

Action E.2. Outreach and awarenness programme

newsletter nº4

december 2021

IMPROVEMENT AND SUSTAINABLE MANAGEMENT
OF RIVER CORRIDORS
OF THE IBERIAN ATLANTIC REGION



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progress in the restoration actions

actions in A Lagoa do Rei

During the year 2021 the work carried out by TRAGSA in A Lagoa do Rei (Rábade, Lugo) has mainly included actions to replace plants that failed to establish in plantations with species characteristic of the 91E0* habitat, for the improvement of their state of conservation and to increase connectivity with other natural habitats. Visits to carry out the planting have enabled TRAGSA staff to carry out targeted manual control of the regrowth (increasingly weak) of some invasive alien species that had been the focus of the project.







The extension requested by LIFE Fluvial has made it possible, during the autumn of 2021, to assess and finally carry out a complementary and highly valuable action for the wetland's state of conservation. In the western part of Lagoa do Rei, a perimetral plantation around the lagoon was carried out with *Salix atrocinerea* cuttings, trying to create a continuous riparian corridor that completes and connects the forest's North area with the South area, and likewise creating a protection buffer for the lagoon, which will be preserved from cutting so that hygrophilic communities can develop around its edge.





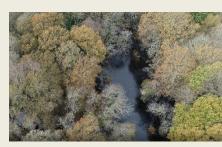


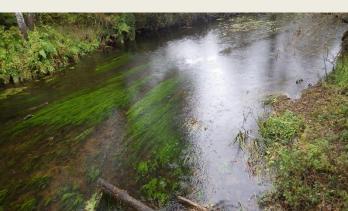
actions in the enclaves of the Miño river

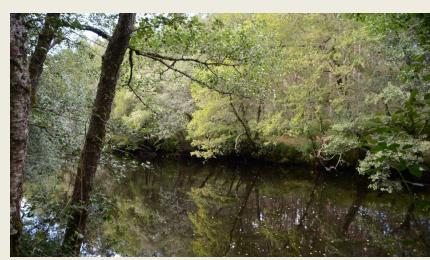
During the year 2021 the work carried out by TRAGSA in the 3 sections of the Miño river targeted by LIFE Fluvial have mainly included actions to replace plants that failed to establish in plantations with species characteristic of the 91EO* habitat and manual control of the regrowth of invasive alien species that had been the focus of the project, although in a targeted manner as this regrowth has been increasingly weak.











The action has achieved the initial objectives set out in the candidacy. The results achieved show the appropriateness of the conservation measures carried out, the improvement of the naturalness of the river corridors, the elimination of existing pressure and threat factors on the river corridors and the improvement of the state of conservation of the target priority habitat (91EO*). The methods and techniques used in the restoration actions have been exemplary and praiseworthy, regarding their adaptation to the fragility of the river environments where they were carried out, acting with surgical precision, low-intensity interventions, respect for the environment and therefore without causing a significant impact on the ecosystem's key components.

actions in the Ría de Ribadeo-Ría del Eo corridor

In these fluvio-estuarine territories, the LIFE Fluvial project has particularly focused in 2021 on monitoring the plantations of native species carried out in previous years.

One of the essential tasks for the success of the plantations has been clearing vegetation, consisting of freeing young plants from the competition of adjacent vegetation during the first years of growth, thus enabling their faster development. There was also pruning to stop regrowth on the stumps of previously removed allochthonous species, such as black poplars, acacias and eucalyptus, with the aim of ensuring the success of their elimination.

In addition, monitoring was continued on the experimental plots for the elimination of eucalyptus, acacias and cane. The tarps were removed and the results indicate that covering with plastic seems to give good results. The eucalyptus plot has recovered more than 28 new native species, several arboreal and bushy.







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actions on the middle basin of the Eo river

During the year 2021, throughout the middle area of the Eo River, maintenance work on the plantation was continued: clearing and marking plants that failed to establish for their replacement in the monitoring tasks and regular control of regrowths and invasive species.

During visits to monitor the bioengineering action in Vilaboa it is found that the fence with willow stakes and the seeds planted in the higher area have been very successful. The colonisation of the bar by alder trees and willows is also observed. This is great natural regeneration.

In San Tirso de Abres the tarp has been removed from the experimental treatment of *Tradescantia*, observing the success of the method. The presence of *Crocosmia* is now scarce, observing a significant reduction with respect to the initial moment.

Visits to Ribeira de Piquín and Meira show the good state of the restored shoreline, the saplings are resprouting and the dead alder trees have disappeared from the landscape, the stumps showing their previous location.













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actions in the lagoons of Arnao and Villadún

In December 2020 new *Laurus nobilis* stakes were planted, their development during 2021 being very favourable. *Delairea odorata* is much less visible and native species such as *Oenanthe crocata, Rubus*sp., *Lythrum salicaria, Carex*sp., *Limniris pseudacorus* and others native to these environments are recovering their ecological space. In May work was carried out to clear vegetation around the plantlings of the planted species, which were being overwhelmed by the surrounding vegetation, in order to facilitate their growth. It was not necessary to carry out these actions for the willows, which with stakes more than a metre in height can compete better with the brambles.







In addition to monitoring the plantations, manual elimination of the allochthonous species *Arctotheca calendula* was carried out during the month of December, an appropriate month for this task as the plant is easily recognisable but has not yet produced flowers nor seeds. The success of the plantations is very high and their growth is rapid, a fact that will enable the total recovery of the tree cover characteristic of the 91EO* habitat over a brief period of time.



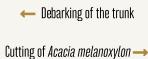




actions in the Lima river SCI

The restoration actions focused on two typologies: reinforcement of the native vegetation in the enclave where the eucalyptus plantation of *Eucalyptus camaldulensis* was cut down, by planting willow stakes (*Salix atrocinerea*). In early March 2021, 2566 willow stakes were collected and prepared to be buried for them to put out roots in an allotment located in the enclave acted upon. In late June 1011 stakes with good root systems were planted in the enclave and in late October it was necessary to replace those that had failed to establish. On the other hand, the control of invasive species continued with the actions to debark *Acacia melanoxylon* which, once dead, were cut down and removed from the enclave between August and September. Control of *Phytolacca americana* was also carried out through the collection of fruit and pulling out roots. In addition to this work, actions for the passive restoration of native vegetation were also carried out, as well as monitoring of the above-mentioned interventions.







Planting of *Salix atrocinerea* stakes →





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actions in the Betanzos-Mandeo SAC

During 2021 TRAGSA has carried out a series of topographical correction operations that have made it possible to restore the function and connectivity of the ecosystem, through the creation and improvement of ecotones between the fluvio-estuarine corridor. Using mechanical means there has been an adaptation of the surfaces targeted by LIFE Fluvial in the Betanzos-Mandeo SAC (ES1110007), within land of the municipality of Bergondo (A Coruña), breaking up the homogeneity and artificial nature of the surface that had been created with the previous construction of the sports facilities. This has led to the creation of a small mosaic of habitats with biotopes that are distinguished by their depth (<60 cm), which enable the development of different biocenoses.





In parallel, work has been carried out to restore 2.1 ha of alluvial forest (91EO*), through repopulation with species characteristic of its plant cover, restoring connectivity with the alluvial forest from the rest of the fluvio-estuarine corridor. The design of the plantation has left a passageway in each of the areas, similar to a path that enters and leaves the restored areas. In the areas where the path joins the perimetral trail, vehicle access control devices have been installed to prevent them from entering the paths. This path reinforces the function of raising awareness of the natural values of the SAC, as well as the dissemination of the project's results, enabling a greater long-term transferability of the project.













actions in the Encoro de Abegondo-Cecebre SAC

During 2021 TRAGSA has continued with the elimination and control of invasive alien species that were a threat to maintaining the favourable state of conservation of the 91EO* habitat. Invasive tree species (*Eucalyptus*spp., *Acacia melanoxylon, Acacia dealbata, Populus* × *canadensis, Robinia pseudoacacia, Pinus*spp.) were removed and chopped via manual methods, loaded on a lorry and sent to a waste treatment centre. The presence of pampas grass (*Cortaderia selloana*), though scarce, has been significant in some spots, with some very large specimens. These have been removed via mechanical means, using a backhoe excavator equipped with a grapple, which uprooted and collected the specimens in a pile, where they lost humidity, and once dry they were loaded on a lorry and sent to an authorised waste manager.

In parallel, work has been carried out to restore the alluvial forest (91E0*), through repopulation with species characteristic of its plant cover, restoring connectivity with the alluvial forest from the rest of the SAC. Plants generated previously by the LIFE Fluvial project using local forest reproduction material was used for this purpose, thus avoiding the introduction of alien ecotypes that can cause genetic contamination, become vectors for pests and diseases, etc.







In parallel to the above sub-actions, manual elimination of piles of rubbish was carried out, identified in a series of points around the Cecebre reservoir, where waste of diverse nature had accumulated (fence wire, cables, home appliances, organic material, etc.), affecting the state of conservation of natural and semi-natural ecosystems of the SAC. After the manual elimination of this waste, it was later transported to an authorised manager for its adequate processing.

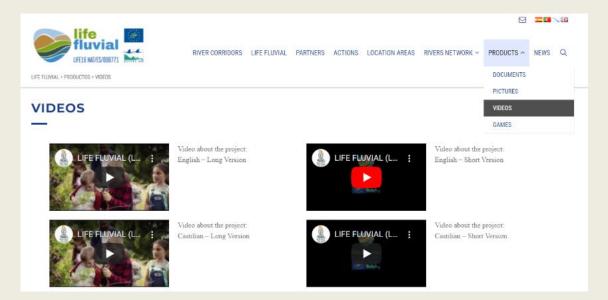




communication and dissemination

audiovisual

Since June 2021 the audiovisual material on the project is available in its different formats and languages. Thus, there is the possibility of enjoying a more extended version with a duration of 10 minutes or another shorter one of less than 3 minutes. Both videos have audio and subtitling in the four languages used in the project; Spanish, Galician, English and Portuguese.



Viewing these works makes it possible to travel throughout the enclaves that are the focus of the actions by LIFE Fluvial and understand in an entertaining way the importance of conserving river corridors. At several of the training seminars carried out in 2021 this audiovisual material has been an interesting tool for providing context and introducing concepts on the project as a whole.



the drop game

After the development during 2020 of the interactive browser game (www.oxogodagota.es), in which the board of the Mero-Barcés river basins, tributaries of the Abegondo-Cecebre Dam, was joined by the board of the upper basin of the Miño river, in the year 2021 a third option was created: the Lima valley, dedicated to the project's Portuguese enclave.



This last board to be created is made up of cultural, natural and other symbols over the layout of the hydrographic network included in the Lima River SAC, which many of the questions focus on. It is a game intended for children, though adults can also learn a lot. Play and learn!



itinerant exhibition

The itinerant exhibition shows the most significant aspects of the LIFE Fluvial project in an informative way, with the aim of reaching out to as wide and diverse of an audience as possible.



Centro de Interpretação Ambiental das Lagoas de Bertiandos e São Pedro d'Arcos (Ponte de Lima, Portugal); 09/11/20 - 29/09/21

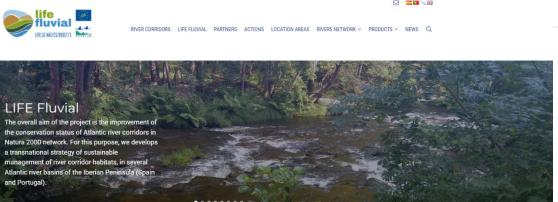
Agroforestry Training and Experimentation Centre, Lourizán (Pontevedra, Galicia); 01/09/21 - 31/12/21







LIFE Fluvial website and social networks



During 2021 more content was added to the website, more than 40 news articles related to the project were published, the events held during the period were announced and new documents were uploaded to the products section.

	Followers	Post/tweets	Mentions	Interactions	Scope
Twitter	994	2.149	493	18.375	756.204
Instagram	597	191		2.681	7.475
Facebook	444	153		4.185	38.313
Youtube		24			1.227
TOTAL	2,035	2,517	493	25,241	803,219

Note: accumulated indicadors









Facebook, Twitter and Instagram have been continuously updated with the main news and events related to the project and the river corridors.

dissemination and awarenessraising

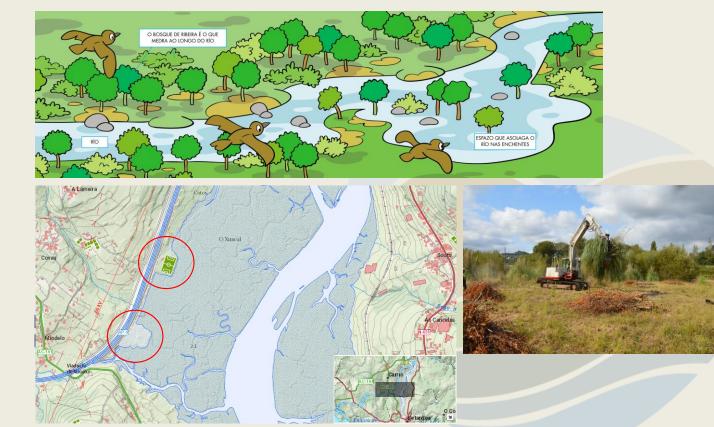
school workshop in the municipality of Oleiros

On 25 February 2021 an online workshop titled "We are Biosphere" was developed for the CEIP Isidro Parga Pondal school in the municipality of Oleiros (A Coruña).

The talk, which was attended by a total of 17 fifth year primary students, was given remotely by the technician from the Miguel Fernández Biosphere Reserve.



In addition to highlighting the origin and importance of the Biosphere Reserves, the role of Mariñas Coruñesas e Terras do Mandeo within LIFE Fluvial was underlined with the screening of the animated video "Red Natural 2000" and a detailed explanation of the project's actions in the region and its environmental importance.



school workshops in the municipality of Bergondo

In April 2021 the Mariñas-Betanzos Rural Development Association carried out two workshops in the CPI Cruz do Sar school.

Date	Centre	Course	Students	Subject
16/04/2021	CPI Cruz do Sar	2 nd year primary	18	Drawing of nature
26/04/2021	CPI Cruz do Sar	2 nd year primary	17	Drawing of nature
Total workshops:	2	Total students:	35	

The development of both workshops started with a brief talk on the main values to take into account in order to preserve the flora and fauna of river corridors. The main activity of the sessions consisted of learning skills to draw nature, given by local artist Suso Cubeiro. The participating children had the chance to show their abilities with their own creations.















school workshops in the municipality of Sada

In the municipality of Sada, the Mariñas-Betanzos Association, in collaboration with EMALCSA, organised a total of 5 educational workshops during May 2021.

The objectives were focused, on the one hand, on the main awareness-raising values that are part of LIFE Fluvial, such as the water cycle and its importance in the environment. Information was also given on the main values promoted by the project and about the Natura 2000 areas in the region. To this end a Q&A dynamic was followed, using a game board.



Date	Centre	Course	Students	Subject
05/05/2021	IES Isaac Díaz Pardo	1 st year primary	20	Water cycle
07/05/2021	IES Isaac Díaz Pardo	1 st year primary	19	Water cycle
07/05/2021	IES Isaac Díaz Pardo	1 st year primary	22	Water cycle
10/05/2021	IES Isaac Díaz Pardo	1 st year primary	22	Water cycle
10/05/2021	IES Isaac Díaz Pardo	1 st year primary	22	Water cycle
Total workshops:	5	Total students:	105	





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scholl workshop in the munipality of Carral

On 25 May 2021, the Mariñas-Betanzos Association carried out a workshop that aimed to raise awareness about the danger posed by invasive alien species. The talk was attended by 23 fourth year primary school students from CEIP Vicente Otero Valcárcel.











school worksshops in the munipality of Betanzos

On 22 October 2021 there was a field trip to the Pelamios river (Betanzos) with the aim of raising awareness about the value of the ethnography of the river corridors there, from wheat mills to tanneries and sources of drinking water supplies, as well as the observation of tree species in riparian forests.



A total of 21 sixth year primary students from CEIP Sada y sus Contornos participated.



school workshops in the municipality of A Coruña

In the municipality of A Coruña the Mariñas-Betanzos Association, in collaboration with EMALCSA, organised a total of 11 educational workshops between the months of February and June 2021.

In this case, to promote the main awareness-raising values that are part of LIFE Fluvial, such as the water cycle and its importance for the environment. For this purpose, the online game created by the "oxogodagota.es" project was used, using the board for the Mero-Barcés river basin.



Centre	Course	Students	Subject
FESD Santo Domingo	5th year primary	25	Water cycle
FESD Santo Domingo	5th year primary	26	Water cycle
CEIP Emilia Pardo Bazán	5th year primary	20	Water cycle
CEIP Emilia Pardo Bazán	5th year primary	20	Water cycle
CEIP Emilia Pardo Bazán	5th year primary	20	Water cycle
CEIP Emilia Pardo Bazán	5th year primary	20	Water cycle
CEIP Sagrada Familia	5th year primary	19	Water cycle
CEIP Sagrada Familia	5th year primary	19	Water cycle
CEIP Sagrada Familia	5th year primary	19	Water cycle
CEIP Sagrada Familia	6th year primary	20	Water cycle
CEIP Sagrada Familia	6th year primary	20	Water cycle
Total workshops: 11	Total students:	228	



school workshops in the municipality of Culleredo

Similarly to the above case of the municipality of A Coruña, the "oxogodagota.es" online game was also used for the workshops in Culleredo.

In this case, the participants were 4 classrooms from the CPR Monte Espiño school, who used the game on a number of occasions during the months of February and June 2021.

Centre	Course	Students	Subject
CPR Monte Espiño	5th year primary	21	Water cycle
CPR Monte Espiño	5th year primary	20	Water cycle
CPR Monte Espiño	6th year primary	25	Water cycle
CPR Monte Espiño	6th year primary	26	Water cycle
Total workshops: 4	Total students:	92	

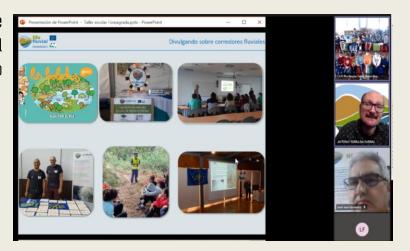
Again, as it is the metropolitan area of A Coruña, the board chosen was that of the Mero-Barcés basin.



school workshop in the municipality of A Fonsagrada

This workshop was organised and developed remotely with the collaboration of the partners of the INDUROT project and InterEo, and given on 5 May 2021 to 20 students aged 7 to 9, studying third and fourth year primary education at the CEIP Santa María school (A Fonsagrada – Lugo).

The topic dealt with was the importance of environmental awareness and activities to disseminate LIFE Fluvial.



school workshop in the municipality of Trabada

With the same approach as in the above case of A Fonsagrada, on 7 May 2021, INDUROT and InterEo gave an online workshop to 12 schoolchildren aged 7 to 9 from the CEIP Celso Currás school (municipality of Trabada – Lugo).

school workshop in the municipality of Castropol

On 10 June, partners of the INDUROT project and InterEo gave a workshop to 17 sixth year primary school students from CP La Paloma, in Castropol (Asturias).

school workshops in the municipality of Oviedo

On 26 May 2021, the partners of the INDUROT project and InterEo carried out a workshop at CEIP San Lázaro Escuelas Blancas, in Oviedo. Several fourth and fifth year primary classrooms participated for a total of 90 students. The topic dealt with was the importance of conserving river corridors.





On the other hand, on 10 June 2021, INDUROT offered a series of workshops at the CP Parque Infantil and CP San Claudio schools, which were attended by 71 schoolchildren from first, second and fourth year primary education.

Date	Centre	Course	Students	Subject
10/06/2021	CP San Claudio	4th year primary	14	River corridors
10/06/2021	CP Parque Infantil	2nd year primary	20	River corridors
10/06/2021	CP Parque Infantil	2nd year primary	20	River corridors
10/06/2021	CP Parque Infantil	1st and 2nd year primary	17	River corridors
Total workshops:	4	Total students:	71	

school workshops in the municipality of Ponte de Lima

On 22 and 24 November 2021 three school workshops were held on occasion of Native Forest Day with the LIFE Fluvial project. A total of 90 schoolchildren participated, along with their teachers and assistants, from four primary schools from Ponte de Lima (Feitosa, Ribeira, Vitorino de Piães and Lagoas). The sessions included classroom and outdoor activities.

In the auditorium of the Environmental Interpretation Centre of Lagoas de Bertiandos e São Pedro d'Arcos, a session titled "Rivers and their river corridors" was coordinated, with the aid of the characters and settings of the "Los Bolechas" story. Students were able to debate and interact based on concepts such as biodiversity, river corridor, environmental services, threats (to river corridors), invasive species and the Natural 2000 Network.

The field activities included a visit to a small stream and its river corridor, with its native plant species and some of the alien species that may threaten it.







volunteering session in Cullergondo

For the organisation and invitation to this session, carried out on 23 April 2021, Mariñas-Betanzos received the collaboration of the environmental department of Abegondo Municipal Council and of the NGO Cooperación Internacional.

The main objective was to raise awareness about the importance of preserving native riparian forest tree species as an essential part of the habitats of river corridors.





The work was carried out in collaboration with a total of 10 people who managed to plant 30 riparian trees on a surface area of approximately 800 m²on the banks of the Mero river. The species planted, which were from the nursery of TRAGSA's partner and belonged to the project itself, were *Betula pubescens* (white birch), *Ilex aquifolium* (holly) and *Quercus robur* (oak).

volunteering session in Carral

For this session, carried out on 25 April 2021, Mariñas-Betanzos received the collaboration of the Department of Public Works, Services, Environment and Civil Protection of Carral Municipal Council and of the Association for Safeguarding the "Brexa" Territory.



A total of 8 volunteers planted 50 riparian trees along 500 linear metres on the bank of the Brexa river.



volunteering session in Aspace

On this occasion the session consisted of planting riparian species in the installations of ASPACE Coruña (Sada), a pioneering entity in Galicia that assists people with cerebral palsy. The activity was carried out thanks to the invaluable collaboration of the management and maintenance staff from ASPACE, and of the centre's users.

Thus, on 30 April 2021, it was possible to plant 16 specimens of *Betula pubescens* (white birch), *Ilex aquifolium* (holly), *Acer pseudoplatanus* (sycamore) and *Quercus robur* (oak). Due to the public health situation and the specific protocols of these types of centres, the explanations and interventions by LIFE Fluvial were limited to a prior visit, preparation and planning and delivery of the trees. The day the volunteers planted the trees there was no attendance due to safety reasons.







volunteering session in O Pedrido (Bergondo)

The work received the collaboration of the school «CEIP Sada y sus Contornos», which offered the participation of two of its 6th year primary education classrooms.

The activities were carried out on 14 May 2021 on the beach of 0 Pedrido (municipality of Bergondo) and consisted of the removal of the invasive alien species *Arctotheca calendula* from the sand dunes and surroundings, and the collection of plastic waste from the sand. The work received the effort of 26 students and two teachers from the school, supported by technicians from the Biosphere Reserve and an external technician specialised in environmental education.

The session, carried out on a net surface area of 3,500 m², resulted in the removal of 30 kg of waste and 120 kg of plant matter from the above-mentioned invasive species.









volunteering session in the Encoro de Abegondo-Cecebre SAC

Carried out on 5 June 2021, the call for volunteers fro this session received the collaboration of the department of «Zara Logístics» from the company Inditex, as well as of the company «Valora Consultores».

The objective focused on the manual removal, by pulling, of regrowths of *Robinia pseudoacacia* and *Acacia dealbata* in the areas acted on by LIFE Fluvial.









After the welcome by the Mariñas Coruñesas e Terras do Mandeo Biosphere Reserve, IBADER staff provided information on the project and the SAC, complemented by a talk to provide context on the role of the reservoir in the preservation of the environment by EMALCSA. Those attending also had the chance to visit the Crendesa Nature Classroom through a guided visit thanks to the environment department of Abegondo Municipal Council.

Due to the COVID-19 protocols and the fragility of the environment, the 26 volunteers were distributed into 3 groups in different work spaces.



3 bigbags of false acacia shoots, 1 bigbag of mimosa and 1 bigbag of waste (mainly glass) were removed from a surface area of 13,200 m² and transferred by TRAGSA to an authorised manager.

volunteering session in Irixoa

This activity is part of the events to celebrate World Environment Day, within the framework of LIFE Fluvial. Up until 2019 the area that was the focus of activity, the property of the Community of Joint Owners of Commonly-Owned Mountain Land in San Antón (Irixoa – A Coruña), was occupied by intensive forestry use, where eucalyptus trees dominated practically the entire surface area. After carrying out an environmental improvement project, this use was replaced by hardwood species such as oak, birch, cherry, cork oak, walnut and chestnut trees. The main objective of the session carried out on 6 June 2021 focused on collaboration in the preservation of this initiative, in particular by controlling eucalyptus seedlings.





The invitation for the 56 participating volunteers received the collaboration of the GN Medio Ambiente National Association, the Decathlon company and the Community of Commonly-Owned Mountain Land itself.

After completing the work, carried out on a gross surface area of 3.7 hectares, 500 eucalyptus seedlings were removed and approximately 100 kg of waste (mainly plastic, glass and scrap metal) were collected.





volunteering session in Arteixo

This volunteering session was proposed as an activity to raise awareness about the problem of invasive species. The organisation and development of the session, carried out on 12 and 13 July 2021, was done by the partner Mariñas-Betanzos Rural Development Association, with the collaboration of the environment department of Arteixo Municipal Council, the NGO Cooperación Internacional and Grupo Naturalista Habitat.

The chosen location was Alba beach, in Arteixo (A Coruña) and the objective was the removal of the invasive species *Carpobrotus edulis* (hottentot-fig), over a demarcated surface of just over 1 hectare.

In the course of the work carried out during the two days indicated a total of 46 volunteers participated, who managed to remove 7 m³ of plant material which, once weighed by the waste management company, resulted in 980 kg of remains of *Carpobrotus edulis*.











volunteering session in the recreational area of the Arnao lagoon

The volunteering session took place on 28 July 2021 in the recreational area of the Arnao lagoon (Castropol, Asturias). Promoted by INDUROT, with the collaboration of Castropol Municipal Council, InterEo and Cogersa, the objective was the removal of the invasive plant *Arctotheca calendula*, commonly called capeweed or cape dandelion. This plant was introduced as an ornamental plant and is now well adapted to the Cantabrian coastal climate. It is very common to find it on ground regularly trodden on by car wheels in car parks close to beaches, as it seeds can be transported by shoes and tyres.





In this area the invasion is still in an embryonic phase and the volunteering session has been useful to remove almost the totality of the adult specimens and the seeds present in the ground. It is not the first intervention on capeweed in Arnao, as on 11 June 2020 LIFE Fluvial carried out another volunteering session. However, a second intervention was necessary to remove the plants that sprouted from the seeds from the previous year present in the ground.



volunteering session on Arnela beach (Sada)

A location was sought that would make it possible to address the problem of micro-plastics in the natural environment. Thus, the Arnela beach (municipality of Sada), within the fluvio-estuarine corridor of Betanzos-Mandeo was considered ideal, as it is an environment that is inaccessible for the municipal council's mechanised cleaning services.

For the call for volunteers, in addition to the competition by the Mariñas Coruñesas e Terras do Mandeo Biosphere Reserve, support was received from the environment department of Sada Municipal Council, the NGO Cooperación Internacional, the transport company UPS and the company "RibeiránProxectosNaturais".







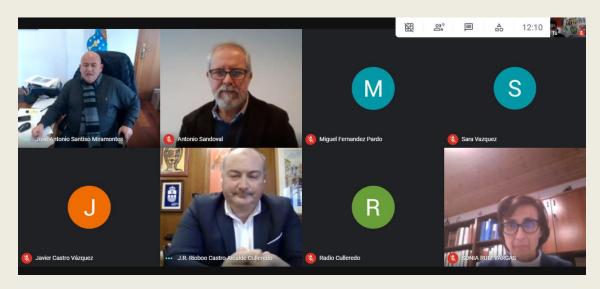
Upon completing the action (23/10/2021), on an approximate net surface of 7,800 m², some 13 kg of microplastics and small sized waste were removed, which were classified and quantified according to the MARNOBA protocol, the disaggregated results of which were added to its collaborative platform.





celebration of World Wetlands Day

On occasion of the celebration, within the framework of LIFE Fluvial, of World Wetlands Day 2021, on 1 February there was a remote presentation to the media of the Ornithological Tourism Guide of the Mariñas Coruñesas e Terras do Mandeo Biosphere Reserve, the territorial scope of which includes the Betanzos-Mandeo and Encoro de Abegondo-Cecebre SACs, Natura 2000 spaces included in LIFE Fluvial. Within this presentation, which included a speech by the presidency of the Biosphere Reserve, A Coruña Provincial Council and the company that drafted the guide, the entity ASPACE Coruña also had its space, with the perspective of environmental values applied to social dynamics.



With the support of materials and indications provided by the LIFE Fluvial project, on 2 February a paint workshop was organised with ASPACE Coruña focused on the importance of the values of native fauna within Natura 2000 Network spaces.



seminar "The Art of Communication on Nature management Measures"

Patricia María Rodríguez González, in representation of the University of Lisbon, participated as a guest at the international seminar *The Art of Communication on Nature Management Measures* (*Experience exchange from* (LIFE) *project work and beyond*) which took place on 24 and 25/02/2021, through its integration in panel 1 (*Experiences of communicating with the general public, tourists and stakeholder of nature conservation*) with a presentation titled *Improvement and sustainable management of river corridors of the Iberian Atlantic Region*.

river corridors and alien and invasive species

The aim of this session, organised by the partners of the INDUROT project and InterEo, and held remotely on 1 March 2021, focused on promoting knowledge on the socioeconomic benefits and ecosystem services of river corridors, and also on the threats they suffer as a result of invasive alien species.





In addition to the attendees integrated in the technical teams of the organising partners, 14 participants, with professional profiles linked to the protection and management of natural resources, registered.

replication and transfer of results in A Lagoa do Rei

IBADER, responsible for the conservation activities of the project in Galicia, on 5 April 2021, proposed a session to transfer results in A Lagoa do Rei (Rábade, Lugo), a municipality where the specific conservation activity C7 has been carried out within the Parga-Ladra-Támoga SAC (ES1120003). This included the presence of members from the Natural Heritage Service of Lugo (Xunta de Galicia), as the entity that manages the SAC, and of the management of the Santo Anxo Teaching Centre, as the entity that carries out the management and maintenance of the land where the lagoon is located.





river corridors as the foundation for the recovery of ichthyofauna

River corridors create spaces of high biodiversity that are used as refuge for many species linked to the river environment. By carrying out this training session on 16 April 2021, organised by the Mariñas-Betanzos Association and IBADER, the aim is to learn about the current situation of this ichthyofauna and the keys for its preservation in our river corridors.

The technical seminar received 99 registrations by professional profiles linked to the environmental field.





international Mother Earth Day

The Mariñas Coruñesas e Terras do Mandeo Biosphere Reserve celebrated this event (22/04/2021) with the publication in the Newsletter of the Spanish Network of Biosphere Reserves of an article focused on the planting of riparian trees that LIFE Fluvial has carried out in its territory around these dates by means of volunteering sessions by Cullergondo, Carral and Aspace Coruña, as well as through collaboration with the David Buján de Cambre Secondary School and the Municipal Youth Information Office (OMIX) in Cambre.





webinar: Restauro e Recuperação de Linhas de Água

The LIFE Fluvial project was represented by Patricia Rodríguez González at this *webinar* promoted by the Liga Para a Proteção da Natureza portuguesa, through the presentation of a communication titled "Restauro ecológico e vegetação ribeirinha: experiências do projeto LIFE FLUVIAL".

(https://www.youtube.com/watch?v=4bfY10BT3RI)





Natura 2000 Day

On 21 May 2021, Natura 2000 Day was celebrated in Ponte de Lima, organised by the Portuguese LIFE Fluvial team. The day started with a session to present the itinerant exhibition and continued with a visit to the areas of intervention of the project. The field visit made it possible to learn on the ground about the effect of passive restoration on the natural regeneration of alder trees and the promising results of eliminating eucalyptus plantations to increase the area of the 91EO* habitat and control invasive alien species.



On the other hand, the technical team from INDUROT highlighted this special day with a commemorative photograph in its installations at the Mieres Campus (Asturias).



3rd awareness-raising session for the local population

On 21/05/2021 the 3rd awareness raising session for the local population took place, aimed at residents in the municipality of Ponte de Lima, some of whom are owners of land that borders with the enclaves targeted by the project, and extended to public entities with competences in the management of the Natura 2000 Network and in the application of territorial management instruments (ICNF and APA/ARH do Norte). This initiative to raise awareness and inform about the project was attended by 17 participants and included a visit to the itinerant exhibition, a theoretical presentation on the progress made, with dissemination and completion of the project's surveys, and a visit to the enclaves acted on.





world Environment Day

In order to celebrate World Environment Day on 5 June 2021, the Mariñas-Betanzos Association wrote an article on the volunteering sessions by LIFE Fluvial for the Newsletter of the International Union for Conservation of Nature, published in number 42 in the summer of 2021.



LIFE Fluvial on RTP2 TV

The LIFE FLUVIAL project featured in the Biosferadel programme on channel 2 of the Portuguese public television (RTP2), titled "Os Engenheiros dos Ecossistemas Ribeirinhos", recorded on 20/05/2021 and broadcast on 10/06/2021 in Episode 23 of Season 9, and can be watched on RTPPlay via the link https://www.rtp.pt/play/p8304/e550388/biosfera. The programme focuses on the passive and active restoration activities of the 91EO* priority habitat, with emphasis on the promotion of the natural regeneration of alder trees (Alnus glutinosa) through the total and partial exclusion of herbivory, as well as the reinforcement of native vegetation to accelerate the natural succession of the vegetation in a eucalyptus plantation cut down in 2020.



training sessions in Asturias

During the month of June INDUROT organised to technical training sessions aimed at technical staff from different institutions related to the management of river corridors.

↓ Session I
(Remote; 14/06/2021)
LIFE Fluvial in the Eo corridor: environmental restoration and POSTLIFE

↓ Session II
(Remote; 18/06/2021)

LIFE Fluvial in the Eo corridor: characterisation and environmental restoration





installation of a perch for osprey in the Betanzos-Mandeo SAC

As a result of the collaboration of LIFE Fluvial with the social and cultural groups of the territories involved, a proposal was made by Grupo Naturalista Hábitat to the Mariñas Coruñesas e Terras do Mandeo Biosphere Reserve to install a perch in the wetlands for ospreys (*Pandion haliaetus*).

The installation was carried out on 9 July 2021 and consisted of a chestnut wood pole 20 cm in diameter and 4 m long, with a platform at the top. The initiative was carried out through coordinated work and the involvement of the partners IBADER, TRAGSA and Mariñas-Betanzos and received the support and presence of representatives from Bergondo Municipal Council.

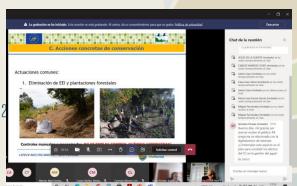




LIFE Fluvial seminar and the programme of measures of PHGC 2021-2027

The objective was the appreciation of the value of environmental projects, such as those promoted by the LIFE Programme, to contribute towards learning and methodologies that can contribute to the Programme of Measures of the Galicia-Costa Hydrological Plan for the 2021-2027 period. The seminar, held in online format on 14 July 2021 and organised by Mariñas-Betanzos and IBADER, received a total of 34 registrations with professional profiles from the environmental field.











With this 2021 edition, held on 18 and 19th September, it is now the third occasion on which LIFE Fluvial, through the Mariñas-Betanzos Association, has been present at Open Science Cambre.

This time its informative activity has been reinforced by promoting the interpretation centres and main routes linked to the territory's Natura 2000 enclaves, knowledge of native flora and fauna species or the Q&A game "The LIFE Fluvial roulette" for children.

In addition, two textile printing workshops were held, using leaves from the most representative species of native trees from the area.





visit to master's degree in Biotechnology, University of Oviedo

On 20 September, professor Eduardo Cires, from the Department of Organism and System Biology at the University of Oviedo, professor of the *Master's in Biotechnology applied to the conservation and sustainable management of plant resources* and member of the INDUROT team in LIFE Fluvial, gave a training session with students of the subject of Biological Resource Management and Territorial Planning, in various enclaves where the project has been active.





1st session on specialised dissemination Portugal

The 1st Session on specialised dissemination in the Protected Landscape of Lagoas de Bertiandos e São Pedro de Arcos (Ponte de Lima), on the control and handling of invasive alien species in river corridors, took place on the morning of 29/09/2021.





The session, with 22 participants, started with a theoretical introduction, in both the auditorium and in the field. Later they proceeded to remove seedlings of *Acacia*ssp, *Tradescantia fluminensis* and *Phytolacca americana* (for this species there was a prior collection of fruits to avoid the spreading of seeds), as well as the manual removal of shoots and debarking of stumps of *Eucalyptus camaldulensis*.



training seminars CFEA Lourizán (Pontevedra)

After receiving the request an interest by teaching staff from the Agroforestry Training and Experimentation Centre of Lourizán (Pontevedra), LIFE Fluvial organised and carried out, with IBADER and the Mariñas-Betanzos Association, 2 training seminars for their students which were held on 21 October and 10 November 2021.





The first specialised technical seminar was attended by a total of 38 second year students from the Higher Level Forest and Natural Environment Management Course and second year students from the Mid-Level Course on Use and Conservation of the Natural Environment, in addition to members of the centre's teaching staff.

The session was completed with a visit to the environmental recovery area of Gandarela, used as an educational resource by the centre, led by teacher M² del Carmen Alfonso Leiro.

In the case of the seminar held in the month of November, it was attended by a total of 20 first year students from the Higher Level Forest and Natural Environment Management Course, in addition to teachers from the Centre.

During both sessions a variety of informative material about the project was distributed among those attending, and the audiovisual material for LIFE Fluvial was shown as an introduction.







2nd participative workshop: Hydrological Plan-Eo to Sella exploitation system proposed plan

On 11 November 2021 LIFE Fluvial, represented by project coordinator Pilar García Manteca, participated in the second participative workshop: "Important issues in the Hydrological Plan-Eo to Sella exploitation system proposed plan" which took place in the Press Room of the Administrative Building for Multiple Services of the Principality of Asturias.



During this session several representatives from the Cantabrian Hydrographic Confederation; chairman Manuel Gutiérrez García, Planning Office Head Tomás Durán Cueva and Technical Director Jesús María Garitaonandia Santiago, in addition to the Director-General of Water of the Principality of Asturias, Vanesa Mateo Pérez.





science week, University of Oviedo



Between 8 and 21 November the University of Oviedo celebrated Science Week, an annual event that tries to bring science and technology closer to the general public and in particular younger people.

Within this initiative, LIFE Fluvial was present in a number of activities. Thus it was present at the Science Fair for Primary education held at the Mieres Polytechnic School, with the *River games, LIFE Fluvial*.



Likewise, the project was disseminated within the framework of the activity *Exciting Science: research applied to natural resources and the environment*, a visit inside the Institute of Natural Resources and Territorial Planning (INDUROT – University of Oviedo).

Lastly, within the activity *Science day at my school*, a talk was given on *We exchange eucalyptus for alder and oak tree forests: improving river corridors with LIFE Fluvial*.

1st participative workshop "spanish biodiversity and science strategy"

Pilar García Manteca attended, in representation of INDUROT and LIFE Fluvial, the first Participative Workshop "Spanish Biodiversity and Science Strategy", alongside representatives from the world of science, held on 29 November 2021 at the headquarters of the Biodiversidad Foundation. The aim of these workshops is to create a space for debate and the exchange of interests and perspectives by means of a dynamic participative process, in which they hope to discuss the fundamental aspects that this Strategy must integrate.



workshop: ecological restoration of the Bertiandos and São Pedro de Arcos lagoons

The session, held on 01/12/2021, and carried out in the Protected Space of Lagoas de Bertiandos e São Pedro de Arcos, was organised by the LIFE Fluvial project jointly with the Portuguese Network of Ecological Restoration, SPECO, and received the collaboration of Ponte de Lima Municipal Council.





It included an introduction on ecological restoration and its relevance in the current context, restoration in Portugal and the approaches/methods for the restoration of riparian ecosystems, as well as a presentation of the results of LIFE Fluvial. There was also a practical activity which took place in the riparian and swamp forests, integrated within the enclaves focused on by the project, with control of *Phytolacca americana*.

XX Encontro Nacional de Ecologia SPECO

In addition to the organisation of the *workshop* prior to the congress (01 to 04/12/2021), LIFE Fluvial also contributed three communications: "Optimização do sucesso do restauro passivo em espaços protegidos — o caso das florestas aluviais de amieiro", an oral communication by Cristina Vieites-Blanco, Paulo Monteiro and Patricia M. Rodríguez-González; "Monitorização de ações de recuperação de habitats ribeirinhos prioritários na ZEC Rio Lima, no âmbito do Projeto LIFE Fluvial", an oral communication by Paulo Monteiro, Estêvão Portela-Pereira and Patricia M. Rodríguez-González; "Estrutura funcional e regeneração natural na planície de inundação do rio Estorãos (Bacia do Lima) após remoção de plantação de eucalipto", a communication using posters by Arthur Cupertino, Paulo Monteiro, Estêvão Portela-Pereira and Patricia M. Rodríguez-González.

Monitorização de ações de recuperação de habitats ribeirinhos prioritários na ZEC Rio Lima, no âmbito do Projeto LIFE FLUVIAL (LIFE 16 NAT/ES/000771)

Paulo Monteiro, Estêvão Portela-Pereira, Patricia Maria Rodríguez-González Centro de Estudos Florestais, instituto Superior de Agronomia, Universidade de Lisboa genometero ® las altiboa o ri se tevado Baramus ul ot a patricia Maria Pisa altiboa procontacto do núcleo português: cel sa alti-® penal rom

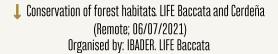
Contacto do núcleo português: cel sa alti-® penal rom

LIFE Fluvial networking

Throughout 2021, LIFE Fluvial has been present at the sessions and presentations of other LIFE projects, such as LIFE Baccata, LIFE Stop Cortaderia and LIFE Natural Course, having also participated as a speaker through IBADER at the online session of 6 September.



f Genetic diversity and conservation of the yew tree in the Iberian Peninsula (Remote; 27/05/2021)
Organised by: IBADER. LIFE Baccata







† Biological invasions in Cantabria. LIFE Stop Cortaderia (Telemática; 02/06/2021) Semana nacional e ibérica sobre especies invasoras

↓ LIFE Fluvial and LIFE Natural Course (Remote; 06/09/2021) LIFE Natural Course (LIFE-IP RBMP-NWRBD UK; LIFE14 IPE/UK/000027)



On the other hand, the University of Lisbon, on 29/09/2021, carried out volunteering/training activities with the aim of promoting exchanges between the LIFE Fluvial and Poseur projects ("*Prevenção, controlo e erradicação de espécies exóticas invasoras*").







On 30 November 2021, LIFE Fluvial was represented by Estêvão Portela Pereira at the workshop "Espécies Invasoras Aquáticas – Casos de Estudo e Gestão na Região Norte", in which it established contacts and exchanges of knowledge with the team from LIFE INVASAOUA.



Lastly, on 13 and 14 December 2021, a networking activity was carried out in collaboration with the "LIFE-RELICT: a preservar as relíquias da Laurissilva Continental" project, within which the team from the LIFE Fluvial project carried out a visit and monitored the areas of activity of the project in Serra da Estrela.







coordination meetings

NEEMO-IDOM monitoring visit

On 16 and 17 June 2021, the 4th LIFE Fluvial monitoring meeting was held. The representative from IDOM, Itxaso Mora, first of all carried out an administrative review of the project, which was done remotely, given the circumstances derived from the public health situation, with the different partners of the project.

On the first day the visits to the areas of activity started in A Coruña, in the enclaves of Bergondo (action C4) and Cecebre (action C5), to then continue with the enclaves of Lagoa do Rei (action C7) and Lugo (action C6).

The following day the three actions carried out along the river corridor of the Eo were visited. The first two stops were made at Chao de Pousadoiro (Ribeira de Piquín) and at the bioengineering work in Vilaboa (A Pontenova), included in action C2. Then they visited the three areas of activity for action C1 in Ribadeo (Lugo) and the Arnao and Villadún lagoons in the municipality of Castropol (action C3).







online coordination meeting

On 11 March 2021, a coordination meeting was held with the project's partners, which took place remotely given the circumstances of the COVID-19 pandemic.



The main topics addressed were the approval of the timeline planned for the completion of the activities, specification of the request to extend the project, a debate on Post LIFE activities and comments on the budget implementation.



monitoring committees

2nd monitoring committee in Portugal

On 21 May 2021, the project's 2nd monitoring committee was held in Portugal, organised by the Portuguese LIFE Fluvial team, coordinated by the researcher from the Centre of Forestry Studies of the Higher Institute of Agronomy, Patricia María Rodríguez González, along with Paulo Monteiro and Estevão Portela Pereira, with the collaboration of the Municipality of Ponte de Lima and the support of Centro de Interpretação Ambiental das Lagoas de Bertiandos e São Pedro d'Arcos.

At this event they explained the progress of the project while promoting citizen participation. The initiative, which was mainly aimed at local entities and representatives in the area of intervention, was attended by the Municipality of Ponte de Lima and representatives from the Portuguese Environment Agency / Administration of the North Hydrographic Region, the Nature Conservation and Forests Institute, the Escola Superior Agrária de Ponte de Lima, MOLIMA and the Parish Councils of Correlhã, Fontão, São Pedro, Cabração and Moreira do Lima, as well as owners of land close to the project's area of intervention.







newsletter nº4

december 2021





















socios / partners / parceiros