



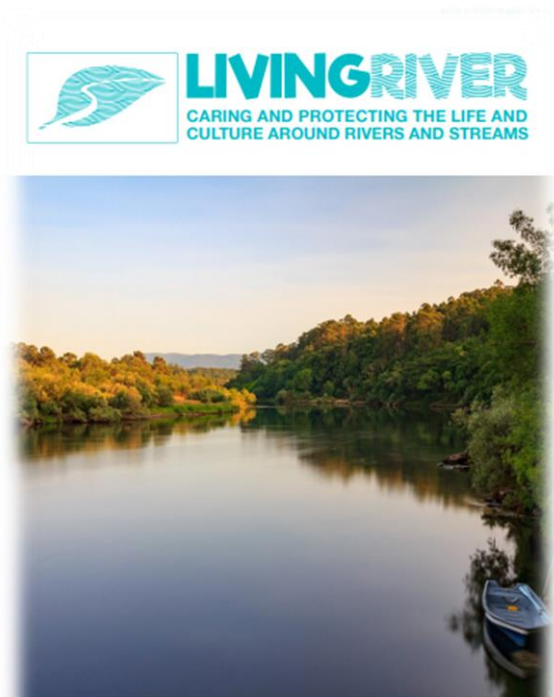
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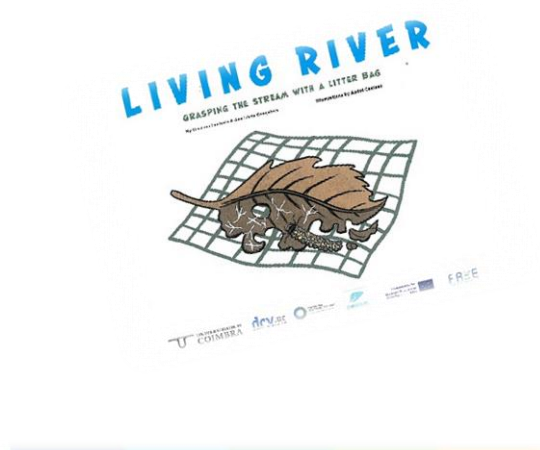
LIVING RIVER
CARING AND PROTECTING THE LIFE AND
CULTURE AROUND RIVERS AND STREAMS

Project no. 2018-I-PT01-KA201-047513

NEWSLETTER #5



LIVING RIVER
CARING AND PROTECTING THE LIFE AND
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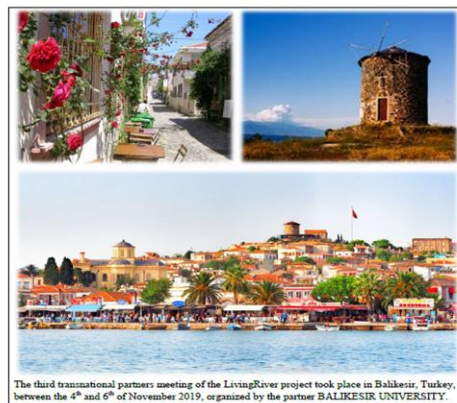
LIVING RIVER
GRASPING THE STREAM WITH A LITTER BAG
PROJECTUALY ABBEY COLLEGE

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LIVING RIVER
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NEWSLETTER #3



The third transnational partners meeting of the LivingRiver project took place in Balıkesir, Turkey, between the 4th and 6th of November 2019, organized by the partner BALIKESIR UNIVERSITY.

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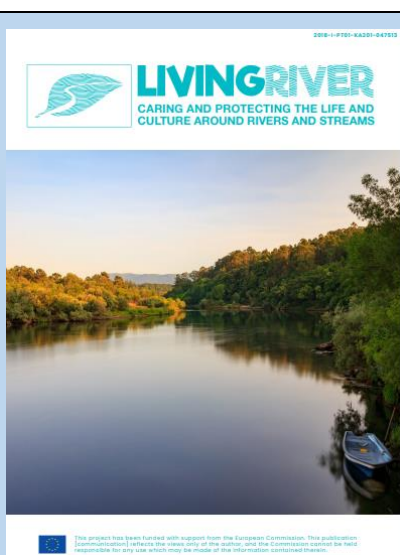
The project so far

Production of Videos for the eBook

Several videos related to the projects methodologies and topics are being produced and will be included in the eBook of the project. These videos include contents from the partners and the associated schools.

Check the teaser of the first video here:

<https://www.youtube.com/watch?v=Ju88BMWFNSg&feature=youtu.be>



Digital Magazine

The first edition of the Digital Magazine is already available! It includes six articles, produced by the partners, regarding the adoption of rivers, smuggling in Minho River, a visit to the Coimbra University Archive, the Delta from Brasov and an article on ecology literacy. In addition, it contained some information on River related project, in Europe.



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Handbook

The handbook sheets are already finished and have been made so that anyone who goes to the river will be able to discern the elements that surround it.

The illustrations are original for the project. The design of the sheets wants to be clear and direct to create awareness and knowledge.

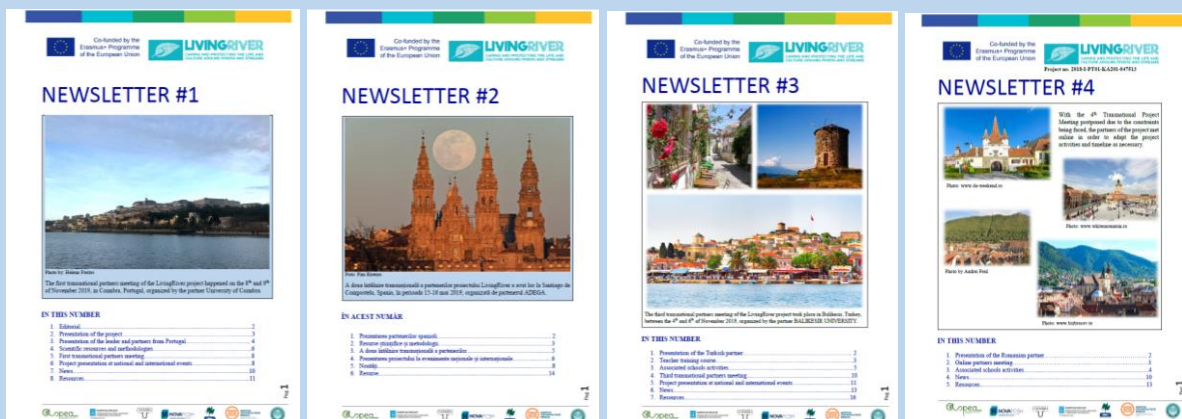
As we previously said, one of the main objectives of the project is to create awareness and knowledge about our rivers.



Newsletters

During the project, 5 newsletters were written, in order to disseminate the activities and their results in the online environment. Each issue contains a summary of the ongoing stage. These newsletters aim to raise awareness among as many readers as possible of the importance of Earth's river ecosystems.

We want people to understand from the activities of the project how much we need to get involved and what great effort we must make together for the protection and conservation of water, one of the main sources of life on our beautiful Earth.





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Leaf Decomposition methodology – Comic Book

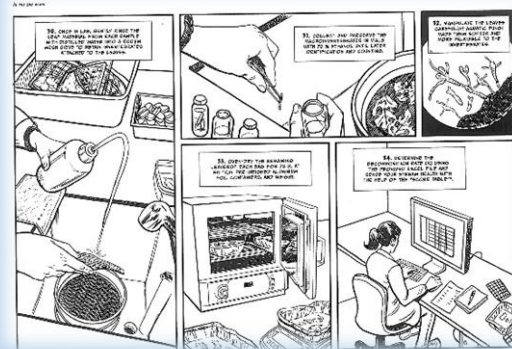
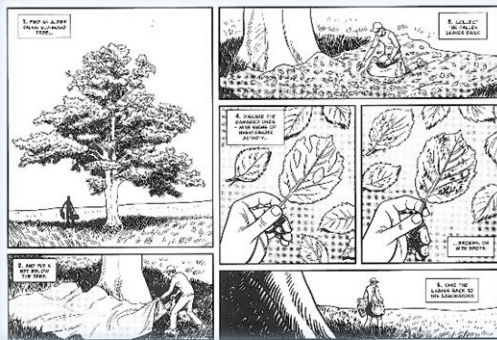
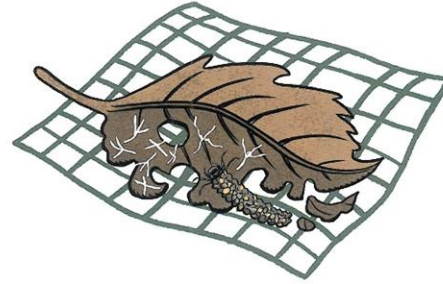
The CFE-Freshwater Ecology Lab (University of Coimbra, Portugal) created a cartoon that illustrates the leaf litter bag protocol: this approach is used by scientists all over the world to understand streams functioning and their ecological integrity. Understanding leaf litter decomposition will allow students of secondary schools, and the general community, to “sense” what is going on “their” stream.

LIVING RIVER

GRASPING THE STREAM WITH A LITTER BAG

By Cristina Canhoto & Ana Lúcia Gonçalves

Illustrations by André Cartano





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ASSOCIATED SCHOOLS ACTIVITIES

Experiments in Graft River

In October 2020, the two Romanian schools (Grigore Antipa College and Mircea Cristea College) carried out the field activities within the project, the leaf decomposition activity.

Helped by the teachers, the students fixed the nets with alder leaves (*Alnus glutinosa*) in the Graft River and determined the physico-chemical indicators of water quality (pH, temperature, turbidity, dissolved oxygen, nitrates, phosphates).

The two schools conducted experiments in different locations on Graft River.





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Starting again with the LIVINGRIVER project

At the beginning of the new academic year 2020-2021, the students of the “IES Melide” started again the LIVINGRIVER activities with excitement. All this work started with the restrictions for the Covid-19 situation.

In October during the recess, the students that work in the Project collected the leaves and prepared them in the lab for the second part of the experiment. They tried to have everything ready before the river’s flow got higher, but the Covid-19 situation got worse and they had to stop outdoor activities. We are waiting for the situation to get better so we can return to this part of the project with safety as soon as possible.



A walk by the Sarela River



Last December, ADEGA, with the student of the IES Xelmirez, went for a walk by the river Sarela.

The objective of this walk was to discover the things that the Sarela River is home to. During the walk the students could discover different structures on the river: The washing places where the women clean the clothes and approach to have talks with their friends. There is a tale about one of the washings places of the Sarela River, where the women gathered in groups and made plans to save abused women, in those times when women did not

have the same rights as they do now.

Also, they could observe many watermills, some of them have transformed into familiar houses; but they could observe that one of them had all the old mechanisms. The walk was also useful to get in contact with the local people and talk about the project.

The people showed interest and they offered to have an interview with the neighbour association. The students showed ADEGA’s personal their enthusiasm on the project and how the Covid-19 is affecting the project.





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Preparations made for the river experiments

Students from IES Ribeira do Louro have prepared the bags with the medium-sized meshes, joining their sides (except one) with a cotton thread. In total they have prepared 20 bags, to divide into 5 groups of 4 bags each. Later they have prepared the material to take to the river. Students carry out the distribution of leaves (at first they weigh around 4 grams per bag) in the different bags, moistening them previously to avoid their breakage. They mark each of them with letters and numbers corresponding to the row and the position they occupy, as well as the exact mass of the leaves. Later they proceed to join the bags in groups of 4 with a cotton thread, and carefully deposit them in boxes to transport them to the river.



Activities carried out by the Turkish schools

Fieldwork





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Lab work



Lab work labelling





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Leaf placements



Leaf experiment





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Microscopic examination



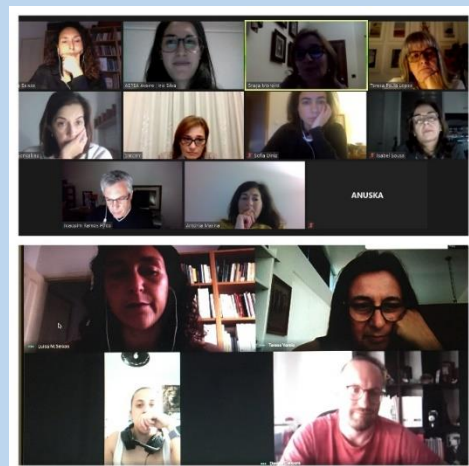
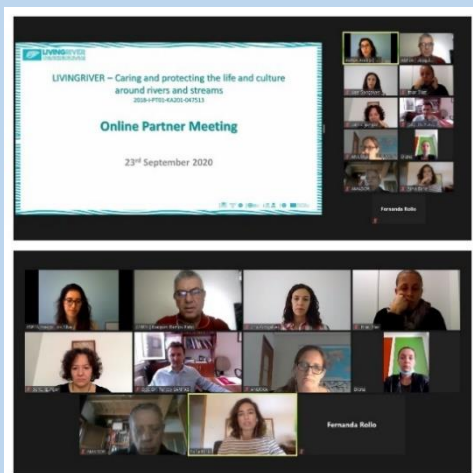
NEWS

Online meetings

Both the partners of the project and the teachers from the associated school have engaged in several online meetings in order to prepare the outputs of the project and support the associated schools in the implementation of the methodologies.

The UNL team and the teachers from the different countries are having monthly meetings where they discuss the work related to the heritage and oral history.

These online meetings are very valuable to keep the project alive and bring all the participants closer.





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National Meeting of ESRI Users Portugal

The Georeferencing Platform was presented to the users of ESRI in Portugal in the Virtual National Meeting, on the 20th of October 2020. Besides a brief overall presentation of the LIVINGRIVER project, the survey 123 form, used to insert the data from the field activities, was presented as well as the dashboard and all its functions.

Turkish teachers meet online

The image shows a Zoom meeting with several participants. Below the meeting, two screenshots of a Gmail interface are shown, displaying a registration form for 'Living River Life History' and 'Living River Tangible Heritage Identification'. The form includes fields for 'E-posta adresi*', 'Name of registrant*', and 'Büro'.

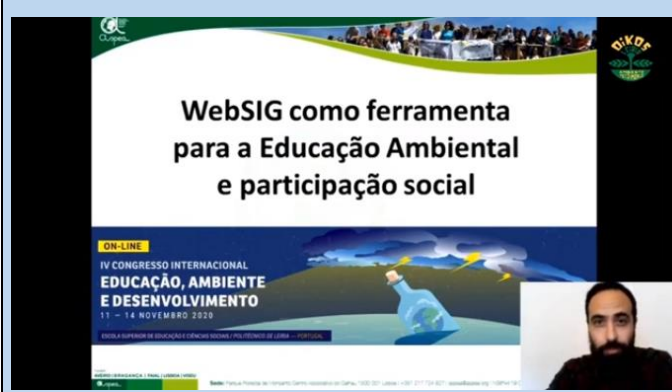


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IV International Congress “Education, Environment and Development”



In 2020 the IV International Congress “Education, Environment and Development” was held online and ASPEA participated in the event presenting the LIVINGRIVER project, highlighting the georeferencing platform.

The presentation was recorded and can be seen here:

<https://www.youtube.com/watch?v=0HgynbGnKOM&t=27490s>

Starting the short film competition

LIVINGRIVER
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NEHİRLERİ KORUMAK

SADECE EKOLOJİK DEĞİLLİ
TARİHSEL SOSYAL VE
KÜLTÜREL AÇILardan DA...

YARIŞMASI

Ödüller

1. FİLM 1500 TL
2. FİLM 1000 TL
3. FİLM 500 TL

Ödüller Hediye Çekidir.

ÖRNEK KONULAR:

- Nehir ve akarsuları koruma,
- Nehirlerin tarih ve kültür ile ilişkisi,
- Nehir kirliliğinin etkileri,
- Nehirler etrafındaki topluluklar,
- Nehirlerle ilgili meslekler,
- Nehir ekosistemlerinin biyolojik çeşitliliği ve ekolojik dengesi.

SON BAŞVURU TARİHİ:
27.02.2021

İletişim: livingrivertr@gmail.com

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The LIVINGRIVER SHORT FILM CONTEST was announced for high school students in order to promote social and environmental values and roles of rivers from a citizen perspective. It might be created as a creative cinematic approach of the topics related to the following: river and stream conservation, river and stream history and culture, biodiversity and ecological balance of river ecosystems, impacts of river pollution, communities around river and streams, professions related to the rivers, etc.



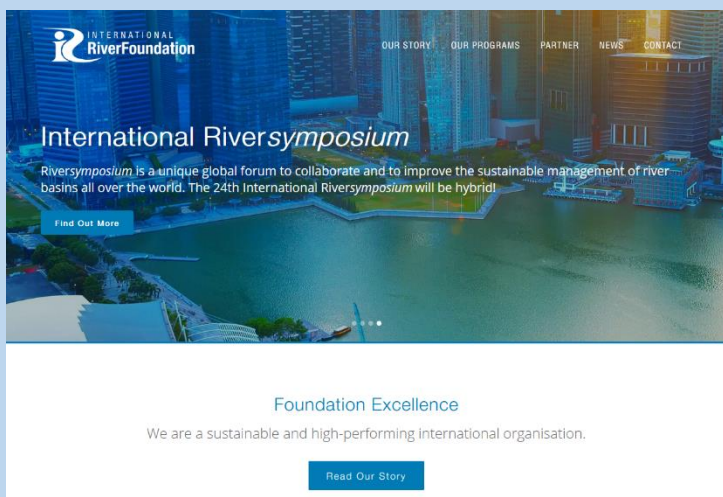
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RESOURCES

First of all, we would like to introduce you a very interesting and exhaustive site which contains a lot of interesting information about almost everything about rivers; while visiting this site you can explore videos, channels and discussions about this splendid part of our environment, THE RIVERS. The site belongs to **International River Foundation** which works in partnerships around the world to fund and promote the sustainable restoration and management of river basins.



We are kindly request you to follow: <https://riverfoundation.org.au/publications/>

Here, we kindly want to get your attention about **COVID 19 and its impact on environment**. Because of immense negative results of pollution, many countries put a huge effort to save the natural habitat, many of them put their hands together for this, much before the Covid-19 pandemic strike the world. While we were searching on internet, we found a very interesting article about the fight against pollution on the Sabarmati river in India. They put a lot of effort to analyse the parameters of the river, both before and after the pandemic. Therefore, we kindly recommend you to rich the following link:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7446619/>



photo source: https://en.wikipedia.org/wiki/Sabarmati_River#/media/File:River-Sabarmati



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Still in Indian area, we found another interesting article about the positive effects of pandemic on the environment; is well known that Ganges and Yamuna Rivers are some of the most polluted waters in India, not only for chemicals discharged but for local rituals and customs. In the next link, you will see an extensive analysis about positive effects of pandemic on the two rivers and the life

in: <https://link.springer.com/article/10.1007/s13762-020-03021-3>

photo source: https://en.wikipedia.org/wiki/File:River_Ganga_with_Howrah_bridge_in_the_backdrop.jpg

In this chapter, we want to approach another sensitive subject, about antibiotic contamination on worldwide rivers. An ample international study named „*The world`s rivers, contaminated with antibiotics*” made in 2019, says about the dangerous levels of antibiotics which contaminates the worldwide rivers.

„The results of the study sound the alarm about antibiotic resistance, one of the biggest threats to global public health. The researchers tested water samples from 711 locations in 72 countries and found antibiotics in 65% of them. In 111 of the locations, antibiotic concentrations exceeded safe limits, sometimes by as much as 300%. Antibiotic pollution is one of the main ways in which bacteria end up developing resistance to these drugs, which become ineffective. Last month, the UN said antibiotic-resistant bacteria were a global health emergency and it could kill 10 million people by 2050. Antibiotics reach rivers and soil through human and animal waste, as well as from wastewater treatment plants and pharmaceutical factories. According to researchers, even the rivers contaminated with low concentrations of antibiotics are a threat and can contribute to the development of antibiotic-resistant bacteria. Among the most polluted rivers are in poorer countries, especially in Africa and Asia. Researchers are preparing to assess the environmental impact of antibiotic pollution and the effects on wildlife, which are likely to be severe. In some rivers in Kenya, the situation was so dire that no fish could survive. A study published last year estimated that antibiotic-resistant bacteria kill 33,000 people annually in Europe.”

<https://www.green-report.ro/studiu-raurile-lumii-contaminate-cu-antibiotice/>