

This is the 5th WASTEREDUCE Newsletter

Dear Readers,
We are delighted to share our 5th Newsletter with you!

Each of our newsletters focuses on a timely and important topic, paired with educational content, to keep you informed. We also highlight recent project activities and provide updates on upcoming initiatives. To strengthen cross-border and regional collaboration, each edition features a "Region in Focus" section, where we shine a spotlight on one of the regions involved in the project.

This issue is dedicated to **Waste Waterways** – a significant and widespread challenge across the cross-border area and beyond. Inside, you'll find insights into the current situation and the measures being taken to address this issue.

Additionally, we will provide an overview of the past period of the WASTEREDUCE project, including our activities and what lies ahead. This issue's "Region in Focus" will feature the **Istria** in Croatia.

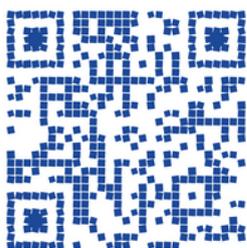
We hope you will enjoy reading!

Your WASTEREDUCE Team

Partnership
IT - 4
HR - 4

01/02/2024
31/07/2026

Total budget
1.657.742,23
EUR



WASTEREDUCE

is an EU funded project in collaboration with eight partners. Together, we will tackle waste management challenges in protected and Natura 2000 areas across Italy and Croatia. Our goal is to enhance waste prevention, reduce environmental impacts, and improve cooperation among stakeholders.



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Protecting Our Waterways: Combating Waste in Natural Ecosystems

Waterways are the arteries of our natural environment, vital for sustaining biodiversity, nurturing ecosystems, and supporting human communities. Yet, globally, these lifelines are increasingly burdened by waste—from industrial discharges and untreated sewage to pervasive plastic debris and microplastics—that not only mar their beauty but also jeopardize the health of ecosystems.

In **natural protected areas**, such as those recognized under the Natura 2000 network, the impact of waste is particularly alarming. These regions are celebrated for their rich biodiversity and unique landscapes, yet they **are** also **highly vulnerable to pollution**. Waste entering these waterways can introduce toxins, alter water chemistry, and foster the growth of invasive species. The resulting disruption can compromise the delicate balance that has taken decades to establish, threatening the survival of native flora and fauna that depend on pristine conditions.

Moreover, the health of waterways in protected areas often serves as a barometer for broader environmental well-being. **Even small amounts of waste can trigger cascading effects** — for example, nutrient overloads may lead to harmful algal blooms, while chemical contaminants can impair the reproductive systems of aquatic life. These disturbances not only weaken ecosystems but also pose risks to the communities that rely on these natural resources for drinking water, recreation, and cultural heritage.

Addressing the global challenge of waste waterways in natural protected areas requires a comprehensive and integrated approach. Strategies must encompass innovative waste reduction practices, effective monitoring systems, and rapid intervention measures. Collaboration across borders, sectors, and communities is crucial because waterways do not adhere to political boundaries. By **uniting efforts**—such as those championed by projects like WASTEREDUCE—we can forge sustainable solutions that protect our most cherished natural landscapes and ensure the **long-term health of our water resources**.

Ultimately, safeguarding our waterways is not only about preserving the natural world—it's a commitment to future generations, ensuring that the pristine environments we value today remain vibrant and resilient tomorrow.



Water Contamination and Aquatic Trash in the EU: Legislation, Challenges, and Quality Status

Water contamination remains a major environmental challenge globally and within the European Union (EU), affecting the health of seas, rivers, and lakes. While pollutants like chemicals, heavy metals, and nitrates pose serious risks, the growing issue of aquatic trash—ranging from plastic waste to abandoned fishing gear—has become a pressing concern for water quality and marine biodiversity.

EU Legislation on Water Protection and Waste Reduction

To combat water pollution and waste accumulation, the EU has implemented a series of legislative frameworks aimed at protecting aquatic ecosystems:

Water Framework Directive (WFD) (2000/60/EC)

Sets the goal of achieving ‘good’ qualitative and quantitative status for all water bodies by reducing pollution and promoting sustainable water use.

Marine Strategy Framework Directive (2008/56/EC)

Focuses on preserving marine environments, specifically targeting pollution sources such as plastics, microplastics, and industrial waste.

Single-Use Plastics Directive (2019/904): Aims to reduce plastic waste, banning specific single-use plastic products commonly found in oceans and waterways, such as straws, cutlery, and plastic cotton buds.

Port Reception Facilities Directive (2019/883)

Designed to minimize marine litter from ships by ensuring proper waste disposal infrastructure in European ports

Groundwater Directive (2006/118/EC): This directive protects groundwater from pollution and deterioration by setting specific criteria for assessing chemical status and identifying pollution trends.

Drinking Water Directive (EU 2020/2184)

Adopted in 2020, it sets minimum quality standards for water intended for human consumption, focusing on microbiological and chemical parameters to protect human health.

Health of EU Water Bodies and the Impact of Aquatic Trash

Despite these efforts, water quality in Europe continues to face challenges:

- **Surface Waters:** As of 2021, only 39.5% of surface water bodies (rivers and lakes) met good ecological status, while 26.8% achieved good chemical status. Plastics and other litter contribute significantly to this pollution.
- **Marine Pollution:** Over 150,000 to 500,000 tons of plastic waste enter European seas every year, with the Mediterranean Sea being one of the most polluted marine environments due to its semi-enclosed nature.
- **Rivers as Pollution Pathways:** European rivers transport over 600,000 tons of plastic waste into the ocean annually, with the Danube, Rhine, and Po rivers being significant contributors.
- **Microplastics Crisis:** Studies have found microplastics in over 80% of freshwater samples across Europe, posing risks to aquatic species and human health.

Global and EU Water Quality Statistics

Globally, **80% of wastewater is discharged into the environment untreated**, contributing to pollution and trash accumulation.¹ However, more recent studies estimate that approximately **48% of global wastewater is released untreated**.²

In Europe, **between 70,000 and 130,000 tons of microplastics enter surface waters annually**, impacting biodiversity and drinking water sources.³

Plastics production in Europe totalled 54 million metric tons in 2023, a decrease of nearly two million metric tons from the previous year.⁴

Addressing Aquatic Trash and Water Contamination

To mitigate the issue of aquatic trash and improve water quality, the EU promotes:

- **Extended Producer Responsibility (EPR):** Holding manufacturers accountable for the waste generated by their products, particularly plastics.
- **Clean-up Initiatives:** Programs like EU Beach Clean-Up and The European Strategy for Plastics in a Circular Economy support waste collection and recycling efforts.
- **Advanced Wastewater Treatment:** Improved filtration technologies help capture microplastics before they enter rivers and seas.
- **International Cooperation:** Since waste travels across borders, global initiatives such as the UN Plastics Treaty and partnerships with non-EU countries play a crucial role in addressing water pollution.

Sources

¹ Water Quality and Wastewater, [UN-Water, 2018](#).

² Jones, E. R., et al. Country-level and gridded estimates of wastewater production, collection, treatment and reuse, Earth Syst. Sci. Data, 13, 237–254, <https://doi.org/10.5194/essd-13-237-2021>, 2021

³ [WWF Report, 2018](#)

⁴ [Plastics - The Facts 2021](#), Plastics Europe, 2021



While the EU has taken significant steps to regulate water pollution and reduce aquatic trash, continued efforts are needed to enforce legislation, improve waste management, and promote sustainable practices. Reducing contamination in Europe's seas, rivers, and lakes is not just an environmental necessity—it is crucial for biodiversity, public health, and future generations.

Innovative Approaches to Combat Waste Waterways

Italy - From Theory to Practice

Theory

Italy's extensive **network of waterways plays a crucial role in the nation's economic activities** and, inevitably, has a significant impact on environmental health. In fact, these waterways serve as the primary conduits for waste, which accumulates along their paths, posing a substantial environmental challenge. Every inland waterway ultimately converges into the sea, making **marine environments the most affected**. This has direct consequences on coastal health, marine life conservation, and related economic activities.



Addressing this issue is vital, as the environmental implications are closely linked to human health. Waste accumulation in waterways can lead to habitat destruction, disruption of aquatic life, and, most critically, the introduction of microplastics into the food chain.

The main sources of water pollution include:

- **Urban and Industrial Runoff** – Heavy rainfall events transport urban and industrial waste into rivers, which eventually flow into the sea.
- **Fishing Activities** – Marine plastic pollution is exacerbated by discarded fishing gear, littering, and accidental cargo loss.
- **Tourism** – Italy receives a high number of tourists annually, particularly in coastal areas, contributing to waste disposal, including single-use plastics.

Practice

Italy's efforts to combat water pollution rely on national strategies and community-driven actions. These initiatives aim to protect water quality, preserve marine life, and ensure a sustainable future for the country's coastal regions. National policies and frameworks focus on containing water pollution and promoting marine ecosystem conservation. Additionally, community initiatives empower individuals and organizations to actively participate in ecosystem preservation efforts.

Key Italian initiatives include:

- Strengthening regulatory frameworks to reduce industrial discharges into water bodies.
- Implementing stringent legislation to manage and reduce marine litter, with a particular focus on plastics.
- Investing in wastewater treatment facilities to minimize the discharge of untreated sewage into the sea.
- Promoting clean manufacturing processes.
- Expanding protected marine areas to safeguard habitats and biodiversity.
- Launching educational programs to raise public awareness about marine conservation and pollution.
- Organizing beach and coastal cleanup campaigns where volunteers remove waste and properly recycle it.
- Supporting community-led monitoring projects that track pollution levels and marine health, identifying pollution hotspots.
- Encouraging sustainable practices among local businesses, including eco-friendly tourism and fishing methods.



Plastic-Specific Initiatives Plastic waste remains one of the most pressing environmental concerns. Italy addresses this issue through legislation and innovation, such as limiting single-use plastics, banning specific plastic products, and promoting recycling. Additionally, businesses adopting eco-friendly practices are incentivized.

Innovative Approaches to Combat Waste Waterways

Italy - Good Practices

Lazio Garbage - Catching Barriers The Lazio region developed a trash trap system that collects plastic and other waste transported by rivers before reaching the sea. This barrier system selectively captures artificial waste while allowing natural debris to continue downstream. To date, the barriers have intercepted over 10 tons of waste, including more than 30,000 plastic bottles, fuel canisters, tires, refrigerators, and mattresses. After collection, the waste is transported by boats to designated recycling facilities.



Cleaning Fleet in the Gulf of Naples In 2021, the "SalviAmo Nettuno" project launched a pollution prevention initiative by deploying four ships to clean the waters of the Gulf of Naples. This project aims to preserve biodiversity, prevent waste accumulation on beaches, promote separate waste collection, and raise public awareness about protecting natural environments. Additionally, it seeks to develop a standardized model for marine pollution prevention that can be replicated in other protected marine areas.

Tremi Plastic-Free Islands Project The Blu Marine Service of San Benedetto del Tronto initiated the "Tremi Plastic-Free Islands" project to improve waste management on the Tremi Islands by using innovative solutions. The project involves local communities in activities ranging from sustainable fishing practices to household composting.

- In the fishing sector, expanded polystyrene boxes have been replaced with Biofoam, a biodegradable and compostable material with similar properties to traditional polystyrene. Once used, Biofoam can be processed in standard waste disposal circuits and composted.
- For home composting, disused buoys from mussel farms are repurposed to build composters, which are distributed to residents to process organic waste. Additionally, an innovative non-electric composter has been introduced, capable of composting organic materials and bioplastics.

Genoa and Savona Port Waste Management The Western Ligurian Sea Port Authority has implemented environmental policies for sustainable waste management. Key services include waste collection, removal, disposal, and recycling at the ports of Genoa, Pra', Savona, and Vado Ligure. These ports also maintain cleaning services for roads, yards, and common areas. The port authority enforces recycling initiatives following circular economy principles, monitors waste to prevent illegal dumping, and raises public awareness. Specialized companies oversee port water cleaning, including oil spill management, ensuring rapid response to accidental discharges. Cleaning services are regulated under the "Ship-Generated and Cargo Residues Waste Management Plan," in accordance with Law Decree 197/2021, updated by Law Decree 46/2024. This legislation mandates that ships discharge all onboard waste at treatment facilities in their destination ports to protect marine environments and public health.



Croatia's Battle Against Marine Pollution: The Challenges of Enforcing a Wastewater Discharge Ban

Croatia has a legally mandated ban on wastewater discharge from vessels into the sea

Croatia is a signatory to the **International Convention for the Prevention of Pollution from Ships (MARPOL 73/78 Convention)**, which prohibits the discharge of wastewater from ships into the sea. In national legislation, the Maritime Code was amended in 2013 to include a ban on wastewater discharge from vessels into the sea and an obligation to empty these tanks only at designated locations (in or outside the port) where appropriate reception facilities are available.

The Maritime Code thus prohibits the discharge and disposal of all substances that pollute the sea into the sea or onto the coast. Regarding subordinate regulations, one set specifies the conditions for ports, requiring them to be equipped with the appropriate facilities for separate waste collection (**Regulations on the conditions and methods of maintaining order in ports and other parts of internal waters and territorial sea of the Republic of Croatia**), while another set specifies the conditions for vessels, mandating the installation of tanks (**Regulations on boats, crafts, and yachts**).

Additionally, concessionaires of nautical anchorages are required to collect municipal waste from vessels at anchor. The Maritime Domain and Sea Ports Act (NN 83/2023, Article 145, Paragraph 4) stipulates that the concessionaire of a nautical anchorage is responsible for safety and order at the anchorage and **must accept municipal waste from vessels**, and may provide other services to sailors in accordance with the concession agreement and the Maritime Domain and Sea Ports Act.



Barriers to law enforcement: significant changes are needed at the national level

Although current regulations prohibit the discharge of wastewater from vessels into the sea and prescribe conditions for ports and vessels, in practice, the real situation does not fully comply with the regulations. Some media outlets have already addressed this issue (portal Gorgonija.com, 2020., portal Otvoreno more), noting that the deadline for installing black tanks was the end of 2021, by which time the construction of the entire accompanying infrastructure on land was expected. However, **there still aren't enough stations on land, nor is there a sufficient system of controls and penalties**. Even if all marinas were equipped with these stations, it still wouldn't be enough. Not all yachts and boats are in marinas, and in marinas that are tourist-oriented (charter bases), a large number of vessels return within just a few hours (usually on Fridays and Saturdays), which means that such marinas should be equipped with a large number of stations.

Therefore, other solutions should be considered (e.g., building a network in other places where vessels dock). According to an article on Otvoreno more, it was determined that the ports open to international traffic (Pula, Rijeka, Zadar, Šibenik, Split, Ploče, and Dubrovnik) have ensured the acceptance of all reference types of waste through subcontractors, while this is still not the case for smaller ports. Regarding conditions for vessels, today, almost all new boats and yachts have black tanks installed, but they still lack grey tanks. Boats and yachts without serious modifications do not have the space to install grey tanks.

Read more [here](#)



Region in Focus: Istria County (Croatia)

General information

Istria is the largest peninsula in the Adriatic Sea, covering a total area of 3,476 km². While the peninsula is shared by three countries - Croatia, Slovenia, and Italy, Republic of Croatia holds the largest portion, with 3,130 km² (90% of the total area) under its jurisdiction. Within Croatia, Istria County governs 2,820 km², while the remaining territory falls under the jurisdiction of Primorje-Gorski Kotar County. The administrative centres of Istria County are Pazin and Pula, with Pula serving as both the economic hub and the largest city in the region. The county is divided into 10 towns and 31 municipalities¹



Protected Areas

Protected areas in Croatia are defined by the Nature Protection Act (NN 80/13, 15/18, 14/19, 127/19, 155/23). The Ministry of Environmental Protection and Green has established and maintains a database of all protected areas in Croatia². Since Croatia's accession to the European Union, it has defined areas protected under the European ecological network NATURA 2000. The protection and regulation of these areas are carried out in accordance with the Regulation on the Ecological Network and the Responsibilities of Public Institutions for the Management of Ecological Network Areas (NN 80/19, 119/23)³. Protected areas in Croatia are defined by the Nature Protection Act (NN 80/13, 15/18, 14/19, 127/19, 155/23). The Ministry of Environmental Protection and Green has established and maintains a database of all protected areas in Croatia². Since Croatia's accession to the European Union, it has defined areas protected under the European ecological network NATURA 2000. The protection and regulation of these areas are carried out in accordance with the Regulation on the Ecological Network and the Responsibilities of Public Institutions for the Management of Ecological Network Areas (NN 80/19, 119/23)³.

35 protected areas defined by the Nature Protection Act are located in Istria County (9% of the territory). They are categorised as follows⁴:

- National Park: Brijuni
- Nature Park: Učka
- Special Reserve (Ornithological): Palud - Palu
- Special Reserve (Marine): Limski zaljev
- Special Reserve (Paleontological): Datule - Barbariga
- Special Reserve (Forest vegetation): Kontija
- Special Reserve (Forest vegetation): Motovunska šuma
- Natural Monument (Geomorphological): Vela draga pod Učkom
- Natural Monument (Geomorphological): Markova jama
- Natural Monument (Geomorphological): Jama Baredine
- Natural Monument (Geological): Kamenolom Fantazija - Cava di Monfiozeno
- Natural Monument (Zoological): Pincinova jama
- Natural Monument (Rare Tree Specimen): Pinije u Karojbi
- Significant Landscape: Limski zaljev
- Significant Landscape: Rovinjski otoci i priobalno područje
- Significant Landscape: Labin, Rabac i uvala Prklog
- Significant Landscape: Gornji Kamenjak
- Significant Landscape: Donji Kamenjak i međulinski arhipelag
- Significant Landscape: Istarske toplice
- Significant Landscape: Pićan
- Significant Landscape: Pazinski ponor
- Significant Landscape: Učka - sjeverni dio
- Significant Landscape Učka - južni dio
- Forest Park: Zlatni rt - Škaraba
- Forest Park: Busoler
- Forest Park: Šijana
- Forest Park: Soline
- Forest Park: Kašteja
- Monument of Park Architecture: Drvoredi čempresa na groblju - Rovinj
- Monument of Park Architecture: Labin - dvije glicinije
- Monument of Park Architecture: Čempres u Kaščerji
- Monument of Park Architecture: Skupina stabala oko crkvice Sv. Ane kraj Červara
- Monument of Park Architecture: Skupina drveća na groblju - Poreč
- Monument of Park Architecture: Skupina drveća na groblju - Vrsar



The ecological network **NATURA 2000** of Istria County covers 787.84 km² (28% of the territory) and consists of **66** areas⁵:

- **2** Special Protection Areas for birds (SPA)
- **63** Sites of Community Importance for species and habitat types (SCI)
- **1** Special Area of Conservation (SAC)

¹ <https://www.istra-istria.hr/hr/upoznaj-zupaniju/>
² <https://www.haop.hr/hr/tematska-podrucja/zasticena-podrucja/zasticena-podrucja/isto-je-zasticeno-podrucje>
³ <https://mingo.gov.hr/m-inistarstvo-1065/djelokrug-4925/zastita-prirode/ekoloska-mreza-natura-2000/ekoloska-mreza-natura-2000-u-republici-hrvatskoj/1211> ⁴ <https://www.istra-istria.hr/hr/podsitoevi/zastita-okolisa/priroda/zasticena-podrucja-prirode/>
⁵ <https://www.istra-istria.hr/hr/podsitoevi/zastita-okolisa/priroda/ekoloska-mreza-rh/>

News

On **January 30th** in Piazzola sul Brenta, Italy, ARPAV hosted the **WASTEREDUCE workshop, “Abandonment of Waste and Protected Areas: Good Practices and Improvements in Medio Brenta.”** The event brought together local stakeholders to discuss waste management challenges, share best practices, and propose solutions for the protected Medio Brenta area. The morning featured presentations on waste abandonment and management in similar regions. In the afternoon, stakeholders participated in discussions to address issues and develop new proposals.



On **February 5th** the event **“The Middle Brenta Today and Tomorrow”** was held in Pozzoleone, Italy, focusing on the enhancement of water, biodiversity, and the region through the involvement of farmers and businesses. The Wastereduce project was presented, highlighting strategies to promote sustainable, slow tourism that respects biodiversity and natural resources. Approximately 50 participants attended, including institutional representatives such as the mayor, councilors, and members of the Brenta Basin Council. The event was organized by ETIFOR in collaboration with the municipality and the Brenta River Park.

On **February 28th**, IPTPO in collaboration with NGO group "Društvo Naša djeca Poreč" held an **educational workshop** in Poreč, Croatia, dedicated to the **restoration of the insect hotel**. Children had the chance to explore the significance of recycling and the use of natural materials, they were encouraged to think about what qualifies as natural materials, why recycling matters, and how they can contribute to a more sustainable environment.



PI Natura Histrica collaborated with PP UNITS on **March 20th** to conduct a **one-day survey in the pilot area Akvatorij zapadne Istre**. The survey aimed to identify locations of plastic accumulations and other waste affecting the sea and coastal areas.

SUNCE organized a **workshop “Steps towards ecologically sustainable Dugi otok - replace plastic sustainable solutions”** for businesses operating in protected areas of Dugi Otok in cooperation with the Natura Jadera Public Institution and the Telašćica Nature Park on **March 10th, 2025**, in Zadar Town. In addition to learning about measures regarding restrictions on the use of single-use plastics in their businesses and which will be integrated into concession contracts for the 2025 season, businesses were introduced to different alternatives to single-use plastics. Read more [here](#)



Announcements

Dissemination evening: “Shades of Plastic” open to citizens

On Wednesday **2 April** at the Fisheries Museum in **Treviso (IT)** a popular dissemination evening, called: “Shades of Plastic” will be held in order to make citizens aware of the impact of plastic in our seas and the importance of reducing its use as much as possible in order to protect the environment from pollution. The Fipsas association (Federazione Italiana Pesca Sportiva ed Attività Subacquee - Italian Federation of Sport Fishing and Underwater Activities) will involve the citizenship in order to make them participate in the proposed theme, through a divulgative evening open to the citizens of Treviso and Province that will take place at the fishing museum in via Pozzetto, 57 31057 Silea (TV) on 02 April from 8.00 pm to 11.00 pm. During the evening, ARPAV will make a speech on the importance of dissemination actions carried out by European projects, taking the Interreg IT-HR Wastereduce Project as an example: the project will be described in its various parts, focusing on the final objectives and the degree of implementation achieved so far. The objective of the evening is to raise citizens' awareness on environmental issues through the dissemination of concepts, good practices and experiences that may be useful to strengthen the perception of the protection of the sea and the whole territory in which we live.



Pilot area visit - Sakarun Bay:

The visit to the pilot area will take place on **May 12th and 13th** on **Dugi Otok (Croatia)**, when Sunce will host other partners on a two-day visit to Dugi Otok. The pilot area Sakarun Bay, Telašćica Nature Park will be visited and a meeting will be held with the Municipality of Sali, the Tourist Board of the Municipality of Sali, and representatives of the utility company Mulić d.o.o, from the Natura Jadera Public Institution and from the Telašćica Nature Park Public Institution.



Ecological day

An ecological day will be organized in **Veneto Region (IT) during spring** with a focus on reducing non-recyclable waste. Eco-days will aim to involve people in order to make them aware of the issue of waste abandonment and the practical experience could help citizens to become aware of the area in which they live, disseminating the concepts brought forward with the WASTEREDUCE Project and have a different perception.

Upcoming Event – BAM! Europe, June 6-8, Piazzola sul Brenta (IT)

From **June 6-8**, the Wastereduce project will be represented by ETRA at BAM! Europe, the international gathering of bicycle travelers. A stand will be set up to share information on slow tourism, waste reduction, sustainability, and environmental protection. Additionally, a bike-based waste collection along the Brenta cycle paths will be organized with the support of Italian associations.

📌 Event details: [BAM! Europe](#)



Visit to the Middle Brenta pilot area (IT)

The visit to the Middle Brenta pilot area for project partners will be organized by **the end of June 2025**.

PI Natura Histrica is set to organise **clean-up actions, plogging races, and an educational tour in Istrian pilot areas**, with dates to be announced.

THANK YOU FOR READING!

We appreciate your time and interest. Be sure to catch our next issue, where we'll cover:

- *Behavioral Strategies in Waste Management*
- *Region in Focus: Veneto*

Plus other news and announcements you won't want to miss!

Stay connected and informed - see you next time!



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