

The Rivers Project

- *The Rivers Project is an environmental volunteering initiative that has been running since the late-90s.*
- *This is a project that can be easily transferred to other basins and countries and can help improve public participation in aquatic ecosystems.*
- *Within 20 years, >60,000 people have been involved in the project*
- *Observing trends over time can help avoid major problems or identify them before they do occur.*
- *Bodies of water in Spain are monitored not just by state agencies, but also by volunteers.*

Background

Projecte Rius (Rivers Project) is an ecological quality monitoring project focused on freshwater ecosystems. The project started back in the late 90's and its methodology is nowadays based on standard physicochemical and biological indexes. This specialized methodology has been adapted to be performed by citizens using simpler tools and materials.

Limne, the leading organization in the Valencia Region, provides methodology training, basic tools and permanent support to all participants. All the data collected are saved in the project's database and contribute to research sharing our datasets with researchers and public administration as well as participating in research topics such as usability and precision of citizen science data and its potential role in water management.

Citizen scientists can meaningfully contribute by monitoring water quality in a nearby water course, identifying potential sources of pollution in their local and regional watersheds. This can significantly increase the amount of water quality data available to government agencies for bodies of water that may otherwise go unassessed. In fact, a network of citizen scientists can potentially monitor an entire watershed.

The provided data can lead to restoration projects and through the commitment with the project, participants ultimately contribute to protecting a crucial habitat for multiple species. The project also meets the requirements of the Water Framework Directive in terms of public participation

The project has significant impacts in Spain, including the monitoring of thousands of km of watercourses, closely involving municipalities and people in monitoring campaigns, working together in river's needs and management. Additionally, thousands of teachers and students are heavily involved in various activities, raising awareness.

The "River Project" aligns with several United Nations Sustainable Development Goals (SDGs) and targets, such as SDG 6 (Clean Water and Sanitation), SDG 4 (Quality Education) and SDG 15 (Life on Land) by improving water quality, promoting environmental education, enhancing community participation in water management, and fostering partnerships for sustainable development, with a view to meeting the requirements of the Water Framework Directive and Water Law. It also aligns with the Earth Charter, the Treaty of Environmental Education for Sustainable and Global Responsibility.

The implementation of this project aims to address the visible issue, both nationally and globally, related to the alteration and deterioration of river quality and the lack of effective involvement of users and the general population.

A strong network

Each year, the Project involves more than 1,000 groups of citizens all over Spain, mainly in five Autonomous Communities. Through local partnerships, municipalities, schools, NGOs and citizens are involved nationwide.

Within 20 years, >60,000 participants volunteered to join the project and together face the environmental challenge of water pollution. Over all these years they collected samples of rivers, mapped their water quality, analysed the impact on concerned ecosystems and how they evolve over time. Also, early warning networks for invasive plants have been launched, as well as riverbank restoration projects.

The project was originally devised in Catalonia from materials from likewise initiatives, such as '*River Watch*' or '*La rivière m'a dit*'.

The presence of the Rivers Project in various spaces of reflection and intervention in the field of environmental education, citizen participation and volunteering, has allowed it to establish links with some organizations, associations and foundations throughout the Iberian Peninsula and other countries in Europe and even America.

From these links has emerged the interest of different groups to establish agreements to adapt the Project to other realities, environments and territories. Nowadays it is widely spread through Catalonia (Ass. Hàbitats), Galicia (ADEGA), the Xúquer basin (Limne), Cantabria (Red Cambera), Madrid (Territorios Vivos) and Portugal (ASPEA). It was also implemented but later discontinued in the Bierzo-Laciana area in Spain (Fundación Ciudad de la Energía), but also in other countries, like Mexico (Gaia), Bosnia and Herzegovina (Lijepa Nasa) and Brazil (Caritas Diocesana).

The agreements within these territories encouraged the Rivers Project to foster the Rivers Project Network to promote environmental volunteering and which aims to facilitate, enhance and improve the exchange of resources and experiences between the leading organizations and provide the different Rivers Projects with the capacity for joint coordination and management.

The Rivers Project Network is a proposal to consolidate the bonds between all the Projects through better general coordination, the organization of joint training activities, the creation of a space for the exchange of experiences and resources between the different groups of volunteers and the organization of a Meeting of Projects from the different territories, where experiences and projects are shared, the different annual reports are briefly presented and recreational activities are organized around the theme of the river.

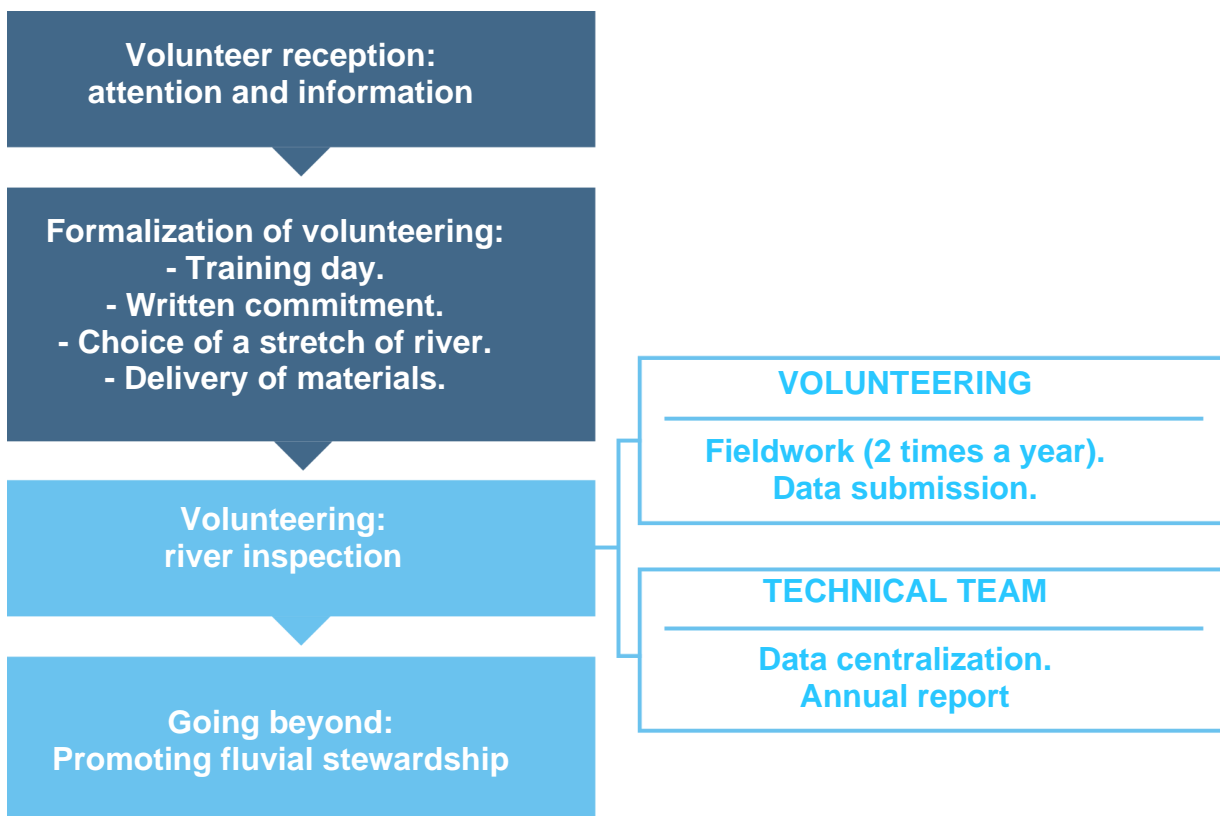
Project phases

The Rivers Project bases its work on three fundamental pillars: (i) the importance of environmental education to better understand aquatic ecosystems, (ii) the consistency of work with volunteers who are responsible for a stretch of river, and (iii) the promotion of citizen participation as a fundamental tool that leads us towards a society that is more aware and capable of undertaking actions to protect and improve these ecosystems.

Therefore, its main objectives are:

- ✓ Promote a better connection of the local population to their river and its biodiversity.
- ✓ Stimulate and enhance **environmental volunteering** in relation to the knowledge, enjoyment, conservation and improvement of rivers and the natural environment in general.
- ✓ Bring the scientific method closer to citizens as a tool to analyse and better understand the state of our rivers.
- ✓ Encourage the creation of **environmental volunteer networks** around river basins, and promote a comprehensive vision of the environmental, social and cultural conditions of our rivers.
- ✓ Facilitate the creation of **citizen participation** initiatives in decision-making and intervention around the river.
- ✓ Promote territorial **stewardship strategies** linked to the improvement of river spaces.

And the main phases where our volunteers are involved are:



*In Spain, all volunteering projects need to mandatory formalize a **written agreement** with the volunteers and the organization must fulfil the commitments acquired, such as the obligation to subscribe to an insurance **policy** suitable to the characteristics and circumstances of the activity developed by the volunteers, covering the risks of accident and illness directly derived from the voluntary action.*

River inspections

Our river inspections are a tool that allows all citizens to better understand the river in a simple and entertaining way. It can be a first step to get to know a river, or a mechanism to monitor how it evolves.

The uses of the data collected by volunteers are multiple:

- ✓ Identify critical points in the river.
- ✓ Make public certain problems in the quality of its waters.
- ✓ Evaluate the quality of the water throughout its basin.
- ✓ Establish priorities for controlling river pollution.
- ✓ Influence territorial planning decisions.



First step: training

Throughout the year, several training sessions are organized along our rivers and ravines. These activities are a good opportunity to learn about the inspection methodology, become familiar with the tools and analysis parameters and test your skills, as well as exchange experiences, resolve doubts, and provide ideas and suggestions.

Attending the training is essential to constitute the volunteer group. Our volunteers can check the training courses planned on our agenda or via our social media, and then register in the activity closest to their municipality

The technical team also takes note of the suggestions for new training sites and, as far as possible, we incorporate them into the calendar.

In addition to the methodology, general safety guidelines are given in the training sessions.

Second step: Let's go to the river!

The river sampling of the Rivers Project is structured into three differentiated blocks:

- **Hydromorphological quality:** we analyze alterations and assess the state of the habitat and riparian forest.
- **Physicochemical quality:** we study the concentrations of various parameters such as nitrates, dissolved oxygen and pH. We also analyze the turbidity and temperature of the water.
- **Biological quality:** we will use **macroinvertebrates as bioindicators** to assess the quality of the river.



Last step: sending our data.

The observations made by our volunteers allow us to generate a database on the ecological state of our rivers and ravines over time. This data is reviewed and validated by the technical team and is available for consultation. It is also available to professional research groups as well as public administrations.

In addition, the data is analyzed annually, and an annual report is published, which includes an overview of the state of the stretches analyzed by all volunteer groups. To carry out this task, it is essential that the volunteers send us the data on time, either through the web form or by email. Two annual analysis campaigns are carried out: one in spring and one in autumn. The latter marks the annual closure of the project, at the end of November.

Going beyond the analysis

It is not common, but sometimes our groups feel the need to contribute more directly to the conservation and improvement of the stretch of river they inspect. In these cases, we try to assess the possibility of launching a stewardship project in their municipality or organizing parallel actions, such as river clean-ups.

