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**LIVINGRIVER**  
CARING AND PROTECTING THE LIFE AND  
CULTURE AROUND RIVERS AND STREAMS

# NEWSLETTER #1



Photo by: Helena Freitas

The first transnational partners meeting of the LivingRiver project happened on the 8<sup>th</sup> and 9<sup>th</sup> of November 2019, in Coimbra, Portugal, organized by the partner University of Coimbra.

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## EDITORIAL

Joaquim Ramos Pinto

Coordinator of the LIVINGRIVER project

President of the Board of the Portuguese Association of Environmental Education

Reaching this point was possible only through a collaborative work of all project partners and people who believed in its scientific and pedagogical purpose. I would like to thank everyone who accepted the challenge during a multiplier event, of a previous project, also financed by the ERASMUS+ programme, who quickly got involved in the construction of the main ideas and conductive lines, leading to a final project approved by the ERASMUS+ National Agency, in Portugal.

The LivingRiver project's conception was based on providing social and pedagogical answers, through the production of scientific knowledge by students of basic and secondary school, through validated research methodologies. Digital tools will, also, be produced and made available, adding value to the project on a citizen science perspective.



This project is of high scientific-pedagogical relevance, as much as of social and cultural importance since, nowadays, rivers are one of the most degraded ecosystems of the planet. It is worrying the increased reduction of biodiversity observed in these ecosystems, higher than in the terrestrial ecosystems and, at the same time, how we are witnessing the disappearance of several cultural and social aspects related to the activities of our rivers and streams.

I hope all direct and associated project partners can feel proud to contribute to an issue which is so important on a pedagogical and social level, and can enjoy and take the most from the knowledge and experience sharing opportunities that will be provided during the project and in each of the project's countries.





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## Project presentation

**LivingRiver - Caring and protecting the life and culture around rivers and streams** (2018-I-PT01-KA201-047513) is an international project, supported and financed by the Erasmus+ Programme, under the Key Action 2, sector of School Education (KA201), with a grant of 434 701,00€, for the period of 2018-2021.

With a base of strategic partnerships, this project aims to:

- 1) Alert the society for the inevitability of caring and protecting rivers and streams, not only for their environmental and ecological importance, but as well for their high historical, social and cultural value.
- 2) Reinforce the aptitudes and competences of the population in order to promote initiatives that contribute to improve the environmental, ecological and social conditions of the river and its ecosystems, using resources and tools based on scientific investigations for an informed global citizen science action.

The project brings together seven partners from four european countries: The Portuguese Association of Environmental Education (ASPEA), University of Coimbra and University Nova de Lisboa, from Portugal; IES Ribeira de Louro and ADEGA from Spain; Agentia Metropolitana Pentru Dezvoltare Durabila Brasov, from Romania; Balikesir University, from Turkey.

Along the duration of this project it will be produced various learning tools to be used by students and school communities, in order to analyse data related to the health and memories of rivers and streams.

This project will have two main Outputs:

1. An E-Book, which will encompass scientific methodologies created by the scientific partners, case studies and pedagogical contents.
2. A Web Platform, which will gather the project's information, resources, materials produced by the partners and associated partners, a Virtual Ecomuseum, a Georeferencing Platform, a Handbook for field activities, newsletters, a digital magazine and the E-book.

Additionally, along the implementation of the project there will be teacher s and student's trainings and four multiplier events.

The increase of awareness for the importance of scientific research is another goal of the project, which pretends to raise consciousness for the central role of universities in the creation of scientific knowledge, contributing for projects of citizen science.

LivingRiver will be present in the following social networks:

- Facebook: [https://www.facebook.com/pg/LivingRiver2018a2021/posts/?ref=page\\_internal](https://www.facebook.com/pg/LivingRiver2018a2021/posts/?ref=page_internal)
- Instagram: <https://www.instagram.com/livingriversproject/>
- Twitter: <https://twitter.com/LivingRiver2?lang=en>





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## Meet the portuguese partners

### The project leader ASPEA

The Portuguese Association of Environmental Education (ASPEA) is a Portuguese Environmental Non-Governmental Organization, founded in 1990, with 5 regional delegations (Lisboa, Aveiro, Viseu, Bragança, Faial), acting in the field of Environmental Education through education, organization of events, consulting and promotion of national and international projects.

The association's strategic axes are:

- Reinforce the communication with associates and community;
- Strengthen the cooperation with Portuguese speaking countries
- Consolidate the work from the regional offices
- Promote partnerships and participation in networks that will strengthen the field of environmental education



ASPEA's activities include Teachers trainings, Monitor Trainings, conferences and seminars, National projects, International projects (including three ERASMUS+, Projeto Rios, Caretakers of the Environmental International), Art and environment seminars, Educational Centre/Forest School Center, awareness campaigns, exhibitions and volunteering activities.

The Association has a wide contact network, making activities together with schools, universities, research centres, local autarchies, public bodies, companies and NGOs.

### The University of Coimbra (UC)

The University of Coimbra (UC) is a reference in higher education and R&D in Portugal. UC pursues a policy of constant improvement in several areas, ensuring high standards of teaching and research. One of the UC R&D units is the Centre for Functional Ecology – Science for People & the Planet (CFE) hosted by the Department of Life Sciences of the Faculty of Science and Technology of the University of Coimbra that brings together researchers from all fields



Photo by Helena Freitas

of ecology, integrating knowledge from genes to the biome level to disentangle the mechanisms responsible for biodiversity maintenance, and for the composition, structure and functioning of biological communities and ecosystems. CFE holds a strong commitment to knowledge transfer to the general public and to the productive sector.

CFE is composed by 245 researchers (88 integrated researchers with PhD) organized in 6 strategic research groups: Terrestrial Ecosystems and Global

Change, Biodiversity, Conservation and Ecosystem Services, Marine and Coastal Ecosystems, Soil and Freshwater Stress Ecology, Forensic Anthropology and Paleobiology, and Societies and Environmental Sustainability. In addition, CFE inscribes two cross-cutting thematic lines: the UNESCO Chair on Biodiversity Safeguard for Sustainable Development and the Open Science.





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The CFE *Soil and Freshwater Stress Ecology* research group integrates the Freshwater Ecology Laboratory team. This team presently includes 9 elements and focuses its activity on the assessment of the effects of multiple stressors (e.g. salinization, exotic afforestation, global change) on stream functioning putting into perspective protection measures and recovery actions in impacted watercourses. Science dissemination and outreach is a relevant activity of this group.

## Universidade NOVA de Lisboa

Universidade NOVA de Lisboa (NOVA) is located at Lisbon and it is the best ranked Portuguese university in QS Ranking 50 under 50 (36th). NOVA is committed to the construction of the European Higher Education Area and all its courses are organized under the principles of the Bologna Agreement.



Foto: David Martins/CM

Source: <https://www.sabado.pt/ciencia---saude/detalhe/universidade-nova-de-lisboa-dividida-sobre-passagem-a-fundacao>

With more than 20,000 students, 1,800 academics and 600 non-academic staff, NOVA is an active member of UNICA and YERUN networks and has a consolidated experience within European programmes, such as Erasmus and Tempus, and is involved in cooperation with North-American, African and South American universities. These partnerships are expanding the initiatives of joint degrees and also of R&D projects and competitiveness.

Research at NOVA has been growing and developing, both at quantitative and qualitative

levels. NOVA hosts 40 Research and Development Units, 15 of which are research partnerships between NOVA and other national institutions. NOVA research teams are composed of senior and junior researchers, some of the latter carrying out their own PhD investigations within the framework of the institution's larger projects.

The improved performance of NOVA in terms of research can be seen in the international rankings' scores and positioning.

FCSH is the NOVA faculty dedicated to Social Sciences and Humanities where the Institute of Contemporary History and the Republic Centre are placed. The first, founded in the 1990s was one of the first institutions to develop research on contemporary history within the Portuguese framework. Further than developing high standard research, it has always kept as a central goal it's commitment with society, education and public engagement. The History Laboratory for instance is dedicated to work closely with schools, students and teachers on the dissemination of knowledge and the participation of society at large in research dynamics and democratising access to research tools.

The Republic Centre was created to host the Centenary of the Portuguese Republic Activities in 2010 and since then is dedicated to fostering research and innovation on the fields of Contemporary History but also working in interdisciplinary dynamics, creating several projects and initiatives which focus public engagement, public and digital History and the dissemination of historical knowledge in different levels. Memory for All ([www.memoriaparatodos.pt](http://www.memoriaparatodos.pt)) and





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Portugal 1914 ([www.portugal1914.org](http://www.portugal1914.org)) are two examples of projects developed, dealing with historical awareness and collective memory.

## SCIENTIFIC METHODOLOGIES

Following the experiences undertaken within the Institute of Contemporary History and the Republic Centre, the Memory for All research team will work together with the partners developing pedagogical content to be tested and further applied by school teachers. A first stage of research will focus the relation between rivers and communities, rivers and development in a historical framework and dealing with memory and territory, resorting on oral history and other applied methodologies (having the Mondego River as a case study). Secondly, we will focus on citizen science methodologies to engage students and the public at large on research strategies in a local perspective from oral history to speech analysis and georeferrenciating tools. These two stages will provide background for the production of pedagogical materials to be tested with local partners and then further developed in order to create a replicable strategy to be implemented in other geographical contexts.

History and memory come not only as a means to look at the impact of rivers in people's lives, fostering the relation of communities with these valuable asset, but also to raise awareness towards rivers as resources for economical, cultural, social and spiritual development. The interdisciplinary approach with biodiversity and biology will allow us to

develop innovative strategies of dealing with territories of memory in a holistic dimension, joining efforts for the preservation and caring of this tangible and intangible heritage, through environmental and heritage education.

Having a strong relation with heritage studies and participating in the development of several museums (including the first Portuguese online exhibition on the Google Arts & Culture — *We know this war by heart*) we will work closely with the partners in the development of the virtual ecomuseum, ensuring that it will translate scientifically validated content to be reused and interpreted in the long run by multiple users.

## Ecomuseum

The idea of the ecomuseum appeared when we saw the necessity of a universal tool for each country where they can show the different information about the rivers.

This Ecomuseum is not going to be a physical museum, it will be a virtual museum where everyone could visit at any time, no matter where they are from.

The main idea of this Ecomuseum is that it is not going to be normal museum, it is going to be a interactive museum where the people can give different kinds of information. There are different kinds of





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information that we want to include in the ecomuseum, from the legends and myths about them, to the more scientific data. All types of information are very important for the knowledge of the different rivers, the history, the economic success and the environmental effects build the river's life.

We are going to see that even though we can think that our rivers are very different from other countries rivers, they are more similar than we can expect. The biodiversity, the geological events and the climate conforms the structure of the rivers, and we are going to be able to study the different events in the different rivers that we will show in the ecomuseum.

In actuality the ecomuseum is under development and it is expected that by the end of this year it will be up and running.

## The litterbag technique

A large percentage of a fluvial net is composed of small streams. In temperate areas, trees frequently shadow these watercourses. With limited light, the aquatic food chains mostly rely on terrestrial leaves as source of nutrients and energy. Particularly in autumn, high amounts of deciduous leaf litter fall down into the water.

Once submerged, leaves are colonized by aquatic fungi that make them more palatable to aquatic invertebrates that eat them. On the top of these "brown food chains" we can find invertebrate predators and fish. This leaf decomposition process is crucial for the functioning of the ecosystem

and to the multiple services that streams provide to man, as supply of clean water. Leaf decomposition is a key-ecosystem level process sensitive to several local and global perturbations – reforestation practices, eutrophication, acidification, temperature changes. Alterations in the dynamics and protagonists of the litter decomposition process may suggest "problems" in the functioning of the system.



Photo by: A. Martínez

In this project, we propose the application of the litterbag technique to get insights into your stream ecosystem integrity. This methodology requires the use of litterbags (e.g. made of coarse plastic mesh) filled with a specific weight of dried leaf litter (oak or alder); these bags will be submerged for a certain period. During immersion, leaves will be colonized by fungi and invertebrates present in the stream; "bags' weight" will decrease through time. The rate of weight loss, along with some abiotic measurements, will give us insights on the health of the stream ecosystem.





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## FIRST TRANSNATIONAL PARTNERS MEETING

The first transnational partners meeting of the LivingRiver project happened on the 8<sup>th</sup> and 9<sup>th</sup> of November, in Coimbra, Portugal, organized by the partner University of Coimbra.



This was the kick-off meeting of the project where all partners met and were discussed the goals of the project, the activities and expected outputs, the distribution of tasks among partners and management and financial aspects.

In the meeting was present a representative of the Portuguese Erasmus+ National Agency, being a key presence and helping to clarify some doubts from the partners.

## PROJECT PRESENTATION AT NATIONAL & INTERNATIONAL EVENTS

### The II BioFÓRUM in Albergaria-a-Velha, Portugal

ASPEA integrated the panel of the second BioFÓRUM, on the 27<sup>th</sup> of October in Albergaria-a-Velha, with the topic “Active Citizenship and Sustainability”.

Inserted in the panel of Citizen Science, ASPEA made a presentation about the LivingRiver project, its aim and goals, partners and outputs.

This was the first presentation of the project, by ASPEA.





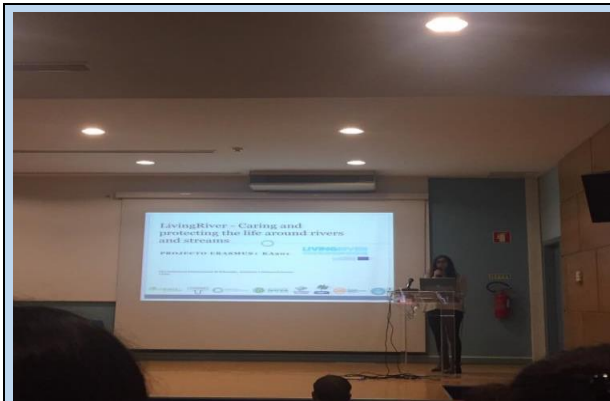


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### The III International Congress Education, Environment and Development



On the 10<sup>th</sup> of November ASPEA was present on the III International Congress Education, Environment and Development, in Leiria, Portugal, presenting the LivingRiver project, on the panel of Environmental Education.

This was an opportunity to present the project to people involved in the topic of Environmental Education, not only in Portugal but in Brasil, as well.

### The XXV Pedagogical Conference of Environmental Education organized by ASPEA

The LivingRiver project will be presented by ASPEA's team in the XXV Pedagogical Conference of Environmental Education, which will happen between the 15<sup>th</sup> and 17<sup>th</sup> of March, in Lousada, Portugal.

This event, with the title “Environmental Education and intergenerational dialogue: opportunities and synergies” will have participants and speakers from different countries such as Portugal, Spain, Mexico and Belgium, and will be filled with lectures, workshops and presentations.



### The V International Congress of Environmental Education of the Portuguese Speaking Countries and Communities



The LivingRiver project will be presented in the V International Congress of Environmental Education of the Portuguese Speaking Countries and Communities, which will happen from the 14<sup>th</sup> to the 18<sup>th</sup> of April of 2019, in Guiné-Bissau.

This congress, with the topic “Ecological crisis and migration: Readings and Responses of Environmental Education” aims to strengthen the network “REDELUSO” and of Environmental Education.





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## Festival “ObservaEstrela”

On the 28th, 29th and 30th of June 2019, ASPEA will participate in the second edition of festival “ObservaEstrela”, disseminating the LivingRiver project and its goals.

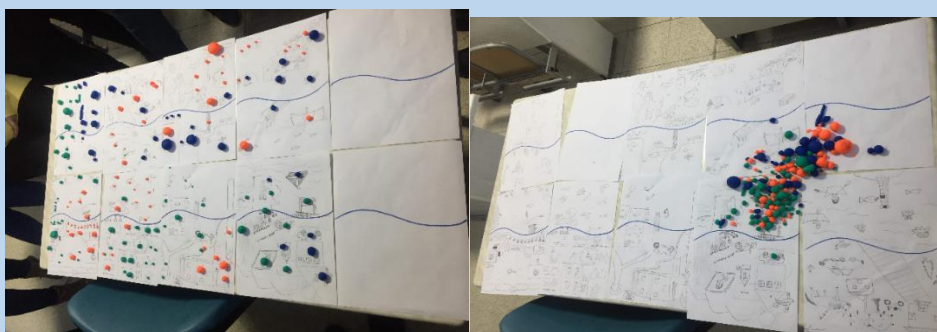
This event will consist in tourism and nature fairs, lectures, workshops and field activities, with the aim to promote the connection between tourism and science, focusing on the nature and culture of the region.

Festival de Natureza e Paisagem  
**OBSERVAESTRELA**

## NEWS

### System thinking - “Being a part of a big system “

The University of Balikesir did an activity about ecological systems with 20 prospective biology teachers. They studied with small groups and imagined what if they had a lot of Money and a big land near the river. Then they saw that living near the river can damage all the system if they don't think all the dimensions. As a result, they all agreed, ecological literacy is vital.



### ASPEA promotes a photography and short-film competition under the topic “Projeto Rios: Unite Rivers and People”



“Projeto Rios: Unite Rivers and People” was the theme of the contest promoted by ASPEA, related to the Iberian project “Projeto Rios”, and it was

supported by the Environmental Fund framed in the notice “Environmental Education + Healthy: Rethink Rivers and Streams”, within the scope of the Portuguese National Strategy of Environmental Education (ENEA2020).

The participants had to send photos/short-films related to the river's biodiversity, species, cultural heritage, socioeconomic activities, sport, tourism or environmental issues. The goal of these contests was to promote socio-environmental values in a perspective of citizenship.





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## RESOURCES

ASPEA created a short-film competition which aimed to focus on issues related to rivers and streams.

This short-film, which won the first place of the General Public category, focus on the river Alvoco, its landscapes, history and culture. This is a river with history, ancestral knowledge, collective experiences, of a rich material and immaterial heritage that the authors try to mirror through the art of sound and image.

<https://www.youtube.com/watch?v=ntq3SXQVgUI>



In Braşov took place the cleaning and unclogging of the two water courses crossing the city: the Timiş Canal and the Graft Creek. The cleaning involved, besides alluviums, also the collection of waste, which unfortunately the locals still throw them in the water.