

D3.2.1 - EDUCATIONAL PROGRAM FOR HIGH SCHOOL STUDENTS & TEACHERS AND UNIVERSITY STUDENTS IN ITALY AND CROATIA

WP3 – Activity 3.2 - Correct Management of Plastic Wastes

Partner in Charge: Udruga za prirodu, okoliš i održivi razvoj Sunce

Partners involved: All

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SUMMARY

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1 INTRODUCTION

Marine litter is recognized as a global issue threatening coastal and marine ecosystems around the world. Fishing activities represent a potential source of marine litter releasing various forms of debris, directly or indirectly, into the sea but can also be a potential resource for reducing litter both through their ordinary activities and specifically targeted initiatives such as 'Fishing for Litter'. The Northern-Central Adriatic Sea, due to its partially enclosed nature, to the presence of numerous rivers, and to the abundance of fishing ports along its coasts, is particularly vulnerable to marine litter, of which it is considered a hotspot. The educational program - 4R – Clean seas through Removal, Reduction, Reuse and Recycling of marine litter- will be conducted as a part of the project FishNoWaste Interreg Italy - Croatia. The program is based on participative learning methods and Service-Learning, and it includes education and raising awareness to the topic of port waste management, reduction, reuse and recycling, marine litter in general, Fishing for litter and marine litter monitoring. Also, this education program will give students knowledge about research related to plastic and other identified opportunities for raising student's new knowledge and skills. The program is conceptualized in a way that students can develop skills such as teamwork, creativity and innovation, adaptability, problem-solving, time management, communication skills, the ability to lead and develop responsibility and skills in writing and oral expression. The program also predicts methods of evaluation of gained knowledge and skills, contribution to personal development by the youth, but also the level of satisfaction with participation of all involved.

The FishNoWaste project aims to develop a synergistic strategy for comprehensive collection of litter generated in fishing ports and/or collected by fishing vessels. By collecting data on the types, composition, and quantities of both waste produced in fishing ports and marine litter (with a special emphasis on plastic), the intention is to improve protocols for the management of these type of waste. That includes reusing and recycling through the development and implementation of best practices and innovative techniques and materials, involving key stakeholders associated with fishing, including the fishers themselves.

The overall objective of the project is to contribute to the creation of a greener and more resilient environment in the Adriatic ecosystem shared by Croatia and Italy.

Specific goals are:

1. collecting data on current practices and ports waste management issues in fishing ports, as well as the quantity and type of marine litter, and defining possible common strategies for reducing such waste;
2. designing, testing, and developing shared waste management models for implementation in fishing ports in Croatia and Italy so that waste related to fishing activities (especially plastic) can be reused, recycled, and reduced;
3. raising awareness among stakeholders (fishers, fishing organizations, fish markets, ports, local and national authorities, and the public) about issues related to waste reduction, reusing of the materials, and recycling in fishing ports;
4. developing a common policy and recommendations for waste management in fishing ports based on the concept of circular economy.



Project activities:

- identification of state of the art and issues, and definition of effective models of waste management in fishing ports in Croatia and Italy;
- design, test, and development of shared waste management models and pilot implementation in two Croatian and two Italian ports;
- education and awareness-raising on waste management, reduction, reuse, and recycling;
- developing shared policy and management of marine litter recommendations.

Expected project results:

1. designing, proposing, and testing new waste management solutions related to fishing ports and fishing activities, as well as improving the existing ones;
2. designing, testing, and proposing joint interregional strategies and action plans for reducing port waste and marine litter related to fishing in the northern and central parts of the Adriatic Sea and their improvement based on the results of the implementation of these solutions;
3. designing and implementing a joint education program in four fishing ports where fishers will be informed about environmental protection issues and practices in fishing;
4. implementing a joint education program in Croatian and Italian secondary schools and universities.

Lead partner: University of Padova

Project partners: Association for Nature, Environment and Sustainable Development Sunce, Split's Institute of oceanography and fisheries, PUBLIC INSTITUTION RERA S.D. FOR COORDINATION AND DEVELOPMENT OF SPLIT DALMATIA COUNTY, Port Authority Split, Cooperative M.A.R.E. S. c. a r.l., Company for Public Services in Chioggia S.p.A., Workers of the Sea Cooperative

Project duration: 30 months (from February 1, 2024, to July 31, 2026)

Total Project budget: 2.407.914,74 EUR

2 PROGRAMME STRUCTURE

The program consists of 5 workshops for university and high school students. The second workshop is planned in the form of fieldwork.

Target groups of the project are those students who have already shown an interest in ecological topics during their studies or those students who have been involved in the ecological activities.

The workshops are educational and are led under the guidance of educators. The number of high school students and university students involved per workshop is around 10-15, and it's planned to be held in 3 schools and 2 universities.



| Plan of the Educational program - FishNoWaste | | |
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| Ordinal number | The topic of the workshop | Number of hours |
| 1. | Introductory workshop | 4 |
| 2. | Field workshop | All day |
| 3. | Creating of student's mini project | 4 |
| 4. | Creating of a communication campaign | 4 |
| 5. | Evaluation: And how was it? | 2 |

3 MATERIALS

The education program takes place at school as well as at university for all workshops, except for the 2. which will be a field workshop.

All materials necessary for the implementation of the program should be provided by facilitator of activities.

4 EDUCATIONAL WORK

4.1 *Introductory workshop*

Target group: identified high school/university students, teachers/professors, supervision

Location: in the school, in the classroom

Duration of the workshop: 4 hours

Required materials: PowerPoint presentation about Sunce, PowerPoint presentation about the Interreg project Italy-Croatia FishNoWaste and about the educational program, PowerPoint presentation about waste reduction, reuse and recycling principles, correct management of plastic wastes, circular economy, marine litter, fishing for litter

Workshop facilitators: educators from Italian/Croatian partners

Workshop goal: introduce students with project activities, familiarize participating students with the issue of fishing ports waste (fishing gears, fish boxes, batteries, exhausted oils etc.), marine litter and methods of monitoring and fishing for litter

Workshop outcomes:

Participants will be able to:

- reproduce basic information about the issue of fishing ports waste
- reproduce basic information about the issue of marine litter
- implement monitoring of marine litter
- identify the most common items found on beaches and in the sea



| Stages, duration and contents of the workshop | Teaching forms, methods and methodical procedures |
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| <p>1. INTRODUCTION</p> <p>The facilitator (workshop leader) briefly introduces themselves to all participants, expresses the hope for good cooperation and then proceeds to conduct a participatory activity, namely interviewing partners with the aim of acquainting all participants.</p> <p>1.1. Activity of interviewing partners</p> <p>If the participants within the group are not acquainted, getting to know everyone involved in the educational program is done through the activity of interviewing partners.</p> <p>To conduct the partner interview activity, the workshop leader divides the group into pairs. If the number of participants is odd, one three-member group is allowed. All participants take part in this activity, including the leader. The leader strives to pair students who are less familiar with each other to achieve better introduction results. The leader shares paper with questions before the start of the exercise, and the pairs ask each other these questions, recording their partner's responses. The leader also mentions the available time (5 – 10 minutes). After the interviews, everyone gathers for a group discussion where the workshop leader provides instructions on how each participant will now introduce their partner. In doing so, they emphasize that it is not necessary to present the entire interview content, but only what seems important and what other participants should know. The allotted time for the introduction is 2 minutes per pair.</p> <p>1.2. Lecture about the project and project activities</p> <p>Facilitator announces that the educator will briefly describe the role and work of the Association with the help of a <i>PowerPoint</i> presentation. Also, facilitator presents the educational program and what awaits them during the FishNoWaste project, says more about the roles of everyone involved, the duration of the program and the planned methods of work.</p> <p>2. MIDDLE PART</p> <p>2.1. Lecture about the marine litter waste reduction, reuse and recycling principles and correct management of plastic wastes” and “circular economy”</p> <p>a. Before the start of the oral presentation, the workshop leader displays preselected images on the screen, enlarged in a way that they cannot be immediately recognized. Students need to try to discern which image is being</p> | <p>Frontal work method of oral presentation</p> <p>Work in pairs interviewing method</p> <p>method of oral presentation</p> <p>Demonstration method and method of knowing through the sense of sight</p> |



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| <p>presented (the images are related to the theme of marine litter and plastic waste).</p> <p>b. At the end of the exercise, the workshop leader asks the participants questions:</p> <ul style="list-style-type: none"> – What are the most common types of waste produced in a fishing port? – Best practices for the reuse and recycling of fishing gears and fish boxes? – Where do they think marine litter comes from? – What are the most common types of objects that we find in the sea? – What are the challenges due to the increasing presence of marine litter in the sea? <p>c. With the help of a <i>PowerPoint</i> presentation, the educator of Sunce introduces the students to the topics related to “waste reduction, reuse and recycling principles and correct management of plastic wastes (fish boxes and fishing gears)”, “circular economy”, and of marine litter. Students will learn the principles of waste management and the challenges that arise. The presentation will also provide an insight into current waste management systems, legal frameworks and principles of the circular economy that is being pursued. The emphasis will be on plastic waste and marine litter. Through the lecture, students will define the sources of marine litter, where it comes from, the challenges it presents, the most common categories and ways of monitoring it</p> | <p>conversation method</p> <p>method of oral presentation</p> |
| <p>2.2. Lecture about fishing for litter</p> <p>a. With the help of a <i>PowerPoint</i> presentation, the educator of Sunce introduces the students to the topic of fishing for litter, with strategy for collection of litter generated in coastal fishing, monitoring and depositing in fishing ports</p> <p>b. At the end of the lecture, quiz about the time of disintegration in the sea of individual items will be sent to students through <i>Kahoot</i> program. Student's task will be to match the object with the year it takes for it to decompose in the sea.</p> | <p>method of oral presentation</p> <p>game method</p> |
| <p>3. FINAL PART</p> <p>At the very end of the workshop, the leader conducts a workshop reflection with the students, in which they will detect what they did well and what could have been different.</p> | <p>method of oral presentation and conversation method</p> |



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| After the reflection, the leader gives the students the task for the field workshop, and we make an agreement for the next workshop. | |
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4.2 Field workshop

Target group: identified high school group of 10-15 students/identified university student group of 10-15 students, and teachers/professors

Location: local community (Italy, Croatia), Fishing ports (from project application)

Duration of the workshop: all day

Required materials: Mobile phone/camera, gloves, bags, scale, monitoring sheets and pens

Workshop leaders: educators from Italian/Croatian partners

Workshop goal: greater involvement of young people in the local community and application of theoretical knowledge from the previous introductory workshop

Workshop outcomes:

Participants will be able to:

- know the functioning of fishing ports and fish markets and the type of waste produced
- recognize fishing gears and tools, trawlers mode of operating and ways of collecting marine litter on the spot
- recognize different types of waste with different origin, depending on whether it comes from land or sea
- independently use equipment and procedures for monitoring of marine litter

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| Content of the workshop |
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| <p>This field workshop includes one-day trip to the fishing port, fishery cooperative and fishing vessel as a practical way to getting to know with the vessel, gear and the challenges that fishers face in their business Fishing for litter. The workshop consists of:</p> |
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1. Verbal presentation of fisher

Sightseeing of the boats with rules of conduct on board led by the fisher, getting to know fishing tools and trawls used for fishing, as well as for fishing for litter. Discussion about challenges and threats both for fisher's and marine life.

2. Verbal presentation of fishery cooperative and fish market -

Visiting fishery cooperative and fish market to learn about their work and goals through a brief presentation, and management of port waste and fish market waste (fishing gears, fish boxes, batteries, exhausted oils etc.)

3. Cleaning action and monitoring of collected marine litter -

Students and educator need to choose one nearby beach location for conduction of the cleaning action. Materials that are necessary are: gloves, bags, scale, monitoring sheets and pens. Monitoring sheets will be provided by the Association for Nature, Environment and Sustainable Development Sunce, which can be filled during or after collecting waste from the beach, by separating different items from beach, and counting them. Also, all waste should be weighted with the help of scale and written in the monitoring sheets.



Photo and video task:

A list of 10 tasks to find is given to the students (for example take a picture of an object that fish can eat, take a picture for the cover of an environmental magazine etc.). After all the students have sent their photo works, the workshop leader from Sunce and teachers/professors, in agreement with the students, select those images that will be used for the further communication campaign.

In the smaller groups, it is necessary to record and edit a short video (up to 1 min) that will show their cleaning action and that will be used to promote the project on social networks.

4.3 Workshop „Creating of students mini project “

Target group: identified high school/university students, teachers/professors supervision

Location: school/university

Duration of the workshop: 4 hours

Required materials: markers, poster or flipchart papers

Workshop leader: educators from Italian/Croatian partners

Workshop goal: plan out student’s mini project

Workshop outcomes:

Participants will be able to:

- prepare the implementation of activities based on the agreed plan
- implement and organize mini project
- recognize the contribution of their mini project to the community
- implement and develop existing collaborative and teamwork skills

| Stages, duration and contents of the workshop | Teaching forms, methods and methodical procedures |
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| <p>1. INTRODUCTION</p> <p>1.1. refreshing the necessary knowledge At the beginning of the workshop, the leader greets all the participants and reminds the students of all the challenges they dealt with in the previous workshops.</p> <p>1.2. Kim's game Kim's game is a game or exercise played by Scouts, the military, and other groups, in which a selection of objects must be memorised. The game develops a person's capacity to observe and remember details. The name is derived from Rudyard Kipling's 1901 novel Kim, in which the protagonist plays the game during his training as a spy. A picture of objects related to marine litter will be given to the students and they will have 30 seconds to memorize them. After 30 seconds, the workshop leader will ask the students to count all the memorized items.</p> | <p>Frontal work, conversation method and heuristically</p> <p>Game method and method of the demonstration</p> |



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| <p>2. MIDDLE PART</p> <p>2.1. Brainstorming about awareness of the participants about marine litter problem</p> <p>With the help of flipcharts, or classroom board, the workshop leader asks the following questions:</p> <ul style="list-style-type: none"> – What challenges related to marine litter arise in your local community? – What challenges related to fishing ports and fish markets waste arise in your local community? – What are the needs of your local community in order to prevent marine litter? – What can we do and how can we improve our act to prevent the problem of marine litter? – What can a fishing cooperative or a fish market do and how can they improve their act to prevent the problem of ports waste? <p>Students write down their answers. The presenter reads the answers and makes a conclusion for each question.</p> <p>2.2. Work in groups</p> <p>The leader of the workshop explains to the students that they will be divided into mixed groups and assigns them the task of coming up with a joint action they will perform after the 5. workshop of this educational program in their local community or for the others school students and university students.</p> <p>2.3. Project selection</p> <p>After the group work, the leader calls each group to present their ideas. While the students are presenting, a survey questionnaire is created on board/flipchart paper, and students must vote for the idea they consider is the best of all to be their new mini project, that they would be able to carry out.</p> <p>3. FINAL PART</p> <p>In the final part, participants synthesize everything at the workshop and prepares themselves for the next workshop when they will have to create a communication campaign for their actions. Also, the leader negotiates with the students the ways of further communication and agreements for the organization of mini project in their school and university. .</p> <p>At the end of the workshop, the leader thanks everyone for their cooperation and greeting the participants.</p> | <p>Method of answering questions</p> <p>Group work and problem solving Dialogical method</p> <p>Frontal work and conversation method</p> |
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4.4 Workshop „Creating of a communication campaign “

Target group: identified high school/university students, teachers/professors, supervision

Location: school/university

Duration of the workshop: 4 hours

Required materials: PowerPoint presentation, laptop

Workshop goal: create a communication campaign

Workshop outcomes:

Participants will be able to:

- create a communication campaign for marine litter topic

| Stages, duration and contents of the workshop | Teaching forms, methods and methodical procedures |
|---|--|
| <p>1. INTRODUCTION</p> <p>1.1. Welcoming participants and presenting what awaits them at the workshop.</p> <p>2. MIDDLE PART</p> <p>2.1. <i>PowerPoint</i> presentation about methods of communication and design of campaigns. Through a presentation and practical work, the communication competent person of Sunce presents to the students how the campaign is implemented and how it is created. What are the tools of a successful campaign.</p> <p>2.2. Work in groups 1 The workshop leader separates the students into 4 mixed groups and gives each group a different task: defining the key stakeholders towards whom the campaign will go, determining which questions each publication must answer/key information, i.e. the messages we have to and want to spread to the public, the amount and the type of posts, the channels we will use and the slogan of the campaign. After the group work, the students present their ideas and answers, and the workshop leader group them in one place by category.</p> <p>2.3. Work in groups 2 The students are divided into 2 groups to specify and name the key stakeholders and channels for local community. After group work, students are given time to set the dates among themselves and thus the blackboards of their activities, depending on where the practical work is being carried out.</p> | <p>Frontal work and conversation method</p> <p>Method of the demonstration and oral presentation</p> <p>Group work and problem solving</p> <p>Frontal work and conversation method</p> <p>Group work and problem solving</p> |



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| <p>– <i>Do you have any ideas for improvement?</i></p> <p>The leader instructs the participants to write down their wishes, criticisms, etc. on the note slips. While the participants are filling out the note slip, the leader hangs a rope in front of the board. After everyone has filled in the slips, one by one they go in front of the board and hang the slip on the stretched rope. The results are discussed, and they can be publicly displayed, possibly with a photo of the student, with the aim of further promotion and inclusion of new students.</p> <p>3. FINAL PART</p> <p>In the final part, the leader talks with the participants about the organization of the final celebration and the possible wishes of the participants. If possible, the leader tries to accomplish their wishes. Once again, the leader of the workshop thanks all the participants for their engagement into the project.</p> | <p>Conversational/discussive method</p> <p>Frontal work Conversational/discussive method</p> |
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