.



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