

## This is 3rd WASTEREDUCE Newsletter

Dear Readers,

We are delighted to share with you our 3rd Newsletter!

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

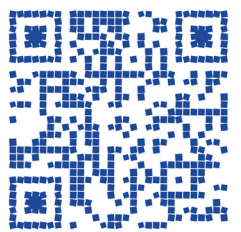
This issue is dedicated to **Illegal Waste Disposal Sites** — a significant and widespread challenge across the cross-border area and beyond. Inside, you'll find insights into the current situation, the measures being taken to address this issue, and potential new solutions on the horizon.

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 Zadar County in Croatia.

We hope you will enjoy reading!

Your WASTEREDUCE Team

W A S T E R E D U C E 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.



Total budget  
1.657.742,23  
EUR

Partnership  
IT - 4  
HR - 4

01/02/2024  
31/07/2026

## Merry Christmas and Happy New Year!!

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UNIVERSITÀ  
DEGLI STUDI  
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Dipartimento di  
Scienze della Vita



ETIFOR  
valuing nature

Natura Jadera



Agenzia Regionale per la Prevenzione  
e Protezione Ambientale del Veneto



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NL3 TOPIC  
Illegal Waste  
Disposal Sites

REGION IN  
FOCUS  
Zadar County

NEWS  
&  
ANNOUNCE-  
MENTS

PROJECT  
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NUMBERS





# Combating Illegal Waste Disposal Sites: Solution for Cleaner Future

## Illegal waste disposal sites in the Region of Istria, theory and practice

### Theory

The existence of illegal waste disposal sites represents an exceptional danger of soil pollution, and in the conditions of the limestone, highly permeable geological base present on the largest part of the Istrian peninsula, also the danger of pollution of underground water flows. In previous years, the reasons for improper waste disposal could possibly be traced to the unavailability of the service or the lack of coverage of the area by organized waste collection. Today, public waste collection services are available in all parts of the Region of Istria. Significant funds have been invested in recent years in infrastructure for the selective collection of certain useful types of waste and in education on sustainable waste management.

The Waste Management Plan of the Republic of Croatia for the period 2023-2028 (Official Gazette No. 84/23) is the umbrella national planning document that defines the waste management system in the Republic of Croatia. The Region of Istria has drafted the Regional Waste Management Plan until 2028, which is aligned with the National plan and is currently in the process of adoption.

In Istria, efforts are being made to apply the principles of circular economy. The circular economy is a model of production and consumption that involves sharing, borrowing, reusing, repairing, refurbishing and recycling existing products and materials as long as possible to create additional, longer, product value. In this way, the lifetime of the product is extended and at the same time the amount of waste is reduced.

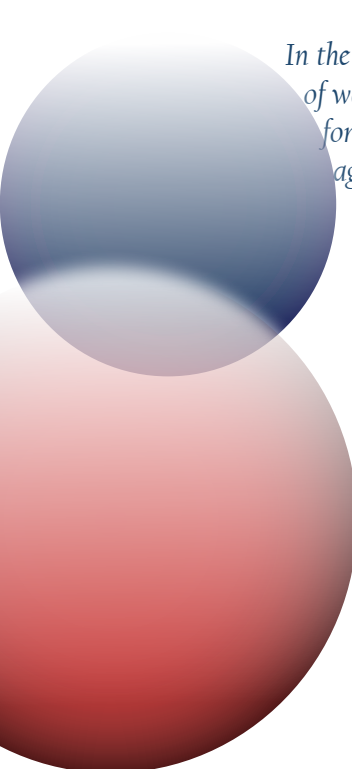
### Current Practice

Despite mentioned above, there are still locations in the Region of Istria with improperly disposed waste, the reasons for which can be found in the irresponsible behavior of physical and legal persons who carry out economic activities, but also in the local population who, through their irresponsible behavior, avoid paying the waste removal fee. The first official List and Remediation Plan for Illegal Landfills was created by the Region of Istria in 2006. The last list was updated in 2020, and at that time, the online application recorded a total of 122 active and 85 inactive locations with illegally disposed waste.

**The most effective way to improve resource efficiency and to reduce environmental impact of waste is to prevent waste generation!** Solving the issue of illegal waste disposal in the Region of Istria is being addressed through waste collection campaigns and the remediation of locations contaminated by waste dumped into the environment. In addition to the mentioned measures, some of activities will also be aimed at preventing re-disposal of waste into environment through procurement and installation of equipment at previously remediated locations, such as various signs, video surveillance, ramps, and similar.

In the area of the Region of Istria, continuous investments are made in management system for all categories of waste. Compared to the previous period in which the Waste Management Plan in the Republic of Croatia for the period 2017-2022 was in force, significant progress has been made in development of the waste management system, and in part that reflects the problem of illegally dumped waste, the progress is as follows:

- The Kaštijun Waste Management Center (WMC) has been built and is in operation. All planned transfer stations have been established, which form an integral part of the Kaštijun WMC system.
- Almost all waste disposal sites are closed, and in almost all of them, rehabilitation has been completed or is currently in final stages of implementation.
- New recycling and mobile recycling yards have been built and planned in almost all local government units in the Region.
- A significant number of illegal dumping sites were rehabilitated. The surveillance systems (cameras) and warning boards were installed in the same places, which continuously record and prevent new uncontrolled dumping of waste into the environment.





# Beyond the Bin: Tackling Istria's Waste Problem at Its Root

In Istria, illegal waste disposal sites remain a significant concern, even with some progress being made towards eco-friendly practices across the region. Unauthorised waste disposal sites are frequently found in remote and protected natural areas, including forests, thickets, pits, wetlands, and similar locations. These sites contribute to pollution, degrade ecosystems, and threaten public health.

Specific problems driving this include **overtourism, inadequate legal disposal sites, unregulated rentals, and illegal construction activities** leading to the unauthorised disposal of household and construction waste. The relevant authorities face significant challenges due to limited capabilities, resulting in insufficient enforcement and oversight, which allows many illegal sites to persist undetected or unregulated.

The problem, however, is also **rooted within the community**. Many municipalities and towns in Istria struggle with residents disposing of waste at inappropriate locations, despite the availability of bins for communal waste and recycling. This **lack of eco-consciousness** is further evidenced by continued waste disposal into speleological objects, even with ongoing clean-up initiatives, as seen from the example of the Bašarinka cave (**Figure**). This issue is especially concerning given that of the 523 known speleological objects in Istria, at least 208 of them have been contaminated with waste <sup>1</sup>.

Nonetheless, efforts to improve proper waste disposal and management through education on its importance and development of relevant tools are increasing. One notable initiative is the **“Smart Pula-Pola” app**, developed for the city of Pula, which provides residents with a transparent, quick, and easy way to report communal issues, including illegal waste dumping, to the relevant authorities <sup>2</sup>. This app exemplifies how technology can empower communities to address environmental challenges more effectively.

Additionally, the Ministry of Environmental Protection and the Green Transition has developed the ELOO app for monitoring and reporting illegal waste disposal sites <sup>3</sup>. Waste can be reported by citizens, and since 2020, in accordance with the Waste Management Regulation (NN 81/20), it has been declared a mandatory system for use by local self-government bodies for communal inspection.



2023 - Day before clean-up



2023 - Clean-up action



2023 - Two months after clean-up

Figure. Bašarinka cave used as an illegal waste disposal site even after the clean-

<sup>1</sup> <https://cistopodzemlje.info>

<sup>2</sup> <https://www.smartpula.com>

<sup>3</sup> <https://eloo.haop.hr/public/>



# Brenta River’s Community Model: Coordinated Efforts for Sustainable Waste Management

An example of a coordinated territorial initiative for waste management in a Natura 2000 area is the service launched by WASTEREDUCE partner ETRA SPA, which involves environmental surveillance and waste collection. This service designates environmental operators to regularly monitor the Natura 2000 site and its surrounding areas to collect waste and identify any potential irregularities.

Fifteen municipalities along the Brenta River collaborated to identify key areas that will be regularly monitored by environmental operators using quiet, zero-emission electric quads. Regular waste will be promptly collected, while special waste will be handled through targeted interventions based on the type of waste, as coordinated with the municipalities. Additionally, any irregularities observed will be reported to the relevant authorities.

Currently in the trial phase, the initiative is co-financed by the LIFE Brenta 2030 project and aims to support environmental protection and contribute to the achievement of sustainable development goals. This is the first service of its kind in the area, and it will also track the type and weight of waste discarded in each municipality. The goal is to gain a clearer understanding of the scope of waste abandonment and other environmental issues and to explore the most effective methods for addressing them.

This initiative is a prime example of how collaboration between municipalities along the Brenta River can lead to more effective, safer, and efficient management of a shared natural resource. The service focuses on three key activities: waste collection, surveillance, and organizing environmental days such as “Let’s Clean the Brenta River.”



## One Ton of Waste: Plastic Free Volunteers Unite to Restore Brenta’s Beauty

About twenty volunteers from Plastic Free collected a ton of special waste in Fontaniva sul Brenta.

Brenta has become an open-air landfill: over a ton of waste was collected in one morning in August 2024, by about twenty volunteers in a green area north of the bridge over the river. The uncontrollable incivility of vandals, who are not stopped by the beauty of nature, is increasingly worrying. These individuals dump everything: washing machines, bicycles, fire extinguishers, gas cylinders, batteries.

However, there are women and men with a strong civic sense and extraordinary environmental sensitivity who manage to limit the damage, braving the torrid heat of August to collect the garbage left by vandals. On the front line, for some time, there is the Plastic Free association, which unites volunteers in the actions of collection and cleaning of nature. The data are terrible, they have collected over a ton of stuff and that’s not all. These collections bring people together to see the real situation and open up knowledge. We have certainly exceeded the ton of stuff and there is still more to remove. In Plastic Free the sense of commitment grows and invites people to unite to see the real situation and open up consciences.







# Region in Focus: Zadar County (Croatia)

## General Information

Zadar County covers a total area of 7,854 km<sup>2</sup>, consisting of 3,643.3 km<sup>2</sup> (or 6.4%) of Croatia’s national land territory and 3,632.9 km<sup>2</sup> (12%) of the Adriatic Sea area under Croatian jurisdiction, as specified in the Zadar County Physical Plan<sup>1</sup>. The central urban settlement and administrative center of Zadar County is the city of Zadar, which is the third-largest city on the Croatian Adriatic coast by population. The county is divided into 28 municipalities and 6 towns.

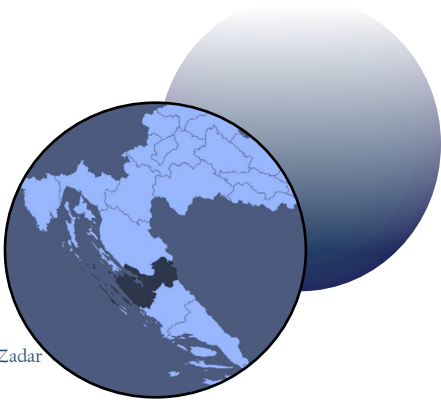


Figure 1. Graphical representation of the position of Zadar County within the Republic of Croatia<sup>2</sup>

## Protected Areas

Zadar County contains a total of **99** ecological network sites, including:

- 7 internationally significant conservation areas important for bird preservation (referred to as POP);
- 45 conservation areas significant for species and habitat types (referred to as POVS),
- 47 special conservation areas significant for species and habitat types (referred to as PPOVS).

In the Republic of Croatia, there are a total of **409 protected areas** listed in the Register of Protected Areas maintained by the Ministry of Environmental Protection and Green Transition, **20 of which are located in Zadar County**.

The protected areas in the county are categorized as follows:

- National Park: Paklenica
- Special Reserve (Botanical): Saljsko Polje Olive Grove (Dugi Otok)
- Special Reserves (Ornithological): Lake Vrana, Kolanjsko Blato – Blato Rogoza (Pag Island), and Velo and Malo Blato (Pag Island)
- Special Reserve (Forest Vegetation): Dubrava Hanzina (Pag Island)
- Nature Parks: Lake Vrana, Telaščica, and part of Velebit
- Natural Monument (Hydrological): Source of the Una River (Donja Suvaja)
- Natural Monument (Rare Tree Specimen): Green Oak
- Natural Monument (Geomorphological): Cerovačke Caves and Modrić Cave
- Significant Landscape: Zrmanja Canyon, the northwest part of Dugi Otok, Dubrava – Hanzina (Pag Island), Ošljak Island (Preko), and Zrće
- Monument of Park Architecture: Vladimir Nazor Park (Zadar) and Folco Borelli Park (Sv. Filip i Jakov)
- Site of Protected Dinosaur Fossils and Discoveries: Brbinščica (Dugi Otok)
- Natura 2000 Habitats: 90 sites
- Natura 2000 Species: 7 sites



## Municipal Waste

An increase in the amount of generated municipal waste has been observed, with a 10.7% rise in 2022 compared to 2018 (Figure 2). In 2020, due to the COVID-19 pandemic, which caused a significant reduction in the service sector’s activities (closure of hospitality establishments, fewer tourist overnight stays), the amount of municipal waste decreased by about 15% compared to 2019. With the recovery of service sector activities (reopening of hospitality establishments, increased tourist overnight stays, etc.) in 2021 and 2022, the amount of municipal waste increased again, reaching 123,982 tons in 2022.

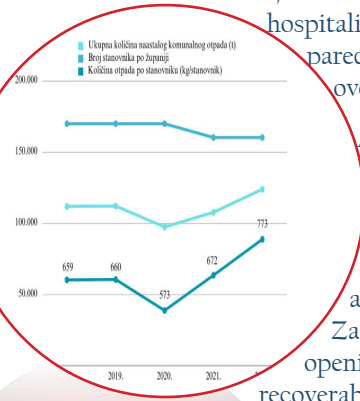


Figure 2. Total quantities of generated municipal waste and trends in waste generation per capita in Zadar County<sup>3</sup>

According to the MINGOR Municipal Waste Report for 2022, the national average annual municipal waste generation per capita in 2022 was 454 kg. Observing the annual amounts of municipal waste generated per capita in Zadar County, the figure for 2022 was 773 kg, the highest value in the 2018–2022 period.

In the area of Zadar County, four landfills are currently active: Diklo, Jagodnja Gornja, Kljakovača-Bilišane, and Sveti Kuzam, while 30 landfills have been closed. A waste recycling system has not yet been established in Zadar County, and the majority of waste is still collected under the category of mixed municipal waste. After the opening of the Biljane Donje Waste Management Center, it will be possible to begin recycling waste and utilizing recoverable raw materials. Currently, there are eight active recycling yards and ten mobile recycling yards in the county.

## Illegal Waste Disposal Sites

Improper waste disposal and the creation of illegal dumps increase the risk of pollution and endanger the health of humans and other living beings. Illegal dumps are most often found on the outskirts of cities, in industrial zones, and, unfortunately, in nature.

According to the website [ELOO](#) (Record of Illegally Disposed Waste Locations) in Zadar County, there are currently 120 active sites of illegally disposed waste being processed by municipal wardens, while waste has already been removed from 11 sites. The ELOO system was developed and is managed by the Ministry of Environmental Protection and Green Transition. Locations of illegally disposed waste can also be reported by citizens, but the final data visible in the system and on the map have been entered and confirmed by municipal wardens.

In 2024, 19 unprocessed locations reported by the public remain. Since the establishment of the ELOO system (October 22, 2019) to date, a total of 336 reports of illegally disposed waste have been received in Zadar County, of which 131 have been processed, 147 remain unprocessed, and 58 have been canceled.

<sup>1</sup> Official Gazette of Zadar County, nos. 2/01, 6/04, 2/05, 17/06, 3/10, 15/14, 14/15, 5/23, 6/23)  
<sup>2</sup> <https://www.hgk.hr/zupanijska-komora-zadar/gospodarska-kretanja-zadarske-zupanije-u-2021-godini>, data retrieved on September 18, 2022.  
<sup>3</sup> MINGOR Municipal Waste Reports (2018–2022), processed by Alfa Atest d.o.o



# NEWS

1

ARPAV participated in the Veneto ECOFORUM in Rovigo (IT) on November 29-30, 2024, presenting the WASTEREDUCE project and a citizen questionnaire on habits and pollution perception. The focus was the Middle Brenta River area in Veneto, aiming to develop a strategy to reduce waterway pollution affecting protected community spaces. The questionnaire, created with the University of Trieste, used environmental psychology techniques to explore solutions for waste abandonment.



2

On December 17, 2024, ARPAV participated in the 7<sup>th</sup> Monitoring Committee Meeting of Interreg VI A Italy-Croatia 2021-2027. The event focused on Standard and Small-scale projects under SO 2.2, fostering collaboration and innovation among projects like Wastereduce, BlueDiversity, FishNoWaste, and MONI.CA. ARPAV and ETRA addressed key questions about the effectiveness of European policies on marine litter in protected areas, engaging potential re-users of project results, and strategies for transferring achievements effectively.



3

„Plastic in the sea“ was the topic of Eco gastro event organized on 29<sup>th</sup> October, 2024 in the City market in Pula (HR) by the Region of Istria, with participation of the project lead partner, Institute of Agriculture and Tourism Poreč, and partner Public Institution Natura Histrica. More than 100 fourth grade elementary school students from Pula attended the interactive lecture held by biologists from Aquarium Pula who explained them how plastic enters the sea, what types of plastic exist and how its presence in the sea threatens marine life. Also, they highlighted the important role of invertebrates in marine ecosystem and discussed the importance of consuming marine organisms with young participants. After the lecture, students tasted seafood meals prepared by professional chefs, tailored specifically for children.



4

ETRA participated in the 7th Monitoring Committee Meeting in Padua (IT) (17 December), where the project was presented and we discussed the possible problems related to its development and the opportunities that the project offers to the territories.



5

At the First International Congress on Sustainable Mediterranean Ecosystems hosted by the University of Split (HR), Dalka Zanki presented Wastereduce project and the results of waste monitoring conducted on Sakarun Beach, on Dugi Otok. The research revealed that plastic dominates the waste found on Sakarun Beach. Over two days of monitoring, a total of 795 pieces of waste were collected. This highlights the urgency for action—we must act swiftly to protect the Adriatic.



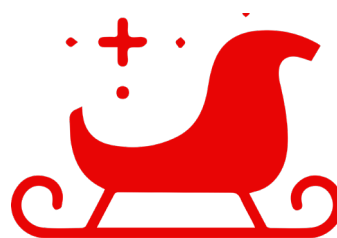
LP IPTPO presented WASTEREDUCE project at a scientific-professional Conference “Climatic changes and preserving of Adriatic Sea ecosystems” with international participation, held in Zadar (HR), from 26<sup>th</sup> to 29<sup>th</sup> September, 2024. The Scientific conference was very fruitfull, ended with respective conclusions from the discussion on the whole climate change issue.



Barbara Sladonja, the PM of WASTEREDUCE participated in the International Ocean Institute Training Programme on regional ocean governance for the Mediterranean, Black, Baltic and Caspian Seas, in Malta. The workshop was held on 28th November 2024, and was very successful. The brought topic of waste management in protected and Natura 2000 areas stimulated an interesting and creative discussion.



LP IPTPO has participated in the CapyCon event – the Convention on Quality Leisure Time, held in Poreč (HR) on 26th October 2024. IPTPO team presented the WASTEREDUCE project and engaged the citizens on waste issue in protected areas and Natura 2000 sites, exploring ways how could they contribute on this topic.



## ANNOUNCEMENTS

On 30 January 2025 at Villa Contarini, in Piazzola sul Brenta, Padova (IT) there will be the next appointment with the WASTEREDUCE project, with stakeholders and project partners who will discuss in a workshop how to implement the waste reduction strategy in Natura 2000 river areas

The Region of Istria and IPTPO (HR) are planning a joint workshop on the specific objectives of the WASTEREDUCE project and the dissemination of the results of the 1st work package. The workshop will be held in January 2025.

On January 14th will take place the 2nd Wastereduce Partner meeting and the press conference related to the first year of the project.

# PROJECT IN NUMBERS

67  
education  
activities

39  
media  
appearances

24  
meetings

256  
SM followers

4847  
SM reach

80  
stakeholders

3  
Newsletters

9  
3<sup>rd</sup> party events

No1  
The first Italian-Croatian Interreg  
project focused on improving waste  
management in protected and Natura  
2000 areas by implementing a holistic  
landscape approach

179  
surveys