

lifelineMDD

Local awareness for living rivers in the TBR MDD

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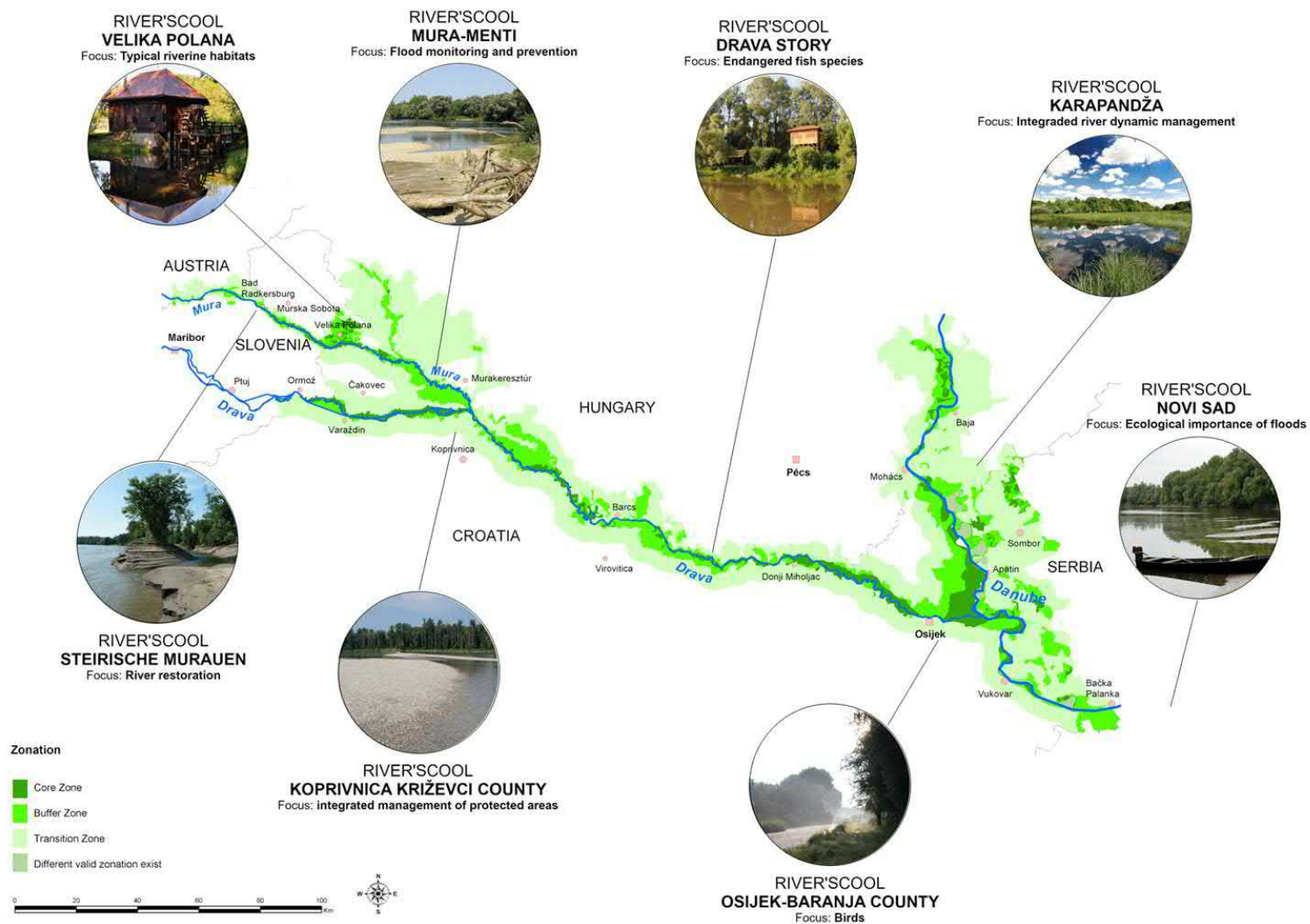
Mura-Drava-Danube 5-country Biosphere Reserve Conference

September 6, 2022.

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River'Schools as learning jewels along the TBR MDD

...and a safe haven for environmental educators



After a day in a River'scool participants should:

- Be closer to nature
- Realize the importance of TBR MDD connectivity
- Understand how their behavior in daily life impacts nature
- Know that interventions in the ecosystem of the rivers have very wide impact
- Have an idea how to participate in nature protection



1.
THE SOURCE

3.
RIVER BRANCH
"LET THE RIVERS
RUN FREE!"

5.
RIVER BRANCH
"SWIM LIKE
A FISH!"

7.
THE MOUTH



2.
RIVER BRANCH
"LIFELINE'S
LEARNING HUB"

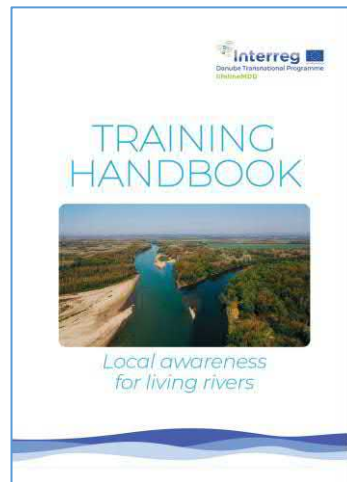
4.
RIVER BRANCH
"FLY WITH THE
BIRDS!"

6.
RIVER BRANCH
"CLIMATE CHANGE
AFFECTS US ALL"

The key to successfully implementing an educational program in nature
The Rainbow Flow

Rainbow Phase	Flow	Activity (selection)
Create a good group atmosphere!	Start from where the group is! Consider their mood and aim to create a good atmosphere from the very beginning. If possible, use the first activity to introduce the topic of the day.	Servus and Zdravot! The longest river Welcome, trout! I am a fish! Weather is changing!
Experience nature with all your senses!	Let nature first touch children emotionally. Emotion goes along with all senses, especially with children.	Looking for something Birds over the hill Song Contest Feel the heat Our rivers are flowing
Calm down and focus your attention!	Some activities help us to be calm or use other communication channels than talking. Paying attention and focusing receptors on nature serve to deepen our experience of observing nature.	Found something? River sediment picture Find your child! Silence of a fish Where have all the stones disappeared?
Trigger curiosity!	Curiosity forms the basis of every learning process. Without curiosity there is no successful education. Also storytelling leads us into new worlds.	Living map Three species – one secret Egg hunt Story of a daywalker Deforestation
Actively explore nature!	Where exactly does a certain species live? What does it live on? Questions lead us to observe more attentively. By using equipment for field work, we move significantly closer to nature and explore it from new perspectives.	Biodiversity hunt Rivers need space Bird monitoring Habitat exploration The hottest and the coolest place
Repeat and process information!	Now is the point to make sure that everybody is on the same level by repeating information in a playful way. Rely on these observations and own experiences of the day when drawing conclusions (e.g. like this: All species, including humans, are interrelated and depend on pristine habitats).	The longest food chain in the world Create your own river Owls and crows If fish could talk Web of life in times of climate change
See things at a larger scale!	We decide how we will organize our lives and relationship towards nature. We can imagine a better world. Let's practice giving more space to nature and use it wisely. Simulation games and other challenges get us out of the box and let us fly high.	Mini-Biosphere Reserve Upstream and downstream Stepping stones Save the surgeon game Letter to the past
Imagine solutions and prepare to get active!	How can we protect biodiversity well by using natural resources intelligently? Moving into real life and becoming active we imagine solutions and present our arguments. There are many ways that lead to sustainable ways of living. The future belongs to us.	Stakeholder Council River Reporter Our Action plan for birds Protect, delight! Repairing the future
Goodbye!	As important as a warm welcome is a pleasant farewell. Give them good wishes on their way back home. This is also the time to wrap up the day and pass on one or two messages you would like to share with the group.	In a nutshell The Goodbye stone Write with a quill pen Fish of the Amazon of Europe We have learned something important.

Handbook



- Trainings have the same flow as the Handbook
- In local language and in English
- Supplementary materials: maps, worksheets, bird and fish cards ...
- Theoretical part: basic information to understand the context and do the activities
- Practical part: our main focus!
- Rainbow flow: playful, hands-on, all senses, broad, flexible, clear
- Barrier free paragraph - Inclusion and obstacles in outdoor learning environment

The big picture: We are international!



Supplementary Materials

RIVER STORIES

(Interviewer) _____ (River reporter) _____

(Name of the river, mark it on the map above) _____

(Date of the interview) _____ (Location of the interview) _____

 (What is a river to you?)

 (What is so special there?)

 (Is the place still like it was in your memory?)

 (Is there something you would like to do to make it a better place?)

Mur
 Drau
 Donau

Österreich

Grüß Gott
 Servus
 Tschüss



THE CACTUS ROACH
Rutilus virgo

COUNTRY	COMMON NAME
	Frauennerfling
	Platnica
	Plotica
	Leánykancér
	Црвенкепка

The water cycle

How are clouds, rain, lakes and drinking water formed?

The water evaporates through the atmosphere as a large body between the river, lakes, the sea, plants and animals. The water in the lake evaporates, it becomes cloudy, it rains, the rainwater becomes lakes... Water is essential for all life. The water cycle also serves as a means of transport for different substances.

Nutrient supply

I need different substances for my body like fats, vitamins and proteins, but what does a plant need?

Plants, animals, fungi and microorganisms feed down the water to the environment, releasing substances to plants. This comes to a cycle. Nutrients such as nitrogen and phosphorus come to a large cycle. Everything goes around.

Soil formation

How is soil formed that plants grow in?

Soil forms when living organisms (insects, worms, bacterial fungi) feed and into dead plant and animal parts and a mineral matter with sand, clay and minerals that come from the ground. What plants are taken out from the soil becomes humus and can make water and provide oxygen to plant's roots.

Photosynthesis

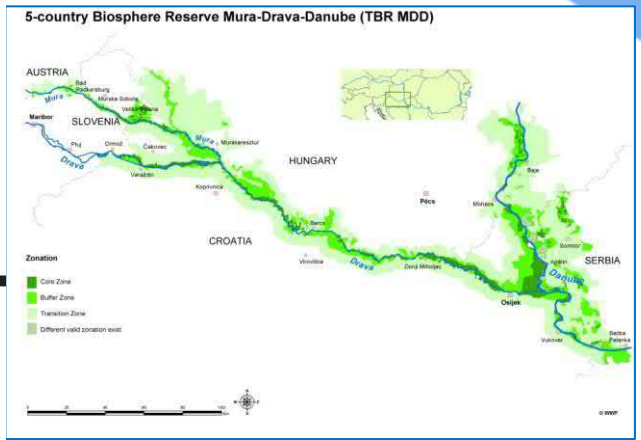
Where does the oxygen in my lungs come from? Why are the apple and carrot sweet?

The green plants use water from the soil, capture the energy from the sunlight's rays. All green plants use light energy from the sun to the green pigment chlorophyll found in plant cells. With the help of carbon dioxide from the air and water, the plants convert solar energy into carbohydrates (sugars). This causes the plant to give out gas. Photosynthesis also provides oxygen to all living organisms. Photosynthesis is the foundation of most ecosystems.

Little tern (*Sternula albifrons*)

Scientific: *Sternula albifrons*
 AUT Zwergseeschwalbe
 SI Mala čigra
 HU Kis csér
 CRO Mala čigra
 SRB Mala čigra

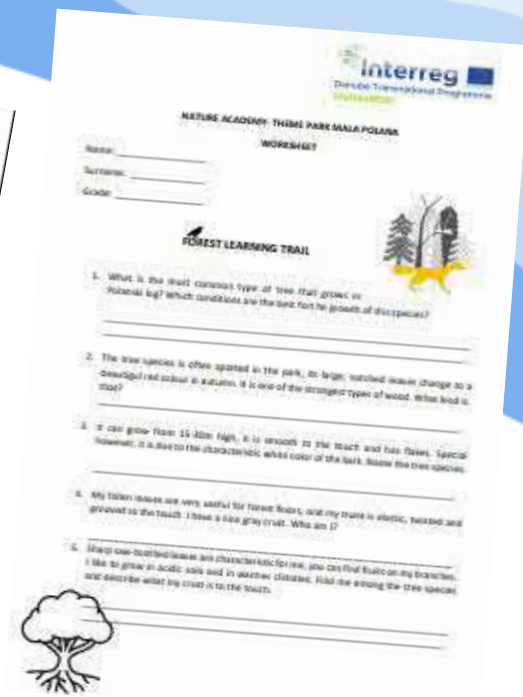
- Distribution and migration:** Widespread but patchily distributed summer visitor to much of Europe, breeding along the coastlines as well as inland. The European population is estimated at 36,000 - 53,000 pairs, most of them breeding along the European coastlines. Only few rivers with suitable habitats have remained for this small tern species. It is a strongly migratory bird which winters almost entirely within Africa.
- Breeding habitat:** Prefers bare or sparsely vegetated gravel or sand banks (rather small grains) of large rivers. To avoid ground predators, the little tern prefers islands.
- Breeding density:** Usually breeds in small colonies between 2 - 20 (50) pairs. Distance range between nests: 3 - 10 meters.
- General threats:** Loss of suitable nest sites is often caused by habitat destruction (river regulation, gravel and sand extraction, new hydropower dams). Especially during breeding season, the little tern is vulnerable to human disturbance at breeding sites. Flooding of nest sites caused by human-induced flooding can be problematic, especially in the case of hydropeaking.
- Distribution within the TBR MDD:** The only breeding area is found in an approximately 50 km stretch of the Drava in Croatia (partly bordering Hungary) downstream of the Drava-Mura confluence. In the 1990s, between four and six breeding pairs were counted in the area of the TBR MDD by different observers. Currently, four to five pairs on average are breeding regularly, mostly in the company of the common tern.
- Buffer around breeding place:** 100 m



- List for searching/1 - more general
- Something wet
 - Something roundish
 - Something grey
 - Something colourful (more than one colour)
 - Something soft
 - Something that migrates
 - Something from an animal living in the river
 - Something that makes noises
 - Something that smells bad
 - Something that smells good
 - Something that exists in different temperatures (hot, warm, cool, cold...)
 - Something hairy
 - ... (add your own ideas here)

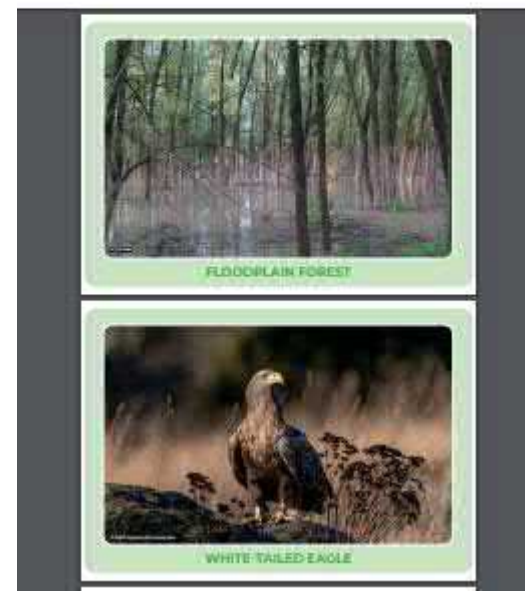


CREATE YOUR OWN RIVER
 CARDS

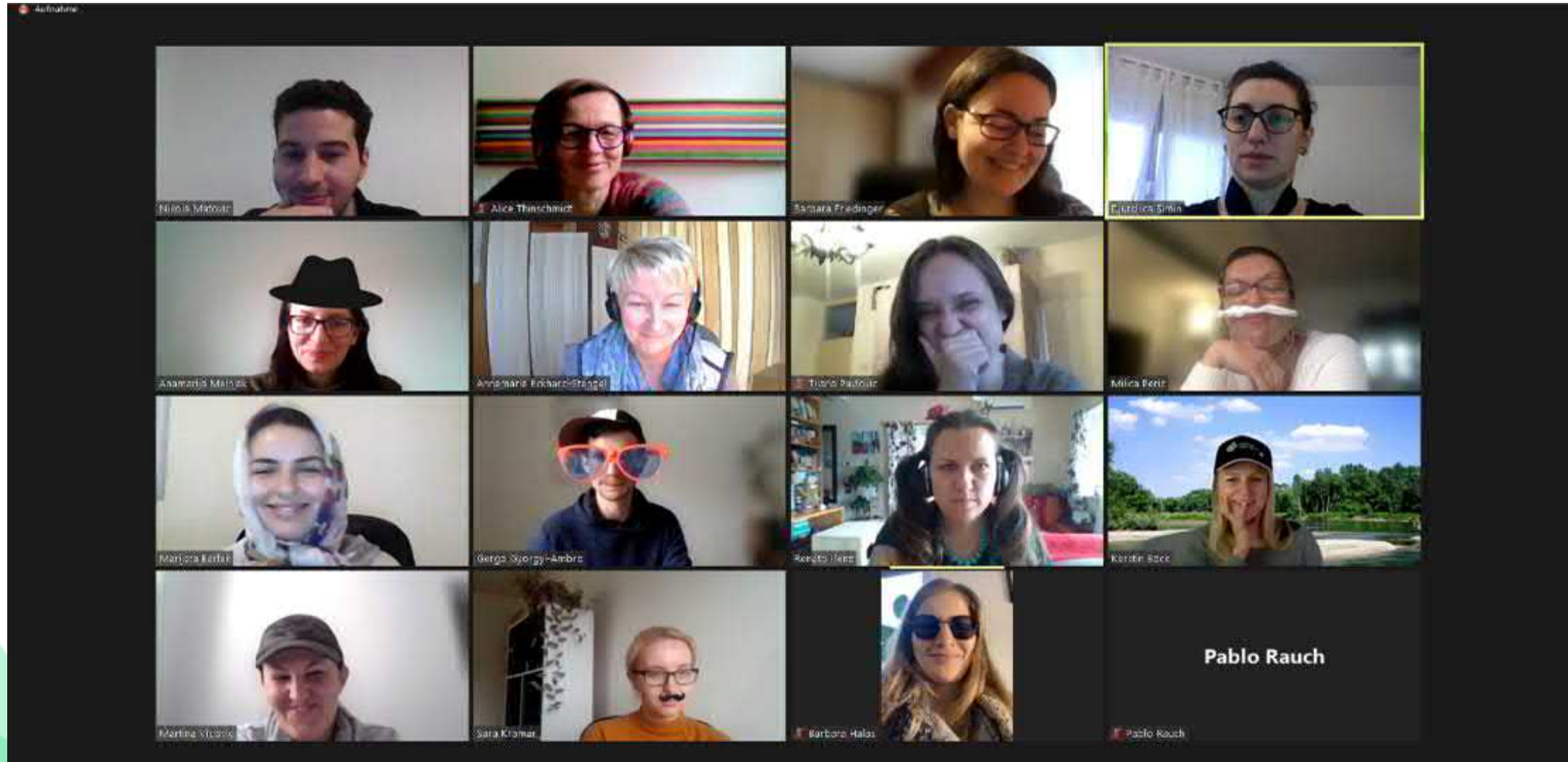


Community Mapping
 Community Mapping is a participatory tool for identifying and assessing environmental problems and solutions. It is a learning technique in which participants identify and assess environmental problems and solutions in their communities. The activity involves participants in a group setting, where they identify and assess environmental problems and solutions in their communities. Participants are encouraged to identify environmental problems and solutions in their communities. The activity involves participants in a group setting, where they identify and assess environmental problems and solutions in their communities.

Seasonal calendar
 A seasonal calendar is a participatory tool to identify seasonal changes and their effects. It is a tool to identify seasonal changes and their effects. It is a tool to identify seasonal changes and their effects. It is a tool to identify seasonal changes and their effects.



Train-the-Trainer (TtT) Seminar



Outdoor learning online????

- Homeworks with activities that couldn't be done online
- Expert talks
- Break-out room sessions
- Different educational tools in online settings: Mural, menti, padlet, artsteps ...
- Educational Mutualism
- Counseling after trainings

Name and surname: _____

What there is to find at my place?

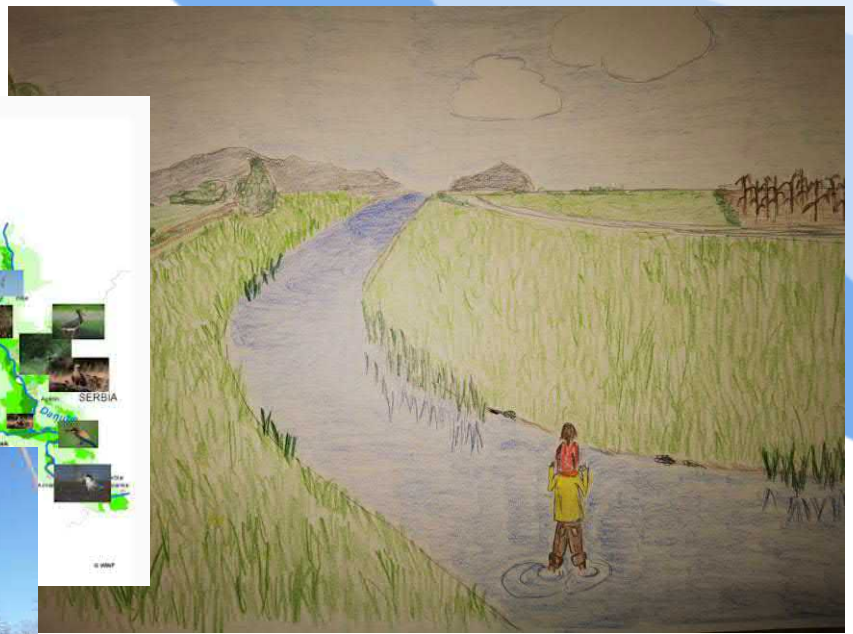
In the following list please write common names of all species that you can find on your table during one meal or in your fridge. This task is challenging because you need to figure out which species are hiding in different food products. If you are not sure of the species name, feel free to ask us for help!

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
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_____	_____
_____	_____
_____	_____
_____	_____
_____	_____





5-country Biosphere Reserve Mura-Drava-Danube (TBR MDD)



Monika Podgor...

1. THE SOURCE



2. RIVER BRANCH "LIFELINE'S LEARNING HUB"



3. RIVER BRANCH "LET THE RIVERS RUN FREE!"










THE ZINGEL

Zingel zingel

THE ZINGEL

Zingel zingel

COUNTRY	COMMON NAME
	Zingel
	Čep
	Veliki vretenar
	Magyar bucó
	Велики вретенац



Mura
Drava
Dunav



Hrvatska

Dobar dan
Bok
Dovidenja



What about the fish?

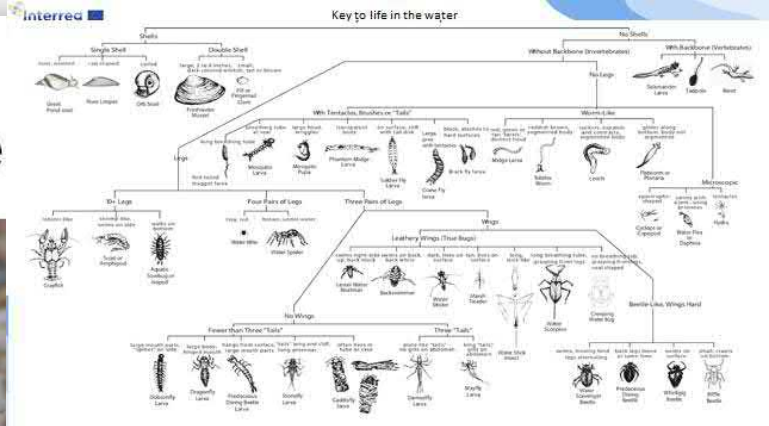
- a quick introduction to fish ecology and prerequisites for healthy fish populations

Pablo Rauch
University of Natural Resources and Life Sciences, Vienna
Institute of Hydrobiology and Aquatic Ecosystem Management

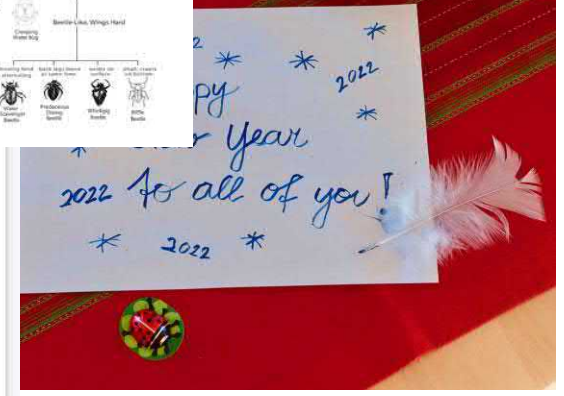
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and little



www.andymorffaw.com



Past and future ⌂ All changes saved!

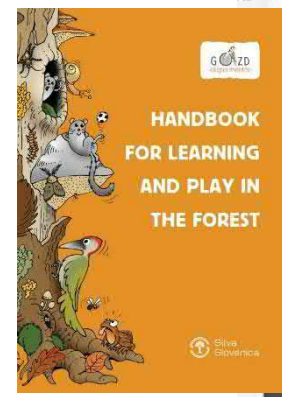
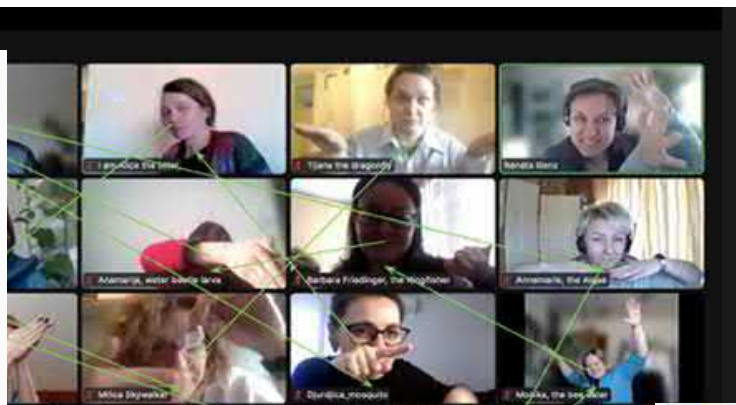
REPEATING THE FUTURE

What is happening right now on the river that is a product of climate change?

What will happen in the future if we do not take any action?

What can we do to make a change?

What is the best way to communicate with the public about the river and its future?



SEASONAL CALENDAR

GROUP 1

GROUP 2

GROUP 3

GROUP 4

FEM-Method

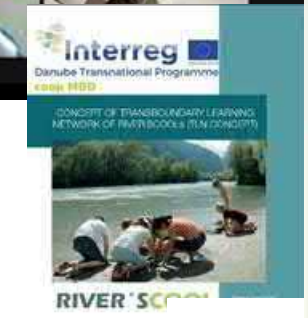
Example: Danube Floodplain Project – Overall ranking

2-step approach:

- Identifying the need for preservation of the active floodplains
- Identifying the restoration demand of the active floodplains

Restoration demand:

- High: aFPs in this group have the highest demand for restoration measures
- Medium: aFPs in this group have a medium demand for restoration measures
- Low: aFPs in this group have the lowest demand for restoration measures



Understanding Climate Change

This course provides an introduction to climate change and explains why we must adapt to it.

English, español, no-руски, 中文, bahasa Indonesia, srpski

Key Concepts in Climate Change Adaptation

This course helps clarify terminology and concepts that are often confusing to those who are new to climate change adaptation.

English, español, no-руски, 中文, français, Tiếng Việt, bahasa Indonesia, srpski

Understanding Vulnerability

This brief course explores the three components of vulnerability – exposure, sensitivity and adaptive capacity – and provides a simple climate change vulnerability assessment exercise to test your knowledge.

English, español, 中文, srpski

Wildlife and Climate Change

In this course we learn how to apply the concept of vulnerability to species to develop climate-adaptive management recommendations to assist in their conservation.

English, español, srpski

From local to global challenge

Understanding natural processes

Creating more resilient societies

One person is displaced every second by disaster

25 MILLION TREES

ENVIRONMENTAL DISASTERS

HAZARDS

MEASURES TO REDUCE RISK

7. THE MOUTH

Books to read and inspire

GREENFO

KEEP CALM AND LOVE PLAN B

GREEN SHARE

Products to use



6.

RIVER BRANCH "CLIMATE CHANGE AFFECTS US ALL"

National Trainings

- Same concept as TtT – 3 parts, partly online and in-person event, from Mar-May 2022* (*with WWF HU holding additional event in summer/autumn 22)



- Target groups: Teachers, youth-workers and guides (around 15-20 people)
Responsible: RMSO, MVP, JU ZDP VŽ, WWF HU and WWF Adria-Serbia





Hungary



Experiences from workshops for secondary school students




Some of the secondary school students never spent time close at the river Drava.

Serbia



Development study of didactic programmes in Varaždin county




Studija za razvoj Riječne škole na području Varaždinske županije u sklopu projekta LifelineMDD

 – razvojna studija didaktičkih programa –



Izrađeno u okviru projekta „Protecting and restoring ecological connectivity in the Mura-Drava-Danube river corridor through cross-sectoral cooperation“ – lifelineMDD

Broj projekta: DTP9-308-2-3-lifelineMDD

 Zagreb, prosinac 2021.

Bijela roda

Kao što crna roda nije cijela crna, bijela roda nije cijela bijela. Dio krila i repa prekriveni su crnim perjem. Bijele rode za razliku od crnih rode nastanjuju prostranija područja poput travnjaka i pašnjaka, ali za vrijeme gniježdenja važna im je bilo što više na dimnjaku, stupu, stablu, krovu.

Teže oko 8 kg, a visina im je oko jednog metra.

Mi bijele rode gradimo jedna od najvećih gniježda u prirodi svijeta! Do dva metra široka, do tri metra duboka i teška do jedne tone!

Crna roda

Prsa i trbuh prekriveni su perjem bijele boje, a tamno perje ima zelenkasto-lubičasti odsjaj.

Gniježde se u šumovitim područjima u blizini vode u kojoj love. Velika gniježda grade od grana i blata, te ih godinama popravljaju i nadograđuju. Mužjak sakuplja i donosi materijal, a ženka gradi gniježdo. Kakav tim!

Crna roda je manja od bijele i teži oko 3 kg. Visine je od 95 - 100 cm, a raspon krila ima 144 - 155 cm.

Nismo najveći, ali smo najbogatiji i najviše rasprostranjeni vrsta rode! Europu, Afriku i Aziju naj su dom, no širim i na većem području.

Prstenovanje ptica

Prstenovanje je metoda kojom znanstvenici obilježavaju ptice posebnim prstenima radi proučavanja njihovih odlika i načina života. Aluminijski prsten s oznakom ustanove i serijskim brojem stavlja se na jednu nogu ulovljene ptice te se ona pušta na slobodu.

Što to crna i bijela roda pričaju o prstenovanju? Snažni dijalog u strip oblačice.

Naglašite, crna roda vidjet će i pticu koja poludilo lađa uz obalu i hrani se lukovima, ribama, vodozemcima, gvozdovima, pa čak i malim sisavcima.

Ukupna gniježdena populacija na području rezervata biosfere Mura-Drava-Dunav iznosi do 30 parova.

Vodeno blago Europe

Dobrodošli na Dravu!

Rijeka Drava prepuna je važnih staništa. Njezin dug tok, unatoč brojnim djelovanjima čovjeka, sačuvao je pravo europsko prirodno blago! Tu se nalaze poplavne šume, močvarne livade, šljunčani i pješčani otoci, rukavci i mrtvice, strme pješčane obale i jezera.

Drava je dom brojnim vrstama ptica, uključujući nekoliko vrlo ugroženih poput orla štekavca ili male čigre.

Na ovim stranicama upoznat ćemo svijet ptica čiji opstanak ovisi o staništima koje nudi rijeka Drava. Tri-četiri, poleti!

Što je stanište?

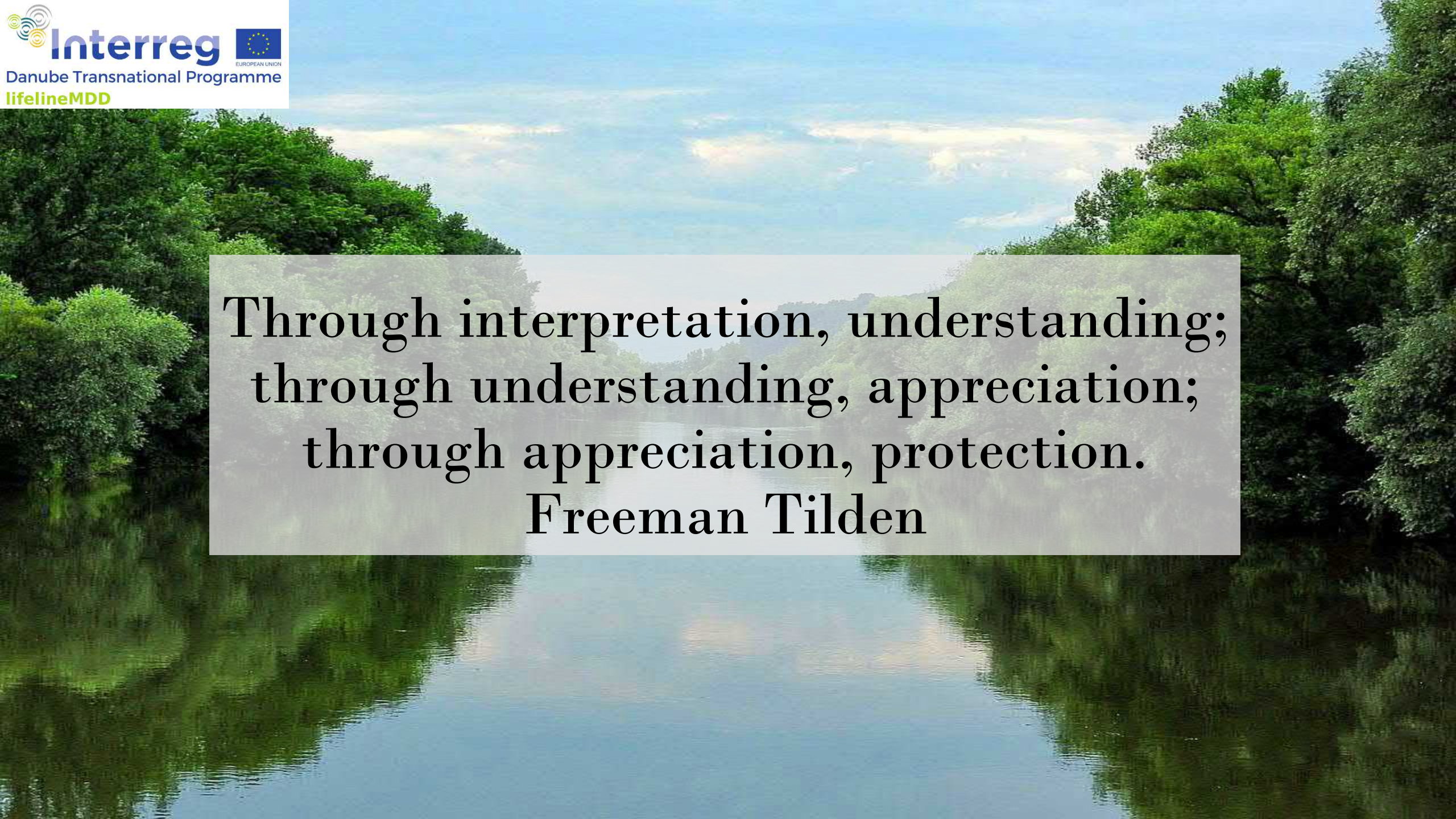
Stanište je područje na kojem žive određene vrste biljaka, životinja i drugih organizama. Mnoga staništa ugrožena su zbog djelovanja čovjeka koji ih zagađuje, uništava ili iz njih uzima što poželi, poput drva, ruda ili vode.

Blago nama! Drava je puna ribe, kukaca, vodenih biljaka i druge tine hrane.

TBR MDD Nature Academy

- Pilot Action, two editions:
 - 1st part on 30th June 2021, age group 7-14 years
 - 2nd part on 6th-7th April 2022, participants from all age groups
- Raised the awareness of local people within the Slovenian part of the TBR MDD
- Similar programs may be implemented in other areas of the TBR MDD and potentially also in a transboundary way in the future





Through interpretation, understanding;
through understanding, appreciation;
through appreciation, protection.
Freeman Tilden

Outlook to future environmental education and awareness raising in the TBR MDD

Thoughts on future activities

- Education is a very motivating part of projects
- Maintain the network of educators
- Deepen the connection between National trainers and National trainers with local educators (conferences, workshops...)
- Establish “clubs” for a pool of interested, engaged people in a region
- Strengthen or establish citizen science
- Establish a youth club
- Organize events that raise awareness, e.g. actions on the AoE Bike Trail

Core points for future activities

- We are international!
 - Connectivity between national trainers should be maintained through workshops
 - Connection between River'scools should be fostered
- Grow numbers
 - Give a chance to local educators to become National trainers
- Empower local strengths- people, places, story, knowledge,
- Enjoy the educational process- play and investigate
- Create - you can always beat the circumstances, even if they are pandemic
- Find the flow- educational programs have to be connected to the actual process and places (experiential learning)

An aerial photograph of a wide river, likely the Danube, winding through a landscape. The river is a deep blue-green color. On the left bank, there is a large, light-colored sandy area. The right bank is covered in dense green trees. In the background, there are green fields and a small town or village under a clear blue sky.

Education component in the planned 5-country LIFE project

LIFE Dynamic Floodplains Mura-Drava-Danube

Elaboration of a 5-country Education concept for the TBR MDD within the LIFE Dynamic Floodplains Mura-Drava-Danube project

- Alignment and bringing all partners up-to-date regarding joint working materials
- Exchange of know-how regarding available materials and methods
- Planning joint concept for varied education activities for different target groups e.g.
 - Education for children, with schools
 - Education related to concrete restoration activities, with stakeholders
 - Education for (young) adults, nature photography
 - Education for partnership and water management-related stakeholders for NbS
 - Young rangers programme for children
 - School visits, camps, etc.

Threat to the protected areas tackled:

- lack of knowledge about protected areas and threats from human interventions, climate change, habitat degradation etc.;
- lack of support from local population for restoration activities.

Expected results:

- Building on educators from the local communities, who become multipliers in raising awareness about protected areas → increase knowledge about protected areas
- Educate future generation of nature lovers and conservationists
- Educate photography lovers to capture nature professionally and in a nature-friendly way, in order to become multipliers and awareness raisers through e.g. social media; but also to ensure they pursue photography in a nature-friendly way with minimal disturbance on protected areas
- Increase knowledge and acceptance of restoration activities

Let's play!



Servus and Zdravo

Welcome to Amazon of Europe!





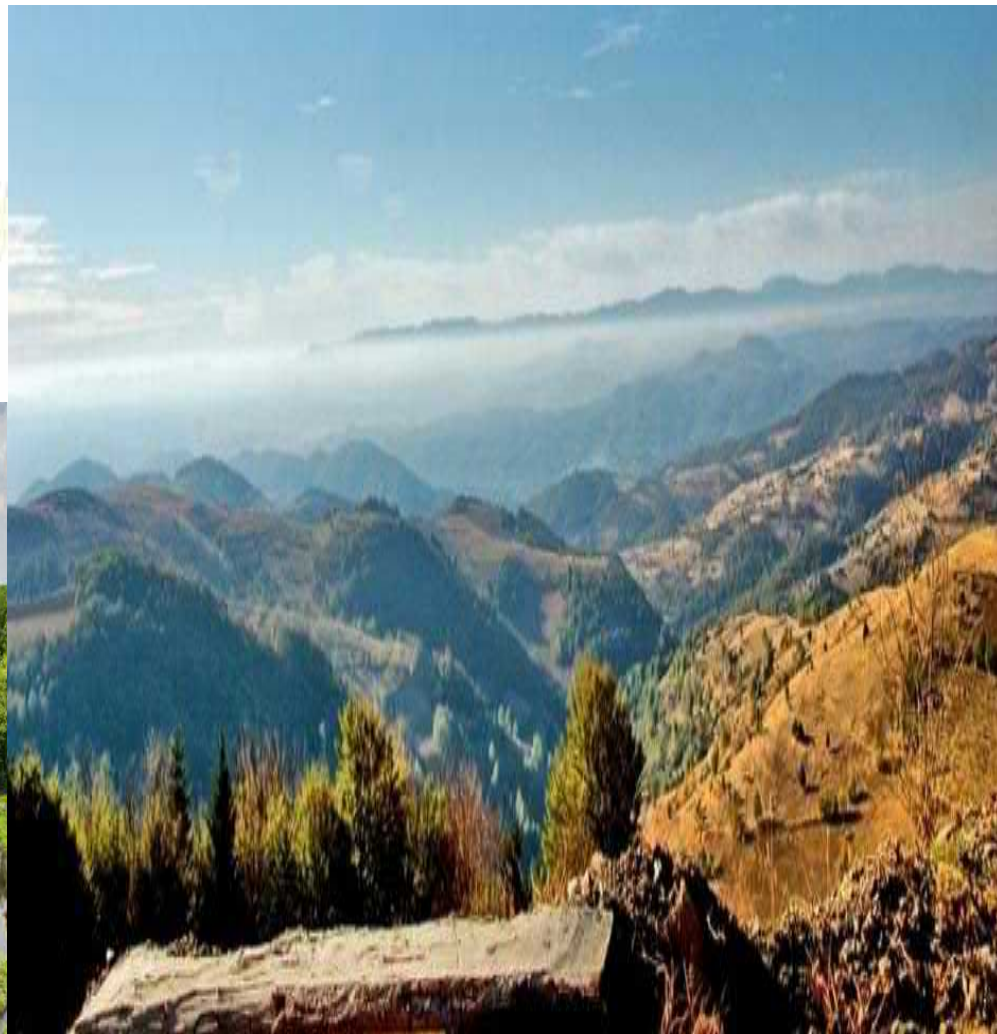
SERVUS!











Thank you!

