

River and plastic literacy, as well as waste reduction practices for advanced Riversavers

Attila Dávid Molnár,  
Alíz Hajnal Bódiszné, Annamária Farkas,  
Zsuzsanna Bitter, Zita Sebestyén Szöllősi

# RIVERSAVERS' HANDBOOK

Volume 3



Clean Tisza Textbook Series  
E book, 2nd edition

Prepared within the framework of the River Lit(t)eracy - Riversaver Schools 2023 1HU01  
KA220 SCH 000166027 identified Erasmus+ project, with the support of the European Union.



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor the EACEA can be held responsible for them.



**Funded by  
the European Union**





The leaves of the white water lily (*Nymphaea alba*) are held above the water surface by tiny air bubbles. Among the petals, a marsh frog is waiting for unsuspecting insects to arrive for him to devour. Photo: Krisztina Pálvölgyi



# RIVERSAVERS' HANDBOOK, VOLUME 3.

The Riversavers' Handbook series is designed for teachers, environmental educators, and experts with a keen interest in rivers and living waters. Published in E-book format and in the “Tisza languages”, all of these books aim to further promote the upbringing of a river-friendly generation—regardless of national borders. The 5 Countries 1 River (5in1) and the River Lit(t)eracy and Riversaver Schools Network (FMIP) Erasmus+ programs use playful and engaging activities to deepen children’s basic knowledge of rivers and plastic pollution, contributing to the cleanup of the heavily polluted Tisza River. Although the textbook series was designed primarily for lower primary school children, its informal and accessible tone makes it equally suitable for teachers and environmental educators working with upper primary or secondary students. If you enjoyed this volume, we invite you to explore the other free educational resources developed under the 5in1 and FMIP projects — available for download on the Tiszta Tisza (Clean Tisza) website.

[www.tisztatisza.eu](http://www.tisztatisza.eu)



Volunteers and Riversavers of the Plastic Cup Initiative regularly visit the educational institutions participating in the Riversaver School Program.  
Photo: Boglárka Rosta



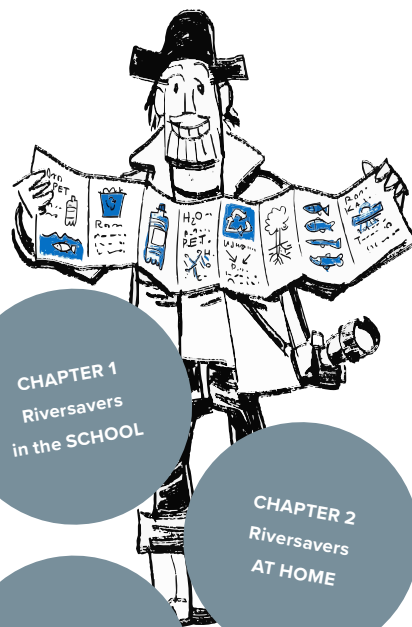
# WELCOME ON BOARD!

## INTRODUCTION and table of contents

It's great to see you and your class among our readers again! The first two volumes of the Riversavers' Handbook introduced you to the basics of river and plastic literacy. If you've finished these books, you've already become enthusiastic volunteers, plastic sailors, and then plastic pirates who are actively working for our clean, plastic-free rivers. First, you chose a riverbank; then you adopted it; and later, you cleaned and cared for that beautiful stretch — your educational institution has now joined the ever-growing ranks of Riversaver Schools. So, where can you go from here? The third volume builds on the internationally recognized 9 Rules of Waste Reduction (9Rs) to show how we can do even more for clean rivers and for our environment — at home, at school, in the workshop, by the river... and out there in the wider world. This book develops key competencies and, through simple exercises and practical advice, helps you become not only informed about rivers, but also conscious and literate when it comes to plastics and all other types of waste. In addition to lots of fun facts and interesting content, we also present young people with potential career paths and life trajectories. It is worth dedicating several hours to the chapters, which are divided in the usual way: after the orientation sections of Treasure Map and Compass, comes Initiaton Presentation, followed by some teamwork in Anchors Aweigh! and the Treasure Chest filled with the list of materials you'll need. If you take on the challenge and embark on the adventure with your class, you have every chance of becoming a true Riversaver. Thank you for your help on behalf of the river and all its creatures!

Wishing you good luck and great work,

Attila Dávid Molnár, Alíz Hajnal Bódiszné, Annamária Farkas, Zsuzsanna Bitter, and Zita Szöllösi-Sebestyén,  
**the educators of the 5 Countries 1 River and Riversaver Schools Program, as well as the Riversavers of the Tisza Plastic Cup Initiative**



CHAPTER 1  
Riversavers  
in the SCHOOL


CHAPTER 2  
Riversavers  
AT HOME

CHAPTER 3  
Riversavers  
in THE LAB

CHAPTER 4  
Riversavers  
ON THE WATER

CHAPTER 5  
Riversavers  
AROUND THE WORLD






# 1

## RIVERSAVERS' HANDBOOK

Volume 3, Chapter 1

# RIVERSAVERS IN THE SCHOOL

Time to find out what they know about waste, that others don't, what do they do to restore the cycle, and how they can become conscious consumers...





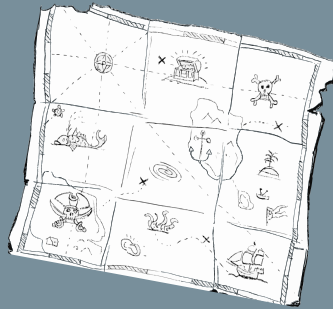


World Water Day is a great opportunity to draw students' attention to plastics and rivers.  
If a generation grows up with awareness about plastic issues, far less plastic will end up in the environment.  
Photo: Viktória Berberovics-Sóvári



# TREASURE MAP

Where does the FIRST CHAPTER lead?



3. In the first chapter, you'll take a huge step forward. Anyone familiar with the 9Rs can be considered a well-informed citizen in waste matters. And people like that are capable of making a real difference when it comes to changing the path of waste in their own environments — at home and at school. The more waste we return to the cycle, the less ends up in the environment!

1. You have already read the first two volumes of the Riversavers' Handbook. You liked the activities, so now you open the third book and look at the first presentation.

2. The first two books introduced you to the basics of river cleanup and plastic recycling. The third book will help you to eliminate the source of pollution.

4. Someone who is knowledgeable about waste becomes a much more conscious consumer — one who chooses products that don't harm the environment, but rather help protect it.



# COMPASS



In nature, water, organic matter, and energy all move in cycles. If we want to live in harmony with nature, we need to think in cycles too!



The scientific name of the human species is *Homo sapiens*, which means “**thinking man.**” And that’s good news — because if we think, we can recognize our mistakes and learn from them. That’s the only way we have a chance to improve. It’s clear that our ancestors — and **today’s adults — have done a lot of damage.** Species extinctions, the disappearance of natural habitats, global climate change, and all that plastic in our rivers all show the same thing: humans consume too much, pollute too much, and have drifted too far from nature. Fortunately, **there is hope!** Today, we have access to knowledge that past generations didn’t. It may sound strange, but it’s true: we are smarter than our ancestors. And those who think, realize what needs to be done. The first and most important step is to learn to think in cycles...

The water is in constant motion: it flows, swirls, churns, and evaporates. Photo: Krisztina Pálvölgyi





The **water cycle** is a truly circular process: it has no beginning and no end. Water droplets are constantly traveling between rivers and seas, rain clouds and precipitation, springs, streams, lakes, and living organisms. This cycle is powered by the **life-giving energy of the Sun**. The journey of water droplets has been going on for billions of years! Every drop has likely been part of an ocean, a river, and even helped build the body of another living being. So why can't we humans create such a perfect cycle? Because humanity learns slowly. The economy still functions in a mostly **linear way** in most places. That means companies and factories focus primarily on production and sales, while creating materials and by-products that eventually become waste and pollute nature. The result? **Trash and waste** — things that don't exist in nature. What's more, people have interfered with the water cycle, too. We've covered cities with steaming concrete and straightened our rivers. Experts have long known what must be done: the entire economy must shift to a **circular model**, and we must pay constant attention to the water cycle as well. Like all real change, this too begins at home. Let's take a look at the 9R framework — a set of principles that a conscious, cycle-minded riversaver follows everyday!

RECYCLE!  
RECYCLE MATERIALS AND CREATIVE IDEAS



#### **Reuse**

make better use of your items - for example, through community use!



#### **Refuse**

don't buy things you don't really need!

#### **Reduce**

Save energy and your money, because less is more!

#### **Reuse**

used, but still works? Give it a try!

#### **Repair**

if it's broken, fix it; if it's old, try it; it deserves a chance!

#### **Repurpose**

Do you see the untapped potential in the object? Let your imagination run wild!

#### **Recycle**

return it, throw it in the recycling bin - or revive the raw material!

#### **Rot**

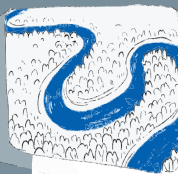
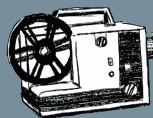
Organic matter and food waste are valuable!

#### **React**

don't turn a blind eye to pollution!



# INITIATOR



It's time for the sailor's initiation! If you're ready to learn something new, click on the frame to the right to open the [PRESENTATION](#) Summarizing Chapter 1.



If you're done with the presentation, let's watch a movie! In the 5 Countries 1 River film series it's time for us to learn the expert secrets of trash investigation, subtitled in all of the "Tisza languages." CLICK ON THE [VIDEO!](#)

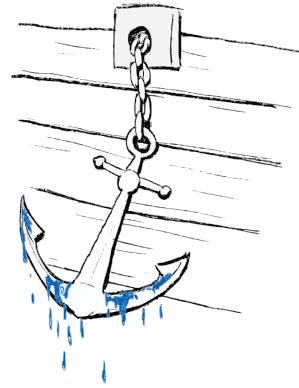




# ANCHORS AWEIGH!

## Group PLAYER TASKS

If you've watched the introductory presentation, it's time to put your knowledge to the test! Raise the anchor and let the adventure begin! Three exciting tasks await: Message in a Bottle + Quiz, Indoor Activity, and Outdoor Exploration. The Message in a Bottle refreshes our knowledge about plastics, then places their story in a million-year perspective — linking them all the way back to prehistoric creatures (1.1). The Indoor Activity challenges the class with an unusual but exciting task, encouraging everyone to take part in a trash investigation (1.2). The Outdoor Exploration guides students through the school's hallways, communal areas, and yard to list all good practices and to-dos related to waste reduction (1.3). You'll find guidance for all three tasks on the following pages, and you can return to the presentation at any time. Just click the QR code or link to revisit the Initiaton Presentation, where you'll find the slides and detailed instructions for each activity.



### 1.1. MESSAGE IN A BOTTLE

Read the message in a bottle, then form teams, and click on the quiz! Now we'll find out who paid attention :-)

For more information:  
NEXT PAGE

### 1.2. INDOOR ACTIVITY

Show us your trash can, and we'll tell you who you are! Gloves on, and dump out the home trash!

For instructions,  
TURN TO THE DETAILED  
DESCRIPTION

### 1.3. OUTDOOR EXPLORATION

Form teams, pay attention to the pictures in the presentation, choose 3 items from the 9R; then the work can begin!

For full task details,  
TURN TO THE DETAILED  
DESCRIPTION





Hi everyone! You are reading the first message in a bottle of the third book. The Mesozoic Era — the middle chapter of Earth's geological history — began 252 million years ago and ended 66 million years ago. This 180-million-year period is often called the Age of Dinosaurs. The climate was much warmer than it is today, with vast swamps, fern forests, and dense jungles covering the land. Deep beneath the surface of ancient lakes and wetlands, the remains of once-living organisms were buried. In the absence of oxygen and under immense pressure, over millions of years, their organic matter was transformed into crude oil and natural gas. These ancient remains — or fossils — became fossil fuels. Since most plastic is made from petroleum or natural gas, every piece of plastic — from your phone case and car steering wheel to a LEGO brick — was once a prehistoric fern, horsetail, or even a dinosaur! Today, we produce 390 million tons of plastic every year — that means every year, the remains of ancient life are pulled from deep within the Earth, brought into the sunlight, and turned into plastic. These ancient creatures deserve more respect than to be thrown away after just a few minutes of use. Earth preserved them for millions of years — we shouldn't break these ancient cycles without consequences...

IF YOU ARE DONE READING, HEAD TO THE QUIZ IN THE INITIATION PRESENTATION!







## 1.2. INDOOR ACTIVITY

### TRASH INVESTIGATION IN THE CLASSROOM

Let the trash investigation begin! To be more precise: let's use citizen science methods to examine what's hiding in the classroom bin! Try not to spread the word about the date of the investigation — otherwise, the contents of the bin might “mysteriously” change. ;-) Ideally, your teacher should schedule the trash investigation for the day before the trash is due to be emptied. Use protective gloves and lay out a sheet of plastic or tarp where you can sort the waste. Form groups! Some of you will handle the waste, while others work with the questionnaire. We've prepared two questionnaires: the first records factual data, and the second focuses on possible solutions. After the research, make sure to clean up thoroughly! The “Trash Investigation at School” questionnaire is available for download [here](#). **EXTRA CREDIT ASSIGNMENT** Form teams! Each group should receive 4–5 pieces of waste from the bin. The task is to discuss which of the 9Rs applies — or could be applied — to each item of waste. (For example, if the waste could have been avoided in the first place, explain how.) Groups should keep in mind that the solutions that bring us closest to a sustainable economy are at the top of the 9R hierarchy.



## 1.3. OUTDOOR EXPLORATION

### WASTE REDUCTION TIPS AND OPPORTUNITIES IN THE SCHOOL

Form teams! If necessary, use the tried and tested bottle cap method popular among plastic pirates (see description in the *Riversavers' Handbook*, Volume 1, task 1.2). Write the 9R rules on a sheet of paper. Then head out to the hallway, the schoolyard, the front garden, and the cafeteria!

**Task 1:** Find at least three good examples of how one of the 9Rs is being applied. (For example: the janitor didn't throw away the leaky bucket—he repaired it.)

**Task 2:** Look for things the school could improve. (For example: they could set up a compost bin or more recycling bins.) Summarize your findings and present them to the rest of the class!





Plastic bottle caps and packaging materials can be transformed into useful and durable items by expert hands. Photo: Tamás Varga Gefi

# TREASURE CHEST

## TOOLS and ACCESSORIES

- ☐ INTERNET, PROJECTOR
- ☐ TRASH CAN WITH GARBAGE
- ☐ GLOVES
- ☐ NEWSPAPER / TRASH BAG

TO PLACE THE COLLECTED WASTE ON

- ☐ PLASTIC BOTTLE
- ☐ PEN, PAPER
- ☐ ONLINE QUESTIONNAIRE
- ☐ PET TABOO








# 2

## RIVERSAVERS' HANDBOOK

Volume 3, Chapter 2

# RIVERSAVERS AT HOME

Let's find out how they manage their own waste, how they reduce their environmental footprint, and why they are able to improve others' attitudes as well.





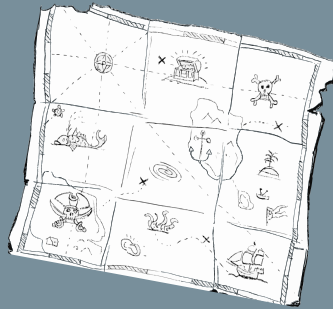


If we do not act, packaging materials will overwhelm us. Quite literally! That's why it's so important to pay close attention to plastics — and all other types of waste — both at home and at school. Photo: Vanda Molnár



# TREASURE MAP

Where does the SECOND CHAPTER lead?



3. Smart plastic pirates and future riversavers don't point fingers or blame others. Instead, they start making changes in their own backyard. Because if there's plastic in the river, it means something's gone wrong with the cycle! Instead of being reused, the plastic ends up in nature.

1. The previous chapter showed you what a river-saver does differently at home. Now that you've learned the 9 golden rules of waste reduction, it's time to find out what needs to be done at school. That means it's time to watch the [second presentation](#).

2. Your school already has several plastic pirates, and you've even adopted a section of a river. You understand that plastic pollution often comes from households where proper waste management is missing.

4. But how can we create a circular system in places where the concept is completely unknown? That's where the 9R principles of waste reduction come to the rescue! With their help, the work can finally begin — first at school, then at home too!



# COMPASS

In nature, water, organic matter, and energy all move in cycles. If we want to live in harmony with nature, we need to think in cycles too!



In 2009, photographer **Chris Jordan** took a photograph on the Midway Islands that quickly went viral. The image shows a dead **albatross chick** with a stomach full of everyday plastic items. Brightly colored bottle caps and bits of plastic bags — dozens of them — caused the young bird's death. The chick didn't eat plastic for fun — it was hungry. Its parents had mistaken floating plastic on the ocean's surface for food, confusing it with fish, jellyfish, and other marine creatures that albatrosses naturally feed on. Chris Jordan's photo was worth a thousand words. It helped millions understand the devastating impact of single-use plastics. Overconsumption and ignorance are taking a toll on wildlife, even thousands of kilometers away from our homes. Fortunately, more and more **conscious consumers** are stepping up — along with the plastic pros who can turn discarded waste into valuable products.



If born in another age, the Midway albatross chick would happily soar the sky above the ocean today...  
Photo: Chris Jordan





Scientific data shows that **more than 80%** of ocean waste originates inland and ends up in the sea through rivers. This means that out of the approximately 100 plastic pieces found inside the albatross chick on the Midway Islands, at least 80 came from households located **thousands of kilometers** from the coast. Could one of those bottle caps have come from your town? It's unlikely—but unfortunately, not impossible. For your school to become a true Riversaver School, you need to make sure that no waste from your community ends up in the environment. There's no need to launch a massive campaign right away. Start by checking how many of the **9 rules of waste reduction** are actually applied in your classroom and throughout your school. Don't be discouraged if you don't have selective waste collection yet! Be the first class to introduce it. **Lead by example!** Don't aim for instant change — take small, smart steps. And if you hit a bump in the road, or someone says it's not worth the effort, **find inspiration!** For example, click the recommended links to see how real plastic pros turn waste into products — creating real value from trash collected from rivers and oceans. If they could do it, so can we!

### REDUCE & REFUSE!

Reduce and refuse single-use plastics to  
become a conscious consumer



**What's the situation like in the classroom?**  
the case of selective collection and composting

**What's the situation like in the class trash can?**  
trash tipping and trash investigation

**What's the situation like at school?**  
survey of the area around the bins, trash cans, and cafeteria

**What could be improved?**  
work together in your group to decide where to begin.

**Be the change!**  
consult with teachers and fellow students, then take action — and don't forget to share your results!

**Plasticpros around the world**  
in case of uncertainty, here are a few inspiring examples

**Trendy products from ocean waste**  
the bracelet made from ocean plastic and its companions

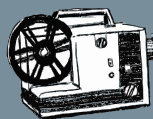
**Cool things made from river plastic!**  
The floating dock dreamed up by the Riversavers, the plastic boat, and the Riversaver canoe and kayak

[www.seamonkeyprojects.com](http://www.seamonkeyprojects.com)





# INITIATOR



It's time for the sailor's initiation! If you're ready to learn something new, click on the frame to the right to open the [PRESENTATION](#) Summarizing Chapter 2.



If you're done with the presentation, let's watch a movie! In the 5 Countries 1 River film series it's time for us to learn the expert secrets of trash investigation, subtitled in all of the "Tisza languages."

CLICK ON THE [VIDEO!](#)

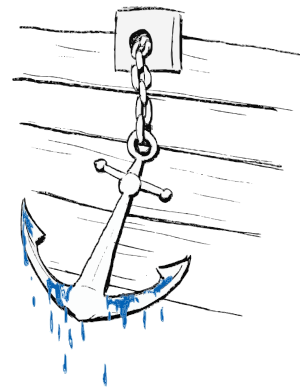




# ANCHORS AWEIGH!

## Group PLAYER TASKS

Anchors aweigh, and let the adventure begin! As usual, three tasks await you: a Message in a Bottle with related quizzes, an Indoor Activity, and an Outdoor Exploration. The message in a bottle shows that not everything that ends up in the water is waste — some items act as literal time capsules, carrying fascinating stories with them (2.1). After learning the basics of trash investigation at school, there's one thing still left to discover: what could your household bin reveal? This survey should only be carried out by students who have permission from their parents and own protective gloves (2.2). The data collected on the questionnaire is, of course, anonymous and must not be made public. Once the home trash investigation is done, it's time to look around the house, yard, or street for good examples of the 9Rs in action (2.3)! You'll find guidance for all three tasks on the following pages, and you can return to the presentation at any time. By clicking on the QR code or link of the Initiation Presentation, you will also find the slides related to the tasks with detailed descriptions. We wish you good luck with the tasks!



### 2.1. MESSAGE IN A BOTTLE

Read the message in a bottle, then form teams, and click on the quiz! Now we'll find out who paid attention :-)

For more information:  
NEXT PAGE

### 2.2. INDOOR ACTIVITY

Ask for permission from your parents, put on gloves, and let the trash investigation begin!

For instructions,  
TURN TO THE DETAILED  
DESCRIPTION

### 2.3. OUTDOOR EXPLORATION

Grab paper, pencil, and head to the yard, the garden, the street! The question is, does any of the 9Rs apply anywhere?

For full task details,  
TURN TO THE DETAILED  
DESCRIPTION





Hi everyone :-> ! This is the second Message in a Bottle in this book. In the spring of 2014, a fisherman in the Baltic Sea found a brown beer bottle in his net, containing an old postcard. The message was written on May 17, 1913, by Richard Platz, asking the finder to send the postcard to his Berlin address. He had thrown the message into the Elbe River during a hike along its banks. The bottle traveled not only hundreds of kilometers but, at 101 years old, remained the oldest known message in a bottle for quite some time. The authorities delivered the postcard to Herr Platz's granddaughter. Angela Erdmann was deeply moved when she received and read the greeting card...

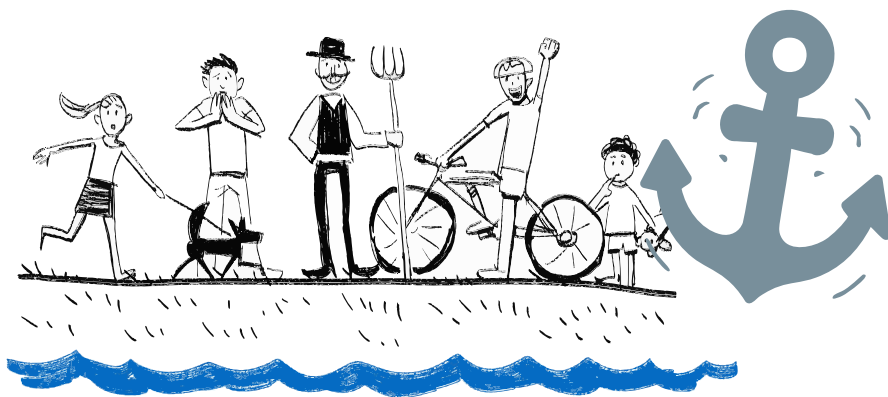
Objects found underwater often give the impression that time has stopped. In 2017, Park Lee, a Taiwanese teacher, was participating in a beach cleanup when one of his students found a digital camera covered in shells, with 500 photos on it, including several wedding pictures. He uploaded some pictures to social media, hoping to find the owner. The post went viral, and soon the owner, Serina Tsubakihara, came forward. She had lost the camera during a diving trip in Okinawa in 2005...

The depths of water can preserve traces of the past in many ways.

**IF YOU ARE DONE READING, HEAD TO THE QUIZ IN THE INITIATION PRESENTATION!**







## 2.2. INDOOR ACTIVITY

### TRASH INVESTIGATION AT HOME, WITH PARENTAL PERMISSION

If you enjoyed the school trash investigation and your parents have given permission to repeat the survey at home, then it's time to continue the citizen science program! Ask your parents when they empty the home trash, and try to complete the survey the day before that! Open the questionnaire, lay out a plastic tarp, and empty the contents of the bin onto it. Put on gloves on one hand and use the other to fill out the questionnaire. Once you're done, sort the trash you find according to whether it is reusable, recyclable, preventable, or unavoidable.



[The Trash Investigation at Home questionnaire can be downloaded from here.](#)

## 2.3. OUTDOOR EXPLORATION

### WASTE REDUCTION TIPS, TRICKS, AND OPPORTUNITIES IN THE SCHOOLYARD, GARDEN, AND STREET

Grab a sheet of paper and write down the 9R rules. Then head out to the yard, the garden, or the street! Your first task is to find at least three good examples of how one or more of the 9R rules are already being followed. (For example: Green waste is given to the chickens.) Your second task is to spot things your household could improve on. (For example: Maybe you could start composting or set up a proper recycling bin.) Once you've collected your observations, sum up your experience. Then choose three R's from the 9R list that you'll focus on in the coming month. (For example: You might like the idea of "Refuse" — so next time you go to the greengrocer's, you say no to the plastic bag and carry your veggies home in your own totebag.) Finally, prepare a short presentation to share your experiences and plans with your classmates!





The splendid flowers of the yellow water lily (*Nuphar lutea*) only bloom during the day; as night approaches, every petal folds up. Photo: Krisztina Pálvölgyi

# TREASURE CHEST

## TOOLS and ACCESSORIES

- ☐ INTERNET, PROJECTOR
- ☐ TRASH CAN
- ☐ GLOVES
- ☐ NEWSPAPER / TRASH BAG,  
TO PLACE THE TRASH ON
- ☐ PLASTIC BOTTLE
- ☐ PEN, PAPER
- ☐ PET TABOO







People have been carrying waste to the riverbank for millennia. As long as it was biologically degradable kitchen waste, it did not cause any problems. In the 21st century, this practice is no longer sustainable. Photo: Tamás Varga





Strange objects that, without proper care and attention, can easily end up in rivers. The rubber ducks, light bulbs, and plastic flasks were collected by the Riversavers of the Plastic Cup Initiative. Photos: Zsófia Kabarcz





# 3

## RIVERSAVERS' HANDBOOK

Volume 3, Chapter 3

# RIVERSAVERS IN THE LAB

Let's see how they can bring discarded plastic back to life,  
and how they can effectively use 'replastics' to contribute  
to a cleaner environment



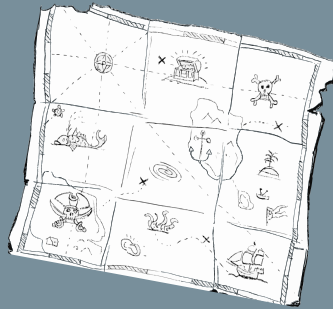


If it ends up in the right hands, the plastic collected during river cleanups won't be thrown away — instead, it gets a whole new purpose. These items made from river plastic serve as daily reminders that everyone can do something for cleaner rivers! Photos: Emese Silimon, Krisztián Berberovics [www.folyomento.hu](http://www.folyomento.hu)



# TREASURE MAP

Where does the THIRD CHAPTER lead?



3. In the third chapter, you'll discover just how many opportunities there are for creatively reusing plastic and producing sustainable, eco-friendly products. You'll get an overview of plastic shredding, melting techniques, various machines and molds. The best examples offer plenty to learn from — plus, you'll pick up lots of practical tips along the way.

1. The first two chapters revealed that a Riversaver knows the 9 golden rules of waste reduction (the 9Rs) and makes conscious choices when buying. But if you start producing products yourselves, new questions arise. That's why it's time to open the [third presentation](#).

2. In the second volume of the Riversavers' Handbook, you were introduced to the River Litter Lab (RILL) and the 'revival' of plastics at a basic level. Now, you're taking that knowledge to a whole new level.

4. You discuss in teams what seems feasible within the school environment; then you choose from the provided RILL links, and start creating items and products that will bring about a positive change.



# COMPASS



Once you've successfully said no to single-use plastics and become a conscious consumer, the next step is environmentally-friendly product manufacturing!



**Sydney Steenland** was born in Australia, into a beautiful, large house. She had her own room, plenty of toys, but she didn't see much of her parents as they had a lot of work. Then came the financial crisis, and the family business went bankrupt. The house and toys were auctioned off. **Sydney moved with her sibling and parents onto a sailboat.** Although she lost her room, she now got to spend all her time with her parents and sibling. They traveled around Indonesia, learned how to swim, row, sail, and dive. They got to know the sea creatures and were shocked to see how much plastic pollution there was, even on the most remote islands: bags in the sea, plastic bottles on the shore... One day, Sydney's mom decided **to make a necklace in the shape of a sea turtle.** She made a mold from recycled aluminum soda cans and cast the turtle from plastic collected from the sea. This is how a necklace was created that reminds everyone: the seas and oceans are vulnerable, but everyone can do something for them! Since then, Sydney has become a real plasticpro seasaver and one of the founders of the **Sea Monkeys Project.**

Sydney Steenland (on the left) and her family – wearing the first sea turtle necklaces made from replastic.





Dave Hakkens, a Dutch designer, created his thesis in 2013 with the topic “**Creative Reuse of Plastic Waste.**” The project was so successful that it later grew into the Precious Plastic initiative, which processes household waste with self-made machines. Dave made beautiful items from plastic and, what’s more, he immediately shared all his ideas on the internet. This inspired many, including the volunteers of the Plastic Cup Initiative. The first **River Litter Lab**, or RILL for short, was created with the help of the Precious Plastic machines. The main message of the RILL is simple: where the waste cycle is working properly, pollution doesn’t end up in the river. The RILL has evolved significantly over the year, and now we have rolling, floating, and even **mini RILLs** that can fit into a suitcase. In this chapter, you will get to know the machines working in the RILL and learn some tips on how to create a community plastic workshop, your own RILL at school. It’s definitely worth getting involved, because the RILL is much more than a simple factory. It creates items from discarded, single-use waste and plastics retrieved from rivers and oceans, which serve as daily reminders — just like the plastic sea turtle hanging around Sydney’s neck — that **everyone can do something for cleaner rivers and seas!**

#### **The Precious Plastic universe**

an initiative built on open knowledge sharing – the blueprints are available for free download, and the machines can be built by hand

#### **The plastic shredder and its operation**

why do we call it a Tisza crocodile, how does it work exactly

#### **The injector and its operation**

why do we call it a Tisza dragon, how does it work exactly

#### **The extruder and its operation**

what is plastic thread capable of

#### **A brief history of the RILL**

how was it born; where has Plastic Cup Initiative’ River Litter Lab already been

#### **The miniRILL rolling in the suitcase**

tiny lab, huge impact - carrying the future around in a suitcase; request it for your riversaver school and make the most of its opportunities

[www.seamonkeyprojects.com](http://www.seamonkeyprojects.com)

#### REMANUFACTURE & REFURBISH.

Remanufacture & Refurbish & Revive objects, become an innovative manufacturer and product developer!







Sydney Steenland (center) personally visited the Plastic Cup Initiative's workshop to observe how the plastic processing machine developed by the Sea Monkey Project works exactly. Photo: Attila Molnár

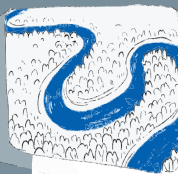
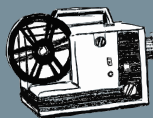




Awareness-raising is in full swing at the Plastic Cup Initiative's RILL. There's no age group that isn't captivated by the topic. Photo: Csanád Ivánfi



# INITIATOR



It's time for the sailor's initiation! If you're ready to learn something new, click on the frame to the right to open the [PRESENTATION](#) Summarizing Chapter 3.



If you're done with the presentation, let's watch a movie! In the 5 Countries 1 River film Series plastic gets transformed and revived, subtitled in all of the "Tisza languages."

CLICK ON THE [VIDEO!](#)

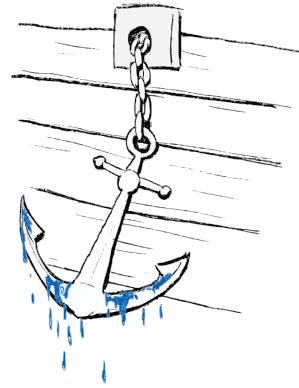




# ANCHORS AWEIGH!

## Group PLAYER TASKS

If you have watched the Initiation Presentation, it's time to test your knowledge! Anchors aweigh, and let the adventure begin! Three tasks await you: a Message in a Bottle with a related quiz, an Indoor Activity, and an Outdoor Exploration. The message in a bottle illustrates through a shocking example how something that seems as harmless as a single straw can cause immense suffering to wildlife. As the case of FinalStraw shows, the solution lies in development: in our thinking, in technology, and in products (3.1). Plastic Cup has taken a similar path by building boats from pollution. Through the indoor activity you will get to explore further international examples of eco-friendly products and proper plastic usage (3.2). The following workshop task is not just a single exercise, but rather a whole bouquet of possibilities on how to create your own "replastic" products using smart machines in a workshop environment (3.3). Which of these you will implement depends on your country, your school, and your financial possibilities. It's great if you can buy a small machine – even better if you build one yourselves – but it's already a great start if you just start exploring the possibilities in theory. On the following pages, you will receive help for all three tasks - but you can always click back to the presentation as well. Just click the QR code or link to revisit the Initiation Presentation, where you'll find the slides and detailed instructions for each activity. We wish you good luck with the tasks!



3.1.

### MESSAGE IN A BOTTLE

Read the message in a bottle, then form teams, and click on the quiz! Now we'll find out who paid attention :-) ...

For more information:  
NEXT PAGE

3.2.

### INDOOR ACTIVITY

Form teams; look at the highlighted examples, and find new ones on the internet!

For instructions,  
TURN TO THE DETAILED  
DESCRIPTION

3.3.

### OUTDOOR EXPLORATION

RILL machines and their use.

For full task details,  
TURN TO THE DETAILED  
DESCRIPTION



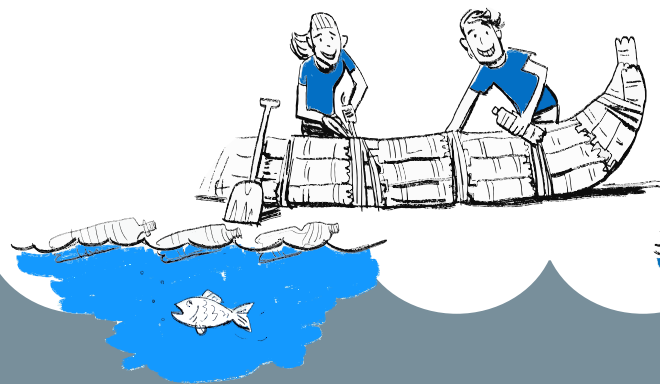


Hi Everyone! This is the third message in a bottle from Book 3. In 2015, biologist Christine Figgner was studying sea turtles off the coast of Costa Rica when she noticed something sticking out of the nose of one of the captured turtles. Her colleagues initially thought it was some kind of parasite... After numerous attempts, they finally pulled a bloodied plastic straw out of the turtle's nasal cavity! Trigger warning: the footage is shocking and not recommended for the faint-hearted! The video of the turtle rescue went viral — the [longer version](#) has been viewed over a hundred million times, and the shorter one has already reached [15 million](#) views. (Trigger warning: this footage contains graphic content and may not be suitable for sensitive viewers.) You'd have to be heartless — or uninformed — to accept a single-use straw after seeing this footage. So what's the solution? That's exactly what Emma Rose Cohen asked herself. She couldn't accept the fact that in the United States, people use enough plastic straws each day to circle the Earth two and a half times... After a lot of thought, in 2017 she came up with the idea of the Final Straw. She launched a campaign on [Kickstarter](#) asking for \$12,500 to manufacture a metal (thus easily cleanable), collapsible, durable straw. Within a few weeks, she had raised two million dollars. The business now employs eight people and offers a viable alternative to single-use plastics that cause immense suffering to wildlife. Make sure to also say no if someone offers you one of those!

IF YOU ARE DONE READING, HEAD TO THE QUIZ IN THE INITIATION PRESENTATION!







## 3.2. INDOOR ACTIVITY

### TRASH INVESTIGATION AT HOME, WITH PARENTAL PERMISSION

Reusing, recycling, and eco-conscious products are becoming more popular every day. More and more initiatives, startups, and companies are emerging that create trendy, cool products from waste collected from nature. You've probably already heard of the famous 4Oceans bracelet made from ocean plastic... but do you know Precious Plastic's grand bazaar? This website is special because here you're not just passive consumers deciding whether to buy something or not — you can become makers yourselves! If there's an adult who can support your school financially or with technical know-how, you can use this site to purchase plastic shredders and melting machines — or you can download the blueprints for free and even build the machines yourselves! Form groups, explore the bazaar, and imagine setting up your very own River Litter Lab. Come up with ideas for what you would manufacture there, and share your plans with the others!

[You can check out](#) the Precious Plastic bazaar here.



## 3.3. OUTDOOR EXPLORATION

### WASTE REDUCTION TIPS, TRICKS, AND OPPORTUNITIES IN THE SCHOOLYARD, GARDEN, AND STREET

The success of the Plastic Cup Initiative is thanks to a simple fact: the plastic pirates saw opportunity in the plastic floating down the river — and they didn't just build boats from this waste, but they created a full floating exhibition (see FLEX, two pages ahead). If your school is also open to creating its own plastic workshop, the first step is to get to know our most important machines! The heart of every River Litter Lab is a reliable shredder. This machine will be able to produce small, easy-to-melt plastic flakes for you (we call ours in our RILL the Crocodile, because of its strong teeth). The injection, that can also be used for melting and the extrusion both work from these flakes. The injection uses high pressure to inject small amounts of melted plastic into a mold, while the extrusion continuously pushes out larger amounts (we call these machines Dragons in the RILL). There are also sheetpresses, which can be used to create beautiful furniture pieces. Once you know the machines and what they can do, you'll be ready to start designing your own products! Design, build, and become plastic pros yourselves!

Blueprints for the machines can be [downloaded from here](#).

Videos about building these machines can be [viewed here](#).

In the RILL, this is [how we use](#) these machines.







The shredder nicknamed the Tisza Crocodile, which was created using the designs of Precious Plastic. The machine can expertly handle hard plastic caps as well. Photo: Attila Molnár

# TREASURE CHEST

## TOOLS and ACCESSORIES

- ☐ INTERNET, PROJECTOR
- ☐ 1 SMARTPHONE / TABLET WITH INTERNET  
CONNECTION PER 5 PEOPLE
- ☐ PLASTIC BOTTLE
- ☐ PEN, PAPER
- ☐ LAMINATED DESCRIPTION OF THE OUTDOOR  
GAME (PPT SLIDE PRINTED)







The world's largest plastic pirate ship is the FLEX Sározsadány. FLEX stands for Floating Exhibition, and more than 90% of this ship was built waste materials, using several tons of recycled plastic. This is the ship where the next generation of riversavers learns and trains. Photo: Péter Varga





The Plastic Cup Initiative's graduated Riversaver at work on the Maros River. Photo: Zsolt Tamás






# 4

RIVERSAVERS' HANDBOOK

Volume 3, Chapter 4

## RIVERSAVERS ON THE WATER

Let's find out how they use the calming and healing power of water, and how they can stay connected to the rivers and seas



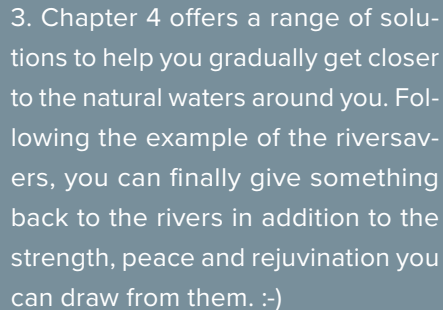




A riversaver paddling down the Tisza in a kayak made from river waste. Anyone who learns to paddle sees natural waters in a completely different light — and becomes especially sensitive to pollution. Photo: Vanda Molnár



Where does the FOURTH CHAPTER lead?



2. Anyone who wants to thrive in this constantly changing world must stay open to new knowledge. This includes developing a mutual, two-way relationship with rivers — something that offers a wide range of exciting opportunities.

4. If you understand why it's important to empathize with the creatures of the river — and take action when the river is in trouble — then you're only one step away from becoming a true riversaver... ;-) )



# COMPASS



Water is beneficial: it's essential for relaxation, rejuvenation, and exercise! But what is the real magic of water, and how can we get closer to it? Time to find out!



Since the dawn of time, people have sought healing through water — in it, by it, and from it. A visit to a thermal bath, a long walk along the riverbank, or a relaxing seaside vacation have so many **beneficial effects** that doctors have prescribed them for various ailments for centuries. This method even has a name: Blue Therapy. **Blue Therapy heals with water**, whether through direct contact (such as medicinal waters, swimming, or rowing), or simply being near water (fresh air, the calming sight of large bodies of water). The effects are almost immediate: stress levels decrease, your mood improves, and you start to feel calmer. Many people aren't fully aware of it, but when they have a problem or need peace, they instinctively seek the presence of water. For riversavers, cleaning rivers serves this very purpose. The feeling that we've done something beneficial for nature is priceless. Blue Therapy holds many more possibilities. In the spirit of **lifelong learning**, it opens up new opportunities to establish a closer, more direct relationship with water and the winding rivers near you. Let's see what these are!

Dip your feet in the water, and your mood will instantly improve ;-) ! Photo: Emese Silimon





You've surely felt what it's like in a **hot city** during the summer heatwave. The asphalt, concrete, and glass surfaces radiate heat so intensely that we don't even know where to escape. Some people see the over-advertised, chilled bottled drinks as the solution... but we have a better idea! **Head to the nearest river**, stream, or outdoor beach! As you approach the water, you'll feel how much cooler and cleaner the air becomes — but it's not just the climate that changes: people living near rivers, lakes, and seas also have a different mood. Rowers, swimmers, and fishermen are mostly calm, kind, and balanced — it's a completely different experience talking to them than to city-dwellers exhausted by stress. But be careful! Don't confuse these water-loving people with those who cruise the waters on large motorboats or noisy jetskis, leaving a trail of exhaust fumes — completely indifferent to the choppy waters and disturbed wildlife! These gas-guzzlers bring the noise and pollution of the big city with them. The true water people, who understand the language of rivers and seas, are completely different: either using their own strength or renewable energy to navigate the waters. These water people empathize with the river and actively fight against noise, smoke, wave, and plastic pollution. And the riversavers are all part of this group of water people — not only paying attention to wildlife, weather, and fellow water-goers but always ready to learn something new. Let's see what opportunities are available for you to speak the river's language too!

#### **Look at the water! - river observation**

first alone, then with friends, family

#### **Search for treasure, throw pebbles!**

driftwood collection, magnet fishing, stone skipping, stone skipping championship

#### **Get wet!**

dangling your feet, splashing your face, then plunge in

#### **Dive in!**

swimming, diving

#### **Venture onto the back of the water!**

rowing, boating, sailing

#### **Photograph nature!**

hiking, photography

#### **River therapy!**

regular river visits, water tours, meditating, relaxing, exercising, water-related programs...

[www.tisztatisza.eu](http://www.tisztatisza.eu)

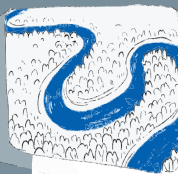
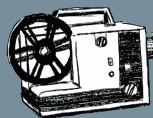


REACT & REPURPOSE.  
Speak up against pollution -  
and turn waste into something wonderful!





# INITIATOR



It's time for the sailor's initiation! If you're ready to learn something new, click on the frame to the right to open the [PRESENTATION](#) Summarizing Chapter 4.



If you're done with the presentation, let's watch a movie: in the 5 Countries 1 River film Series, this time we set out on the water! Subtitled in every "Tisza language".

CLICK ON THE [VIDEO!](#)



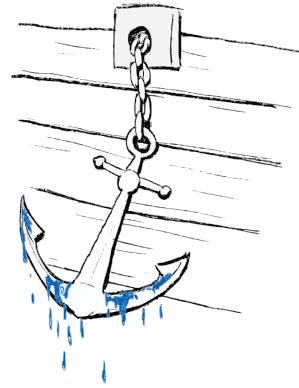


# ANCHORS AWEIGH!

## Group PLAYER TASKS

Anchors aweigh, and let the adventure begin! Three tasks await you once again: a Message in a Bottle with a related quiz, an Indoor Activity, and an Outdoor Exploration. After the message in a bottle, we'll look at the Danube with a different perspective, as not so long ago, Vikings and superheroes sailed on it (4.1). Today, there are still superheroes navigating the rivers! Some clean them, others row on them – or swim in them – while others come to relax... It's time to discover who these modern-day heroes are and how you could visit them (4.2)! During the outdoor exploration, the entire class will set off to try out a blue-therapy method. Depending on the country, river, and school, this event will take different forms; the key is that everyone gets a bit wet and gets inspired to 'walk on water' ;-)

(4.3). On the following pages, you will receive help for all three tasks - but you can always click back to the presentation as well. Just click the QR code or link to revisit the Initiation Presentation, where you'll find the slides and detailed instructions for each activity. We wish you good luck with the tasks!



### 4.1. MESSAGE IN A BOTTLE

Read the message in a bottle, then form teams, and click on the quiz! Now we'll find out who paid attention :-)

For more information:  
NEXT PAGE

### 4.2. INDOOR ACTIVITY

Sit down together and discuss how each of you uses blue therapy.

For instructions,  
TURN TO THE DETAILED  
DESCRIPTION

### 4.3. OUTDOOR EXPLORATION

Choose a blue therapy method and head to the water!

For full task details,  
TURN TO THE DETAILED  
DESCRIPTION



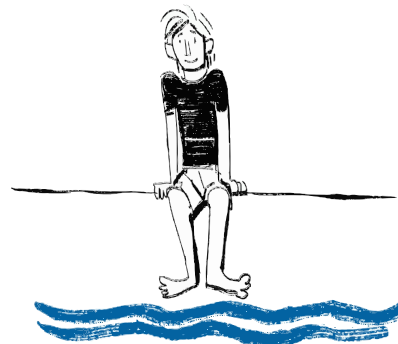
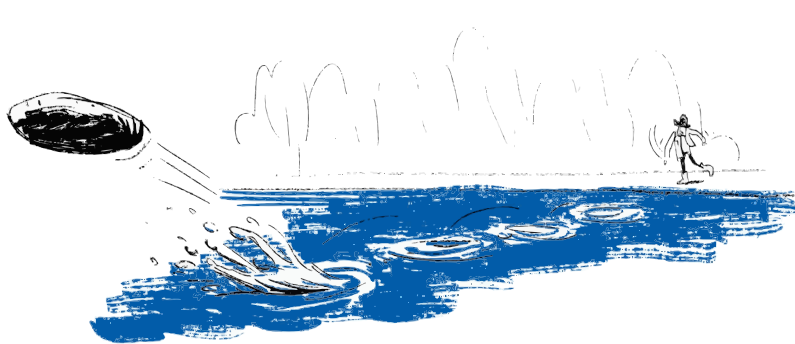


Hi Everyone! This is the fourth message in a bottle from the 3rd book. Everyone has heard of the [Vikings](#), but few know that with their graceful wooden ships, they navigated not only the seas but also the rivers with great confidence. Their long ships, adorned with beautiful prow ornaments, were powered by both sails and oars. Vikings sailed on the Danube as well, but most of their journeys were on the [Dnieper/Dnipro and Volga rivers](#) – establishing trade routes between the Baltic Sea and the Black Sea. This all happened more than a thousand years ago – yet, the Vikings were not the first sailors, traders, and warriors to navigate these waters. The Argonautica is one of the best-known chronicles of a Greek mythical sea voyage, in which heroes like Heracles (later known in Roman mythology as Hercules) sailed from the Black Sea up the Danube over two thousand years ago! The historical accuracy of ancient myths is hard to verify. What we do know for sure, however, is that in 2018, an archaeological expedition discovered the [world's oldest shipwreck](#), found 2000 meters deep. The perfectly preserved Greek galley is 2400 years old. If you'd like to follow in the footsteps of ancient water voyagers, grab an oar and head for the river!

IF YOU ARE DONE READING, HEAD TO THE QUIZ IN THE INITIATION PRESENTATION!







## 4.2. INDOOR ACTIVITY

### A LOOK AT BLUE THERAPY METHODS

The everyday stress and the tensions created by the modern world can be greatly alleviated by being near water. From rowing and swimming to fishing, meditation, hydrotherapy, diving, and even skipping stones, there are countless blue therapy methods. Find out who has experience with these activities! If any of you regularly goes to the water or has a memorable experience, do share it with the group! Afterward, form groups and decide which method you would like to try and why! For example, one classmate dives, while another rows. Ask the following questions: which activity could you try after school? How far is the location? How much time would it take? How much does it cost? Make the decision together as a group; then mentally prepare for the trip!



## 4.3. OUTDOOR EXPLORATION

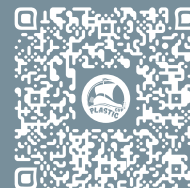
### KÉK-TERÁPIÁS GYÓGYMÓD KIPRÓBÁLÁSA

Once you've chosen your communal blue therapy activity, it's time to head to the water! Ideally, the whole class should go on a water-based program together – for example, a boat trip, a rowing session, or even a riverside barbecue. If that's not possible, smaller groups can try out their chosen blue therapy methods separately. The goal is for everyone to personally experience the beneficial effects of being near water. To help measure this, please fill out a short questionnaire both before and after the activity. After the program, take time to share your experiences: use the submitted responses to create a table or visual charts. Review the results together and discuss how the experience near water affected you!

Questionnaire [Before Blue Therapy](#)



Questionnaire [After Blue Therapy](#)







Young people are also doing their part in cleaning up rivers – and along the way, they're learning a lot about boating too... Photo: Enikő Kubinyi

# TREASURE CHEST

## TOOLS and ACCESSORIES

- ☐ INTERNET CONNECTION, PROJECTOR
- ☐ 1 SMARTPHONE / TABLET WITH INTERNET  
CONNECTION PER 5 PEOPLE
- ☐ PLASTIC BOTTLE
- ☐ PEN, PAPER
- ☐ ONLINE QUESTIONNAIRE
- ☐ PET TABOO







If you are interested in rowing, find a boathouse or rowing club nearby! If the team is good, it's worth learning to walk on water too... Photo: Vanda Molnár





The world's largest community-funded river-cleaning ship, floating on PET bottles, PETÉNYI. Photo: Dániel Szécsényi






RIVERSAVERS' HANDBOOK

Volume 3, Chapter 5

5

# RIVERSAVERS AROUND THE WORLD

What development and advancement opportunities lie in saving rivers; how can we take care of our own waters; and how wide is the international horizon





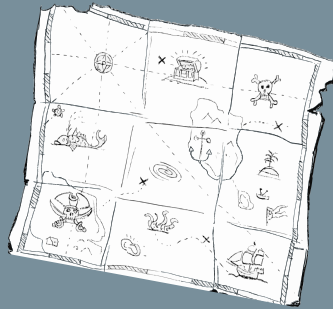


Doing something good for the environment is an uplifting feeling! Wherever you are in the world, those people who care about nature form a very good, cohesive community. It's worth joining them :)! Photo of our young riversavers, plastic pirates, and volunteers after a successful action. Photo: Emese Sillmon



# TREASURE MAP

Where does the FIFTH CHAPTER lead?



3. It becomes clear that there are many different ways to help clean up rivers. As a student, volunteering and community service can open up new opportunities; as an adult or teacher, there are training programs, specializations, and the Riversaver School Network welcoming enthusiastic participants.

1. Sooner or later, the moment comes when the walls of the school feel too narrow, and more and more students start wondering what they can do during the holidays or after school. That's where the [fifth presentation](#) comes in handy.

2. Chapter 5 reveals that trained riversavers not only have the knowledge and the gear, but they're also part of a strong, supportive community – and if there's one reason to keep learning, this is definitely it!

4. "It's time to figure out what you're passionate about! You can support rivers as a researcher, a boat crew member, or a tour guide – and if you've been inspired by riversaving, now's the perfect time to sign up for the Plastic Cup Initiative's Riversaver training programs!



# COMPASS



River rescuers have exceptional knowledge about rivers, waste management, sustainable development, and the circular economy. Some were born into it, others started later in life. Let's see how their journeys began!



**Boat kids.** This is what they call the children who were practically born into sailing because of their parents. These kids have especially adventurous early years: most of them grow up near the water and spend their free time by – or on – rivers. Luckily, there are plenty of such boat kids at the Plastic Cup Initiative too! Some of them were born because their parents met during a river cleanup and decided to start a family. Others hadn't even been born yet when their mums boarded PET boats and kept paddling while pregnant. There are also children who celebrated their first birthdays on a boat made from plastic bottles, floating on a river – and they've returned every year since. These kids form a close-knit community, and their bond with the river is unbreakable. Rowing and swimming are second nature to them – and despite their young age, they've already done more for clean rivers than most adults ever will. It's no exaggeration to call them born riversavers. :-)

The young volunteers of the Plastic Cup Initiative study at the world's most diverse universities and use what they had learned at the river. Photo: Attila Dávid Molnár





Fortunately, you don't have to be born on a boat to become a riversaver. If you're ready for adventures and willing to face the challenges, travel, and discomforts that come with fighting for cleaner rivers and oceans, an exciting array of opportunities is waiting for you. Below are just a few examples from the Plastic Cup Initiative.

**Alíz** applied to become a plastic pirate as a teacher, then completed the riversaver training – and now she develops educational materials for Riversaver Schools. **Kata** started as a plastic pirate with a background in logistics and environmental education, later became a river rescuer – and now she organizes the tours of our River Litter Lab across Europe. **Geri**, an environmental engineer, now gives lectures on river cleanups at the UN headquarters. **Gefi** went from being a gardener to becoming a RILL engineer and TV host; **Csani** transitioned from a sociology student to a boat and expedition leader; **Béla** turned from a truck driver into the director of a Riversaver Center. **Sára** produces podcasts, **Mesi** creates films, and **Zsuzsi** writes proposals and coordinates projects. But the Plastic Cup Initiative isn't the only place where you can make a real difference for cleaner rivers and oceans. All around Europe and the world, there are fantastic initiatives and projects waiting for you to join them as volunteers, citizen scientists, and project coordinators. You might not earn as much money as those who work for big corporations, but the work you do will have meaning. And when many passionate and talented people work together for clean rivers, nothing is impossible! Let's see what the opportunities are!

REPAIR & RETHINK.

Shape your future, and fix what was broken.



**Plastic sailor, plastic pirate, Riversaver school**  
immerse yourselves in the Riversavers' Handbook



**Plastic pirate**

sign up for a Plastic Cup Initiative event, build a PET boat and compete

**Volunteer**

dedicate your free time and energy to river cleanup actions

**Riversaver**

complete the Riversaver training, and start your own

**Riversaver actions**

RILL mechanical engineer and animator  
learn about the operation of the River Litter Lab,  
develop and manufacture environmentally conscious products

**Innovator**

come up with new ideas, projects

**Foreign organizations, initiatives**

find calls, subscribe to newsletters, create a resume, and travel!

[www.tiszatizsa.eu](http://www.tiszatizsa.eu)





Károly Gyenes (on the right) hiked the Blue Trail route with Pál Rockenbauer when he was young; he's spent countless hours hiking, rowing, and biking. Due to his vast experience in water tours, he became the lifelong guide and tour leader of the Tisza Plastic Cup. In the picture, he is with his son and grandson, all of whom are passionate plastic pirates :) Photo: Enikő Kubinyi

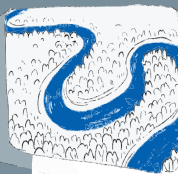
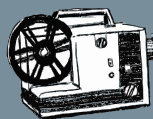




River cleaning can also be a competition. Besides appreciation, the winning team's reward is the Plastic Cup. Photo by Vanda Molnár



# INITIATOR

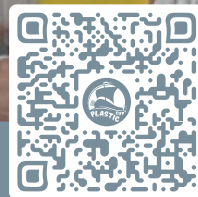
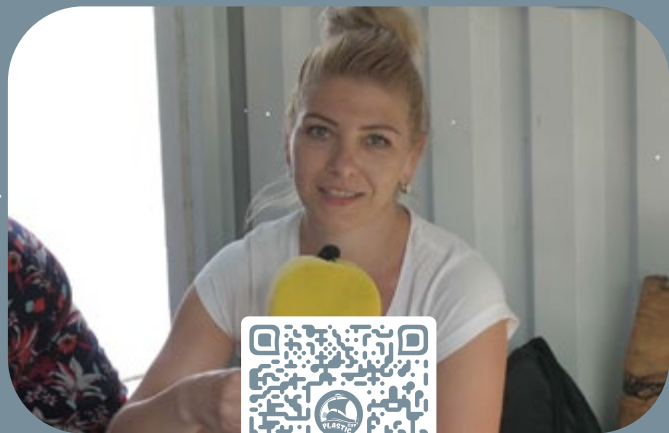


It's time for the sailor's initiation! If you're ready to learn something new, click on the frame to the right to open the [PRESENTATION](#) Summarizing Chapter 5.

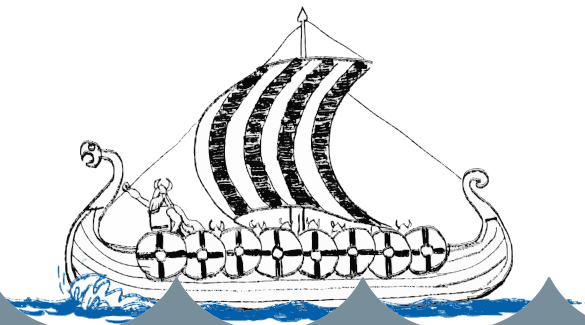


If you're done with the presentation, let's watch a movie! in the 5 Countries 1 River film Series, river-saving teachers talk about their first Plastic Cup Initiative experience. Subtitled in every "Tisza language".

CLICK ON THE [VIDEO!](#)







## 5.2. INDOOR ACTIVITY

### RIVERSAVER AND OCEAN-CLEANUP ORGANIZATIONS AROUND THE WORLD

Form groups, then turn on a laptop or smartphone, and venture into international waters! Your task is to find organizations and initiatives working to clean rivers and oceans, and welcoming volunteers to join their efforts. Discuss which one you would like to join and why. Once you've made your choice, present the organization you selected to the rest of the group! Here are a few examples, but this is by no means an exhaustive list:



**River Cleanup**  
(Netherlands)



**FlipFlopi**  
(Kenya)



**Community  
service**



**Volunteering**



**Sea Monkey Project**  
(Malaysia)



**Plastic Pirates**  
(Germany)



**Summer  
PET boat races**



**Riversaving trainings,  
products,  
and projects**

## 5.3. OUTDOOR EXPLORATION

### VOLUNTEERING, TRAVEL, EXPLORATION, ADVENTURE FOR CLEAN WATERS

In this final task, we encourage you to set sail, step beyond your own limits – and cross borders, both national and personal. If you've made it this far in the book and hold a Plastic Pirate certificate – and your teacher is now a Riversaver Educator – then this is your chance to join the Plastic Cup! Come to one of our summer events and see for yourself what a real river boat race looks like! Or come as a volunteer and help organize river cleanup actions. But if you're looking for even bigger challenges, sign up for and complete the Plastic Cup riversaver training and then join international projects within and outside the European Union, across the entire Danube Basin! We are waiting for you! Here are some opportunities at the Plastic Cup, but this is by no means an exhaustive list:





The confluence of the Maros and the Tisza at Szeged. Photo: Emese Silimon

# TREASURE CHEST

## TOOLS and ACCESSORIES

- ☐ INTERNET CONNECTION, PROJECTOR
  - 1 SMARTPHONE / TABLET WITH INTERNET
- ☐ CONNECTION PER 5 PEOPLE
- ☐ PLASTIC BOTTLE
- ☐ PEN, PAPER
- ☐ PET TABOO





# LAND IN SIGHT!

## ANCHOR DROPPING and EPILOGUE

The third volume of the Riversavers' Handbook is specifically designed for Riversaver Schools. It's for students and educators who, after completing the first two books, are ready for new challenges and tasks. Those who are not satisfied with just a plastic sailor or plastic pirate certificate but want to know more about rivers and seas — and do even more for clean, plastic-free waters. We hope we've managed to strengthen your interest and enthusiasm for rivers, and have opened up perspectives that go beyond the boundaries of school activities. If you enjoyed the Riversavers' Handbook, don't sit back just yet! Don't relax, even if you've successfully completed the tasks in the third book—or even if you've already graduated! Explore the beauty and challenges of summer volunteering! Apply to the Plastic Cup as a volunteer! Look for scholarships and apply for positions with organizations focused on river protection and ocean cleanup! Continue your studies, train to become an environmental, water management, or maritime specialist. Remember: 71% of the Earth's surface is covered by water. Whoever can swim, row, or sail, whoever masters the waves, owns the world! And finally, a good piece of advice... As a true Riversaver School, never forget the adopted riverbank you've taken care of. Pass on its care and representation to the next classes, and no matter how far the wind may carry you, return from time to time... And while you're there, throw a pebble into the river!

If you liked the book, we recommend the other volumes of the Clean Tisza Textbook Series. If you have taken pictures during Riversaver that you would like to share on the official website of the Riversavers, please visit the Clean Tisza website here:

[www.tisztatisza.eu](http://www.tisztatisza.eu)

**Thank you for your help on behalf of the river and all its creatures!**

Attila Dávid Molnár, Alíz Hajnal Bódiszné, Annamária Farkas, Zsuzsanna Bitter, Zita Szöllösi-Sebestyén, the teachers of the 5 Countries 1 River and the Riversaver School Network project, as well as the Riversavers of the Tisza Plastic Cup Initiative.







In Slovakia, along one of the Danube's tributaries, the Meseország Óvoda (Fairyland Kindergarten) adopted a beautiful stretch of riverbank. Photo: Zsuzsa Lelkes

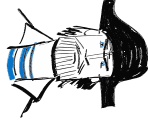
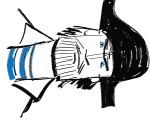
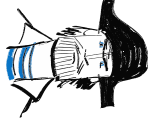
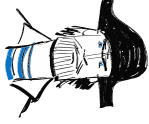
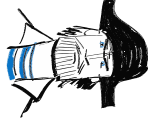
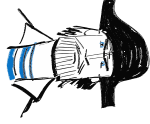
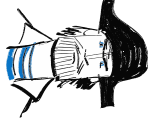
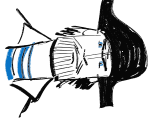
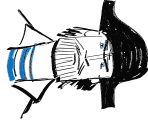
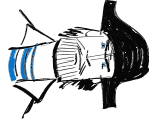
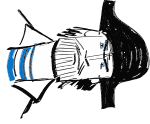
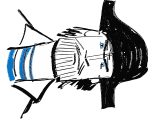
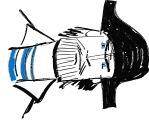
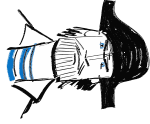
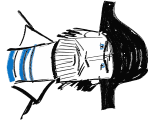
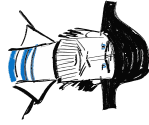


# Plastic Taboo cards



Chapter 1					Chapter 2					Chapter 3					Chapter 4					Chapter 5										
✂	<b>Energy</b> ~~~~~ strength kilowatt renewable	<b>Compost</b> ~~~~~ garden food waste	<b>Waste</b> ~~~~~ unnecessary money cost	<b>Cycle</b> ~~~~~ sustainable circle water	<b>Fossil</b> ~~~~~ fossil finding prehistoric creature	✂	<b>Waste reduction</b> ~~~~~ small few trash	<b>Waste</b> ~~~~~ trash trash can trash can	<b>Garbage</b> ~~~~~ waste trash can trash can	<b>Midway</b> ~~~~~ island America Pacific Ocean	<b>Cap</b> ~~~~~ plastic bottle cover	✂	<b>Dragon</b> ~~~~~ fire-breathing Smaug Hiccup-Haddock	<b>Crocodile</b> ~~~~~ Nile reptile caiman	<b>Sailboat</b> ~~~~~ ship mast sail	<b>Fundraising</b> ~~~~~ donor campaign online	<b>Viral video</b> ~~~~~ click bait viral	✂	<b>Wave</b> ~~~~~ water surface foam	<b>Oar</b> ~~~~~ canoe kayak boat	<b>Therapy</b> ~~~~~ remedy doctor recipe	<b>Hercules</b> ~~~~~ hero ancient times Greek	<b>Shield</b> ~~~~~ weapon sword helmet	✂	<b>NGO</b> ~~~~~ association foundation non-profit	<b>Captain</b> ~~~~~ ship government boss	<b>Expedition</b> ~~~~~ travel adventure discovery	<b>Generation</b> ~~~~~ child parent generation	<b>Community</b> ~~~~~ belonging team network	✂









Wherever fate takes you, always look for the water! By the rivers and lakes, you shall find peace, refreshment, and inspiration. Photo: Krisztina Pálvölgyi



# RiverSavers' handbook, Volume 3. E-book, Second digital edition.

Published as part of the **Clean Tisza Textbook Series**, in English, Ukrainian, Romanian, Hungarian and Serbian within the framework of the 5in1 project and the Riversaver Schools Erasmus+ program.

**Author:** Attila Dávid Molnár

**Co-authors:** Zita Szöllősi-Sebestyén (learning designer), Hajnal Alíz Bódiszné (plastic literacy), Annamária Farkas (riversaver knowledge), Zsuzsanna Bitter (coordination, waste reduction)

**Editors, professional review:** Károlyné Bedő and Gergely Hankó (Budapest, Hungary), Eliza Mastan (Baia Mare, Romania), Hajnal Alíz Bódiszné (Sárospatak, Hungary), Enikő Heé (Uzhhorod, Ukraine), Erzsébet Huszta (Kanjiža, Serbia), Tímea Janicsné Stumpf (Sárospatak, Hungary), Mária Keszler Mária (Yasinya, Ukraine), Zsuzsa Lelkes (Veľké Úľany, Slovakia), Anna Sabadosh (Uzhhorod, Ukraine), Zita Szöllősi-Sebestyén (Budapest, Hungary), Erzsébet Békéssy (Satu Mare), Nóra Hankó (Hungary), and the teachers of the Tisza PET Cup River Rescue training. Translated into "Tisza languages", translations checked by: teachers and contractual partners of the 5in1 and FMIP Erasmus+ project.

**English translation:** Nóra Végh

**Illustrated by:** Áron Gauder

**Design, icons:** Emese Silimon, Stockio, Freepik, Flaticon

**Photos:** Krisztina Pálvölgyi, Enikő Kubinyi, Vanda Molnár, Tamás Varga, Gergely Hankó and the volunteers of the Plastic Cup

**Layout, typesetting:** Tamás Bátor

**Proofreading:** Mária Aszódiné Kovács

Prepared within the framework of the River Lit(t)eracy 2023 1 HU01 KA220 SCH 000166027 identified Erasmus+ project, with the support of the European Union.

Riversavers' Handbook - Clean Tisza Textbook Series  
Published by Természetfilm.hu and the PET Cup Association  
5000 Szolnok, Gutenberg Square 2. V/3.  
[www.petkupa.hu](http://www.petkupa.hu)  
[hello@petkupa.hu](mailto:hello@petkupa.hu)



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor the EACEA can be held responsible for them.



**Funded by  
the European Union**