Blue Deal - Towards a Bluer Ocean

DA2 – Research on Ocean Protection Practices

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Executive Summary

DA2: Research on Ocean Protection Practices presents the results from the research activity conducted in the context of the EU funded project Blue Deal with a purpose of identifying good practices from the field of ocean protection and conservation. In particular, 60 practices deriving from initiatives implemented mainly at a European level from different actors are described in detail, providing the viewer with concrete information to understand innovative approaches, successful strategies, and lessons learned in the realm of ocean protection. These findings not only showcase the diversity of efforts aimed at safeguarding our oceans but also serve as a valuable resource for youth NGOs, young people, policymakers, environmentalists, and stakeholders seeking actionable insights to enhance and replicate effective practices within the youth sector.

Table of contents:

List of Figures

1 Introduction

Blue Deal is a project that focuses on strengthening the exchange of best practices between organisations involved in protecting the oceans and the environment. The fundamental aim of this project is to encourage collaboration and exchange of experience between different entities in order to take concrete action to protect the oceans from climate change, pollution and human activities. To this respect, the project aspires to provide an enabling environment for young people and youth workers to design and implement initiatives to contribute to environmental protection by raising awareness of marine pollution, encouraging them to become active agents of change and actively participate in efforts to protect the oceans.

An overview of the objective is provided in Figure 1.

Figure 1 Blue Deal Objectives

2 Consortium

Figure 2: Active Zone Outdoor

Active Zone Outdoor, a Cyprus based NGO, envisions a world where all young people have good mental health and wellbeing and are active citizens. Good levels of mental health and wellbeing enables young people to live their life in a positive and meaningful way and cope better with changes and challenges. Active Zone Outdoor's mission is to connect young people with opportunities to develop better mental health through sports and outdoor activities and be actively engaged in society achieving personal fulfilment. During the last two years, Active Zone Outdoor has planned and organised: a number of sports and outdoor activities in order to promote not popular sports such as kayaking, stand-up paddle, rock climbing, beach tennis, hiking, diving, geocaching etc.; environmental activities such as tree planting, beach clean-up, snorkelling and sea clean-up and Erasmus+ Youth Participation, Youth Exchanges, Training Courses, ESC Volunteering and Solidarity projects and National Youth Initiatives Projects.

Mare Nostrum is a team of dedicated people with initiative and a burning desire to change the world for the better by conserving biodiversity and saving the Black Sea marine ecosystem. The aim of this Romanian organization was to create an environmental organization in Constanta that would fight to change the mentalities and common practices of the local community.

Figure 3: MareNostrum

Each project implemented corresponds to clear strategic directions and carefully defined objectives:

- Education for sustainable development;
- Conservation of marine and coastal biodiversity and management of natural resources;
- Influencing public policy on urban management.

Mare Nostrum's mission is to empower the community by changing mentalities to increase respect for environment and implementing solutions that ensure the conservation of the Romanian coastal zone and Black Sea resources.

3 Motivation for the search – problems facing the ocean

Our oceans stand as expansive reservoirs of natural wealth, providing sustenance for a diverse array of organisms, ranging from singular life forms to intricately complex ecosystems. They play a pivotal role in climate stabilization and offer a myriad of employment opportunities. The coastal regions act as protective buffers, shielding us from the brunt of severe weather conditions. Economic activities such as tourism and fishing, centred around these coastal havens, contribute significantly to our economic vitality.

However, the intricate balance of coastal and open water ecosystems, coupled with the influence of socio-economic factors, is under threat due to unsustainable practices. This has manifested in alarming consequences, including the accumulation of marine litter along pristine beaches, erosion of sea beds, a decline in biodiversity, and the unsettling phenomenon of ocean warming. Moreover, pollution is exacerbating the strain on both marine and coastal environments, posing a substantial challenge to the delicate equilibrium that sustains these vital ecosystems.

Some of the key problems facing the oceans include:

1. **Marine Pollution:** Pollution poses a severe threat to ocean health. Plastics, oil spills, chemical pollutants, and other forms of waste degrade water quality, harm marine life, and contribute to the formation of dead zones. Controlling and reducing pollution through proper waste disposal, recycling, and regulatory measures is essential.
2. **Climate Change:** The oceans play a critical role in regulating the Earth's climate, but they are also significantly impacted by climate change. Rising sea levels, ocean acidification, and changes in temperature patterns can have detrimental effects on marine life, including coral reefs, and contribute to extreme weather events.
3. **Loss of Biodiversity:** Human activities, such as habitat destruction, overfishing, and climate change, contribute to the loss of marine biodiversity. The decline of certain species and the alteration of ecosystems can have cascading effects on the entire marine environment.

4. **Destruction of Marine Habitats:** Coastal development, destructive fishing practices, and other human activities lead to the destruction of critical marine habitats such as coral reefs, mangroves, and seagrasses. Protecting and restoring these habitats is essential for preserving marine biodiversity.
5. **Ocean Acidification:** The absorption of excess carbon dioxide by the oceans leads to ocean acidification, which can have harmful effects on marine life, particularly organisms with calcium carbonate shells or skeletons, such as corals and molluscs.

3.1 Methodology

In the context of Activity 2: Research on Ocean Protection Practices, the consortium conducted European based research with a purpose to identify good practices on ocean protection and conservation deriving from activities implemented across EU countries. To achieve this task, desktop research was implemented exploiting articles and publications in various environmental journals and credible newspapers along with EU (co)funded projects and initiatives, exploring promising practices which promote the protection of the oceans with the participation of different stakeholders and target groups with emphasis given on young people (e.g. researchers, young people, schools). Further, the study explored how sea and beach sports activities are used as vehicles to facilitate the promotion of ocean literacy and ocean protection among young people. All data collected through Activity 2 will be considered in the development of the Booklet of Good Practices for a Bluer Ocean after being enriched with outcomes deriving from Activity 3: Collaborative dialogues towards ocean protection.

Desk research is an essential tool in the planning and preparation phase of the project providing a solid basis for informed decision-making. For this activity, a few key aspects of desk research where chosen:

- Defining “good practices”: In the context of ocean protection and conservation, the term “good practice” involved actions or measures that have proven, at some degree, to be effective in safeguarding among others marine ecosystems, promoting sustainable resource management, mitigating negative impacts on the ocean environment, promoting ocean literacy among students. An additional criterion established by the consortium was to focus on the identification and selection of practices which are either related to the field of youth or can be replicated by youth without excluding good examples from the field of technology and industry;
- Sharing the tasks about the research between partners, search split by region: Atlantic Ocean, Baltic Sea, Nordic Sea, Mediterranean Sea, Black Sea;
- Identifying appropriate sources of information;
- Establishing a set of key words and phrases to retrieve relevant information on successful initiatives and practices: ocean protection practices; ocean literacy practices; blue growth; sea plastic pollution; Marine Protected Areas; ocean education; good practices in the blue sector; non-formal education in ocean literacy.
- Collecting relevant data according to the chosen objectives;
- Creating a common database: reporting on identified practices to avoid duplication of work;
- Analysing and synthesising the collected data following a common template (Figure 4)

Name of the Practice: Provide a concise and descriptive title for the practice

Initiator of the Practice: Provide the name of the entity responsible for the development of the practice

Type of initiator: NGO, public authority, university, private company, other

Description of the Practice: Provide a brief overview of the practice, including its objectives and the specific issue it addresses

Implementation Context: Describe the geographic location where the practice was implemented

Key Stakeholders: Identify the key stakeholders involved in implementing the practice, such as government agencies, NGOs, local communities, and businesses

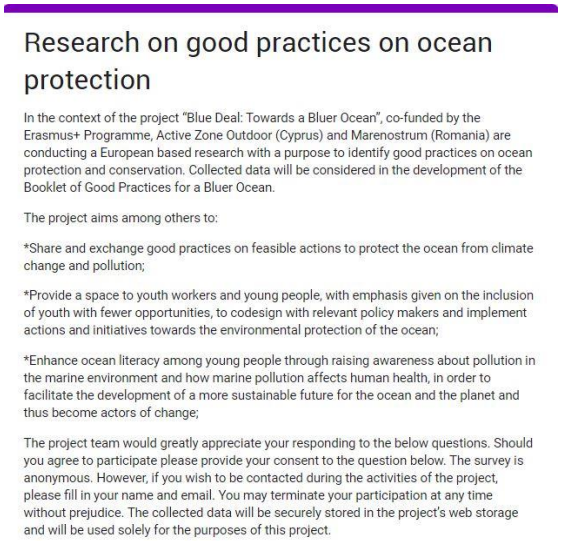
Results and Impact: Highlight any positive outcomes achieved

Pictures: Attach photos of the practice citing the source

Source: Provide the source of the practice or the general communication channel of the organization responsible for the practice

Figure 4 Template for Good Practices

Furthermore, an online survey was designed and circulated among identified stakeholders at a local and European level (e.g. environmental NGOs, youth NGOs, sport clubs, policy makers) in order to enrich the desk research with information not initially identified (Figure 3).



Research on good practices on ocean protection

In the context of the project "Blue Deal: Towards a Bluer Ocean", co-funded by the Erasmus+ Programme, Active Zone Outdoor (Cyprus) and Marenostrum (Romania) are conducting a European based research with a purpose to identify good practices on ocean protection and conservation. Collected data will be considered in the development of the Booklet of Good Practices for a Bluer Ocean.

The project aims among others to:

*Share and exchange good practices on feasible actions to protect the ocean from climate change and pollution;

*Provide a space to youth workers and young people, with emphasis given on the inclusion of youth with fewer opportunities, to codesign with relevant policy makers and implement actions and initiatives towards the environmental protection of the ocean;

*Enhance ocean literacy among young people through raising awareness about pollution in the marine environment and how marine pollution affects human health, in order to facilitate the development of a more sustainable future for the ocean and the planet and thus become actors of change;

The project team would greatly appreciate your responding to the below questions. Should you agree to participate please provide your consent to the question below. The survey is anonymous. However, if you wish to be contacted during the activities of the project, please fill in your name and email. You may terminate your participation at any time without prejudice. The collected data will be securely stored in the project's web storage and will be used solely for the purposes of this project.

Figure 5 Online survey

The steps used in conducting the survey were:

- Defining objectives: clearly define the objectives of the survey;
- Questionnaire design: create a set of structured and relevant questions to obtain specific answers to the research objectives;
- Determining the sample: create an extensive list of potential and relevant stakeholders who could recipients of the online survey to provide relevant information;
- Survey implementation: actual survey implementation and data collection;
- Analysis of the results: interpretation of the data obtained and drawing conclusions relevant to the project.

3.2Limitations

Desk research is an essential method for obtaining information, but also brings with it certain limitations that can influence the quality and accuracy of the results. Within this approach, the study draws on existing sources as documents, publications and online resources, but the challenges encountered during the process are the lack of good practice information on the challenges faced and the results of the practices.

One of the main challenges has been the lack of conclusive results in some areas, due to insufficient data and inconsistencies in the information collected. This has required a more critical and in-depth approach in assessing existing practices and also the creation of an online survey to obtain more information needed for our work. We also encountered difficulties in identifying relevant information that would provide concrete examples regarding the implementation of these practices and highlight the results obtained. In addition, we found that one of the major obstacles was the presentation of the challenges that local communities and authorities face in implementing these best practices. These difficulties highlighted the importance of a comprehensive approach and international cooperation to overcome these obstacles and develop sustainable strategies to protect the ocean.

4 Good practices

Practice 1: Art Campus

Initiator of the Practice: Surfrider Foundation

Type of initiator: Non-profit organisation (NGO)

Description of the Practice: The Art Campus spearheads initiatives center art as the core connector between humans and the environment. It operates as a genuine hub of educational innovation, always exploring novel methods to make environmental consciousness engaging and long-lasting. Year-round, exhibitions and artist residencies provide unique perspectives on our bond with nature. By presenting audiences with fresh perspectives and thoughtful ways to engage with the environment, Art Campus consistently positions art as both a catalyst and conduit for behavioural change. With its limitless scope, art serves as an impactful instrument for raising awareness. The Art Campus serves as a genuine intersection between two realms, frequently hosting artist-led workshops that foster ecological consciousness through the developing of creativity.

Implementation Context: Biarritz, France, Atlantic Ocean

Key Stakeholders: Local authorities

Results and Impact: 42 exhibitions have been organised in 10 years where Art Campus celebrates art in its myriad expressions. Whether it is visual or performative, art is harnessed in support of the environmental mission. The essence of Art Campus lies in drawing inspiration from the diverse tapestry of the arts to in turn inspire a communal environmental consciousness. By evoking emotions and occasionally delivering a profound visual and emotional impact over 15000 people were reached. Art prompts individuals to contemplate the effects of their daily habits on the environment. Art simplifies the comprehension of conveyed messages and serves as a potent medium to support learning.

Figure 6 Art Campus, Credit: Surfrider Foundation

Every exhibition is crafted to encompass one or more engagement activities (such as workshops, conferences, and artistic residencies) that employ engaging educational methods to make intricate scientific information approachable for the audience. In total 23 workshops and conferences were held.

Source: https://www.surfrider.eu/

Practice 2: ALIMAR – Marine Waste Action!

Initiator of the Practice: Centro Ciência Viva de Tavira

Type of initiator: Non-profit association

Description of the Practice: ALIMAR – Marine Waste Action aims to promote greater awareness among the general public and schools, regarding the problems and impact of garbage in the Ocean, in particular plastic, through citizen science actions and environmental civics.

Through the establishment of a National Network for monitoring and collecting Marine Litter, as well as implementing citizen science actions, educational activities and community involvement, the aim is to raise awareness of the conservation of the marine environment and encourage responsible consumption habits.

Implementation Context: Nationwide, Portugal, Atlantic Ocean

Key Stakeholders: National authorities, public schools

Results and Impact: Through 42 well organized monitoring campaigns, the project has managed to gather around 800kg of garbage, emphasizing the staggering presence of waste within our oceans. Within this collection, a troubling number of 8800 plastic items were discovered, underlining the pervasive issue of plastic pollution within marine ecosystems. These endeavours have seen the active participation of 9262 individuals, indicating a growing public awareness and involvement in marine conservation efforts.

Figure 7 Alimar, Credit: Centro Ciência Viva de Tavira

Collaboration and multifaceted engagement have been the cornerstones of the ALIMAR project, with 45 different entities contributing their expertise and resources to amplify the impact of the project. Alongside the main initiatives, 376 other diverse activities were conducted, broadening the scope and reach of the project's objectives. By fostering an understanding and concern among the community, the ALIMAR project is not only mitigating the existing issues but is also sowing seeds for sustainable practices and responsible behavior towards marine ecosystems in the future.

Challenges Faced: Implementing projects like ALIMAR, which are multidimensional, might face a myriad of challenges.

- **Resource Limitations:** Securing adequate funding and resources is pivotal, and a shortage can hamper the project's scale and efficacy. The availability of proper tools and equipment to carry out the cleaning and monitoring campaigns efficiently is crucial.
- **Stakeholder Engagement:** Securing sustained engagement and collaboration from all stakeholders, including local communities and schools might be challenging. A lack of commitment from any entity can hinder the progress and impact of the project.

- **Data Management:** Given the emphasis on citizen science, managing, verifying, and analysing the substantial volume of data collected can be daunting. The accuracy and reliability of the data are crucial for informing future strategies and actions.
- **Public Awareness and Participation:** Engendering widespread awareness and inducing behavioural change among the general populace and specific demographic groups is often challenging, given the varying levels of environmental consciousness and willingness to participate.
- **Policy and Regulatory Hurdles:** Navigating through the existing regulatory frameworks and policies can pose challenges, especially when trying to implement new conservation strategies or when coordinating with multiple entities and jurisdictions.

Figure 8 ALIMAR: Credit: Centro Ciência Viva de Tavira

- **Weather and Environmental Conditions:** The unpredictability of weather and sea conditions can impede planned activities, such as monitoring campaigns and cleanup drives, affecting the overall timeline and effectiveness of the project.
- **Logistical Challenges:** Organizing and executing numerous activities, particularly in remote or hard-to-reach locations, requires meticulous planning and can encounter unforeseen logistical impediments, impacting the overall implementation of the project.

Contact information: https://allatlanticocean.org/initiatives/acao-lixo-marinho/

Practice 3: The Plastic Road

Initiator of the Practice: 4P SCIENSEAS

Type of initiator: Scientific Non-profit organisation (NGO)

Description of the Practice: The Plastic Routes represent dedicated surveys along coastal zones, conducted semi-independently, where participants pull eco-designed, low-tech carts through physical motive power. The objectives of the Plastic Routes are multifaceted:

- Contribution to Scientific Inquiry: It aims to contribute to actual studies on the prevalence and impacts of macro and micro plastics in coastal zones. Specifically, it targets regions that are understudied due to accessibility constraints, thereby filling pivotal gaps in scientific knowledge related to marine plastic contamination.
- Raise awareness among coastal communities: It aspires to raise awareness among coastal population regarding anthropogenic pollution. By imparting educational resources and tools, it encourages the adoption of more sustainable lifestyles and consumption patterns, aligning with global strategies to mitigate environmental problems.

Figure 9: The Plastic Road, Credit: 4P SCIENSEAS

- Quantify, characterize and collect waste present on beaches: It seeks to quantify, characterize, and systematically remove waste located on shores, focusing predominantly on plastic debris.
- Stakeholder Integration for Collective Innovation: The project seeks to unite diverse stakeholders towards environmental conservation. This convergence aims to catalyse positive transformations through the synthesis of collective intellect and collaborative efforts.

Implementation Context: Coastal areas from Soulac-sur-Mer to Anglet, France, Atlantic Ocean

Key Stakeholders: Government agencies, local communities, educational institutions

Results and Impact: Projects of this nature typically result in significant quantities of waste being removed from the environment, thus contributing to the preservation of marine ecosystems and biodiversity. Additionally, by involving the community and various stakeholders, such projects rise environmental awareness and responsibility among the public and decision-makers, potentially leading to more sustainable behaviours and policies. The integration of scientific methodologies usually allows for meticulous data collection and analysis, providing valuable insights into the scale and nature of marine pollution and informing future conservation strategies and actions. This amalgamation of community

engagement, environmental stewardship, and scientific research potentially culminates in long-lasting positive changes, fostering resilience and sustainability within marine ecosystems.

Contact information: https://4pscienseas.org/

Figure 10 The Plastic Road, Credit: 4P SCIENSEAS

Practice 4: Cool Seas Explorers - Teach on the beach

Initiator of the Practice: Marine Conservation Society

Type of initiator: Non-profit organisation (NGO)

Description of the Practice: This activity engages students in exploring the variety of litter present on the beach. Working in teams, students will undertake a beach cleanup, during which they will survey and document the types of litter they encounter on a designated survey sheet, and gather the waste in black trash bags. The subsequent activity, to be carried out back at school, delves into prevailing topics and concerns related to marine conservation and the influences humans have on the environment.

- Treasure hunt: This activity allows students to investigate the local beach ecosystem, gain knowledge about some of the prevalent marine species they might encounter, and examine the assortment of items that are deposited on the shore.
- Tangled web: This activity introduces children to the role of turtles in the marine ecosystem and offers an enjoyable perspective into ecosystems and food webs. Each student in the class will symbolize a distinct element of the web and determine how they are interconnected with other elements. It will be essential for the teacher to assist students in clarifying the connections between several of the components.
- Limpet game: This engaging activity serves as an entertaining method to familiarize children with the interconnectedness between the life processes of animals and the habitats in which they reside. Through this game, children can gain insights into how each species is uniquely adapted to its environment and how it interacts within its ecosystem. They can learn about the intricate balance of ecosystems and how each organism, from the smallest invertebrate to the largest mammal, plays a critical role in maintaining ecological equilibrium. It's not only an educational tool but also a means to foster curiosity and a deeper appreciation for wildlife and their respective habitats, helping children to understand the importance of biodiversity and conservation from an early age.

Figure 11: Cool Seas Explorers, Credit: Dominik Pearce – Marine Conservation Society

How does echolocation work?: This exercise explores the concept of echolocation, a technique used by marine mammals like dolphins to navigate and locate objects in their environment. Participants will start by deliberating the potential challenges marine creatures might face in their underwater habitats. Subsequently, they will be acquainted with the concept of echolocation and will delve deeper into understanding its mechanics through an interactive, simplistic game. This approach aims to facilitate learning by providing a tangible experience of the complexities and innovations of marine animal behaviours and adaptations in a manner that is accessible and engaging for children.

Journey stick: In this exercise, students are encouraged to contemplate and introspect on the experiences they've accumulated throughout their day at the beach and transform those reflections into a visual log,

denominated as a ‘journey stick’. By amalgamating both natural and artificial elements gathered during the day, students will engage in an artistic journey to manifest their interactions with and observations of the natural environment. Subsequently, the ‘Journey Stick’ is designated to serve as a central point for imaginative composition and creative writing activities.

Implementation Context: Nationwide, U.K., Atlantic Ocean, North Sea

Key Stakeholders: Local communities, schools

Contact information: https://www.mcsuk.org/

Figure 12: Cool Seas Explorers , Credit: Billy Barraclough – Marine Conservation Society

Practice 5: Plogging week and litter art

Initiator of the Practice: Mare Nostrum

Type of initiator: Non-profit organisation (NGO)

Description of the Practice: Participating in aerobic activities such as jogging or walking along coastal areas, adjacent to riverbanks, or beside lakes within urban or suburban locales provides individuals with an opportunity to integrate physical well-being with environmental conservation. The act of traversing these diverse ecosystems is not merely for personal health, but also serves as a medium for ecological protection by facilitating the removal of anthropogenic waste encountered along the way. Engaging in such litter collection initiatives contributes to the reduction of environmental pollution within these natural habitats, providing a healthier ecosystem. This combination of physical activity and ecological mindfulness not only increase individual awareness regarding environmental sustainability but also propagates the notion of joint responsibility towards maintaining ecological balance and integrity within their respective localities. By routinely incorporating such environmentally conscious practices, communities can significantly mitigate the detrimental impacts of waste accumulation on local flora and fauna, thus contributing to broader conservation and preservation efforts. In a subsequent phase of the 'plogging' activity, participants are challenged to repurpose the collected waste materials into creative art projects. This transformative process is not only a test of innovative thinking but also serves as a tangible reminder of the extensive prevalence of litter in our natural environments. It reinforces the concept that materials typically perceived as waste can be reimagined into novel forms, adding value and reducing the environmental footprint.

Figure 13: Plogging week and litter art, Credit: Mare Nostrum

Implementation Context: Basin level, Black Sea

Key Stakeholders: Local schools, communities and authorities

Results and Impact: Several simultaneous plogging actions were organized around the Black Sea, a practice that combine jogging and litter collection, originating in Sweden. This initiative was spread within the Black Sea region, extending invitations to schools, local residents, and the general public to participate in these interventions either individually, in groups, or with friends, family, or colleagues, successfully engaging over 1500 participants.

This practice revealed plastic as the predominant type of litter, reflecting its universality in our daily lives and environments including beaches, streets, and parks. By directly confronting individuals with the tangible issue of marine litter, the initiative aimed to raise awareness and understanding of the implications of marine debris on marine ecosystems and subsequently, human life.

Participants were also encouraged to transform collected litter into art pieces, capturing and sharing their creations on social media platforms. These 'litter arts' serve as expressive mediums underlying critical messages, often illustrating the threats on marine fauna due to the pollution affecting their habitats.

The initiative also followed social media trends, encouraging youth participation through platforms like 'TikTok Festival' at the Black Sea, where participants demonstrated their unique engagement with marine conservation. These TikToks, accumulating over 17000 views, serve as influential tools, broadcasting the environmental protection messages to a wider audience, thus magnifying their impact.

Figure 14: Plogging week and litter art, Credit: Mare Nostrum

By leveraging social media to share visual narratives of plogging actions and litter art, the initiative strategically capitalized on the influential power of peer-driven messages. This method proved effective in accentuating the pressing need for marine conservation and respectful interaction with the sea, as messages disseminated by peers, friends, and fellow citizens tend to resonate more profoundly with the wider population, attending a collective sense of responsibility and action towards marine protection and conservation.

Contact information: https://www.marenostrum.ro/

Practice 6: Ocean Watchers

Initiator of the Practice: Nordic Ocean Watch Denmark

Type of initiator: Non-profit organisation (NGO)

Description of the Practice: The Nordic Ocean Watch Denmark believes that everyone can make a difference for our oceans. Therefore, they want to empower people to take action and create a community of Ocean Watchers that care for our marine environment - in Denmark and wherever the waves may take you. As an Ocean Watcher people can become an ocean ambassador for Nordic Ocean Watch Denmark. They also provide a platform where people can share their experiences, discuss environmental issues and connect with likeminded people all over Denmark. They also provide an "Ocean Watcher Cleanup Guide" and a "Trash Bingo" that people can use to make the activity more fun.

Implementation Context: North Sea, Denmark and anywhere else, if people want

Key Stakeholders: Local communities

Results and Impact: In 2022, according to the organisation's annual report, they managed to organise 8 cleanups with approximatively 100 volunteers participating. The total amount of waste collected was 129kg.

Figure 15: Ocean Watchers, Credit: Nordic Ocean Watch Denmark

Contact information: https://www.nordicoceanwatch.dk/

Practice 7: Children need nature

Initiator of the Practice: Suffok Wirdlife Trust

Type of initiator: Charitable organization

Description of the Practice: Inspiring interest in the natural world and getting children closer to nature is what Suffolk Wildlife Trust is all about - to make nature part of everyday life. They have 3 main ways that they work with schools:

- **Engagement Officer-led Visits –** Schools choose a full day session, with a normal day running from 10:00 – 14:30 including a break for your packed lunch.
- **Self-led Visits** – Groups can make use of the available facilities and resources. Breath taking nature reserves make learning come to life.
- **Wilder Schools** – The organization is working with a limited number of schools on longer-term projects to embed nature into the curriculum and improve the school grounds for children and wildlife!

Implementation Context: North Sea, Ipswich, United Kingdom

Key Stakeholders: Public schools

Figure 16: Children need nature, Credit: Suffok Wirdlife Trust

Contact information: https://www.suffolkwildlifetrust.org/schools

Practice 8: "Water unites us!"

Initiator of the Practice: 1st General Lyceum of Argostoli (Greece)

Type of initiator: School

Description of the Practice: The main point of the project was to conduct research into the similarities and differences among the participants' findings as far as the interaction between humans and the AQUE was concerned. Schools from six European countries (Croatia, Greece, Italy, Latvia, Portugal and Turkey) were involved in the project and focused on a variety of AQUE, e.g. seaside, lake, river, lagoon, waterfall and wetland and highlight their special features. They intended to exchange their experiences and ideas and create the space and conditions required for creativity, sharing the joy of spending time together. Furthermore, they wanted to raise intercultural competence by working together in international groups.

The project seeks to encourage the exchange of ideas, knowledge and customs with the interaction of students over creative activities such as practicing water sports, taking photos from the ecosystems, recording, filming and doing research work in the field and in the school laboratory.

Implementation Context: Participants countries Croatia, Greece, Italy, Latvia, Portugal, Türkiye (Black Sea, Mediterranean Sea, Baltic Sea)

Key Stakeholders: Public schools

Figure 17: Water unites us, Credit: 1st General Lyceum of Argostoli

Contact information: https://www.facebook.com/waterunitesus/

Practice 9: Plastic Pirates

Initiator of the Practice: The DLR Projektträger

Description of the Practice: The project is about plastic waste and how to get the waste out of the rivers and from the ocean to protect the environment. As a European Citizen Science campaign, Plastic Pirates – Go Europe! aims to strengthen scientific cooperation in Europe, promote Citizen Science engagement and society's participation in the European Research Area, while raising awareness for a conscious and careful approach to the environment. During Germany's EU Council Presidency in 2020, the campaign was expanded to the countries of the Trio-Presidency – Germany, Portugal, Slovenia - until 2021. Since January 2022, the campaign has been expanded to other EU member states with the support of the EU Commission.

Implementation Context: Europe (Austria, Belgium, Bulgaria, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Portugal, Slovenia, Spain)

Key Stakeholders: School-classes and youth groups

Results and Impact: Since the start of the Plastic Pirates in 2016, more than 15.000 children and young people have collected data on riverine pollution at more than 900 locations in all 16 German federal states. The majority of the data come from the Rhine and its tributaries, followed by the Danube, Elbe and Weser. However, smaller watercourses such as the Ems, Peene or Oder were also investigated by the plastic pirates.

Figure 18: Plastic Pirates, Credit: The DLR Projektträger

Contact information: https://www.plastic-pirates.eu/en

Practice 10: Blue schools –Portugal

Initiator of the Practice: Oceano Azul Foundation

Type of initiator: Foundation

Description of the Practice: In the pursuit of children's climate education in Portugal, the Oceano Azul Foundation endeavors to increase awareness among young individuals regarding ocean-related issues and their repercussions. The overarching objective is to equip future generations with the knowledge necessary to make informed decisions. Regardless of their chosen professions, these individuals will be poised to assume significant roles in addressing the impact of ocean issues as they mature into decision-makers.

Implementation Context: Portugal

Key Stakeholders: The programme envisages to bring ocean literacy to all children, resident in Portugal, with a special focus on the group between the ages 5 to 9 years old.

Results and Impact: The Foundation's perspective, initiating literacy efforts in Portugal serves as a strategic starting point. The intention is not limited to this geographical scope; rather, it aims to facilitate the replication of similar initiatives in other nations. Specifically, the Foundation envisions extending its actions to Portuguese-speaking countries and other developing states, thereby maximizing the impact of literacy programs on a broader scale.

Figure 19: Blue schools –Portugal, Credit: Oceano Azul Foundation

Contact information: https://www.oceanoazulfoundation.org/news/bluegeneration/

Practice 11: Kindergarten of the lagoon

Initiator of the Practice: Intergovernmental Oceanographic Commission of UNESCO and the Prada Group

Type of initiator: Intergovernmental Organization

Description of the Practice: In the face of ongoing threats to the planet's health stemming from human activities and climate change, emphasizing the significance of sustainability becomes paramount, particularly from a young age. In alignment with this principle, the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) and Prada Group, within the context of their comprehensive partnership, have introduced the "Kindergarten of the Lagoon."

Figure 20: Kindergarten of the lagoon, Credit: UNESCO

This initiative serves as an integral component of their collaborative SEA BEYOND educational project, designed to cultivate awareness among students regarding the imperative for ocean protection and sustainability. The "Kindergarten of the Lagoon" seeks to bring children closer to their natural environment, fostering a deeper connection and understanding of the importance of preserving our oceans for future generations.

Implementation Context: Internationally

Key Stakeholders: The Ocean Literacy principles lying at the core of this initiative will enable children aged 3 to 6 years old to connect with the sea and become the future protagonists of the Generation Ocean.

Results and Impact: By leveraging the lagoon as a tangible and immersive educational resource, the "Kindergarten of the Lagoon" program seeks to offer children first hand experiential learning. This initiative aims to impart knowledge and in still a comprehensive vision of the ecosystem in which they reside. Establishing a unique and physical connection with nature and the local community stands as a pivotal element in fostering awareness about the challenges faced by the oceans and the planet.

The ultimate goal is to ensure that the future Generation Ocean receives a dissemination of practical knowledge. Through this approach, children are expected to become more cognizant, appreciative, and, crucially, proactive in safeguarding their surrounding environment. The emphasis on experiential learning, coupled with a special connection to nature, is designed to inspire a sense of responsibility and stewardship, nurturing a generation that actively contributes to the well-being of our planet.

Contact information: https://www.unesco.org/en/articles/kindergarten-lagoon-lessons-gets-underway

Practice 12: Blue Education

Initiator of the Practice: Blue Marine Foundation

Type of initiator: Foundation

Description of the Practice: Marine conservation education is frequently overlooked in school curriculums, resulting in a lack of personal interest among younger generations in protecting the ocean. Recognizing this gap, Blue Marine is actively working to address the issue through a multifaceted approach. This includes the development of innovative educational materials, fostering community engagement, building capacity, empowering ambassadors, establishing connections with schools, and enhancing career opportunities for young adults.

Figure 21: Blue Education, Blue Marine Foundation

Blue Marine's initiative aims to bring marine conservation into the educational forefront by providing accessible and engaging materials. Through community engagement, they seek to create a sense of shared responsibility for ocean protection. Capacity building ensures that individuals have the knowledge and skills necessary to actively contribute to marine conservation efforts. Empowering ambassadors and connecting with schools foster a sense of personal responsibility and interest in ocean preservation from an early age.

Implementation Context: Internationally

Key Stakeholders: Young people

Results and Impact: Blue Marine's educational initiatives utilize community empowerment, positive behavior change promotion, and active mobilization for conservation outcomes to garner strong support for Marine Protected Areas across the project sites.

Contact information: https://www.bluemarinefoundation.com/projects/blue-education/

Practice 13: Turning Waste Into Sneakers to Save our Oceans and Run for the Oceans

Initiator of the Practice: Adidas

Type of initiator: private company

Description of the Practice: The company launched a campaign for its Ultra BOOST running shoe to spotlight the dangers of marine plastic pollution. Notably, these shoes stand out for their eco-friendliness, being crafted from Parley Ocean Plastic—a proprietary material sourced from coastal communities and beaches, emphasizing a commitment to sustainability.

Implementation Context: Internationally

Key Stakeholders: Citizens

Results and Impact: In addition to this, the "Run for the Oceans" global campaign invited communities to join hands and run together to raise awareness on the threat of marine plastic. From June 8th to June 16th 2019, Adidas contributed 1 $ for every kilometre within the Run for the Oceans Challenge on Runtastic.

Figure 22: Turning Waste Into Sneakers to Save our Oceans and Run for the Oceans, Credit: Adidas

Contact information: https://www.runtastic.com/rfto/ngeo

Practice 14: Cleaning the ocean garbage patches

Initiator of the Practice: The Ocean Cleanup organization

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Ocean plastic gathers in five major garbage patches, with the largest, the Great Pacific Garbage Patch, situated between Hawaii and California. Addressing this issue requires not only preventing additional plastic from entering the ocean but also cleaning up the existing debris. Plastics trapped in these patches continue to circulate, breaking down into smaller pieces over time, posing a threat to marine life that may mistake them for food. Without intervention, the long-term impacts on ecosystems, human health, and economies could persist for decades or even centuries.

Implementation Context: The Pacific Ocean

Key Stakeholders: Agencies, NGOs, local communities

Results and Impact: Since the inception of operations, a dedicated commitment to ongoing research in both laboratory and field settings has been upheld, with the overarching goal of consistently optimizing positive impact. The current ocean cleaning technology, System 03, is equipped with deterrents, cameras, escape aids, and various features designed to minimize risks to marine wildlife. Trained independent observers are systematically deployed on vessels for each trip to monitor interactions with protected species, such as turtles or whales, in the designated area. The scrutinized data unequivocally validates that operations have only minimal effects on the environment. The organization aims to remove 90% of floating ocean plastic by 2040.

Figure 23: Cleaning the ocean garbage patches, Credit: The Ocean Cleanup organization

Contact information: https://theoceancleanup.com/

Practice 15: Engaging Youth to Make a Difference

Initiator of the Practice: PADI

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Children as young as eight years old can begin their underwater exploration through the esteemed PADI Bubblemaker program. This initiative serves as an introductory step into the fascinating world of scuba diving, providing a safe and enjoyable initiation for young enthusiasts. Expanding on this foundation, the PADI Seal Team program further enriches the diving experience for youngsters, offering a series of engaging and entertaining activities specifically tailored to their age group.

Implementation Context: Asia Pacific

Key Stakeholders: Public schools

Results and Impact: PADI youth programs initiate a ripple effect, inspiring young minds to become proactive advocates for the preservation of marine environments. By fostering a genuine connection with the underwater world, these programs not only shape future generations of skilled divers but also cultivate a community of environmentally conscious individuals dedicated to the sustainable stewardshipp of our oceans.

Figure 24: Engaging Youth to Make a Difference, Credit: PADI

Contact information: https://www.padi.com/

Practice 16: Marine litter free Dalmatian Island

Initiator of the Practice: Sunce

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The project seeks to empower local island communities and organizations through education and capacity-building, enabling them to conduct clean-up and marine litter monitoring actions independently. The primary objective is to facilitate the collection of data on the distribution of marine litter by these communities.

Furthermore, the project aims to strengthen local and national advocacy efforts. To achieve this, a network of local initiatives, organizations, and educational institutions from Dalmatian islands will be developed. These entities are envisioned to actively engage in collecting data on marine litter and plastic pollution, working towards sustainable waste management, and implementing waste reduction principles on the islands.

Implementation Context: Adriatic Sea

Key Stakeholders: Local initiatives, organisation, educational institutions.

Results and Impact: Educating and raising awareness among local island communities about marine litter and plastic pollution, sustainable waste management, and the implementation of waste reduction principles is of paramount importance.

Communication and advocacy activities targeting key local and national stakeholders about the impact of plastic pollution on marine life and the need for sustainable waste management and the implementation of waste reduction principles are included in the strategy of the organization.

Contact information: https://sunce-st.org/en/projects/marine-litter-free-dalmatian-island/

Figure 25: Marine litter free Dalmatian Island, Credit: Sunce

Practice 17: From river to the sea - let's be plastic free

Initiator of the Practice: Sunce

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The "From River to the Sea – Let's Be Plastic Free" initiative aims to diminish plastic waste pollution in the Adriatic Sea originating from the Cetina River and three Natura 2000 ecological network areas. This initiative is an extension of the "Plastic Free Zones – Cetina River Canyon" project and aligns with the provisions outlined in the Decision on limiting the use of plastic within the boundaries of the Significant Landscape of the Cetina River Canyon. The overarching goal is to mitigate the environmental impact of plastic waste on the Adriatic Sea, focusing efforts on areas associated with the Cetina River and designated ecological network areas.

Implementation Context: Adriatic Sea, Celtina River Canyon

Key Stakeholders: Public institution for the management of protected parts of nature in the Split-Dalmatia County "More and Krš".

Results and Impact: This initiative holds the promise of contributing significantly to environmental protection and the preservation of the Adriatic Sea. Simultaneously, it is expected to yield positive impacts on the local community and tourism. The collaborative synergy among the private, public, and non-governmental sectors is instrumental in attaining our shared objective of achieving a plastic-free environment from the river to the sea.

Contact information: https://sunce-st.org/en/projects/from-river-to-the-sea-lets-be-plastic-free/

Practice 18: Yam HaSharon volunteer community – The Mediterranean people

Initiator of the Practice: EcoOcean

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Yam HaSharon community, spearheaded by EcoOcean, is an integral part of the 'Mediterranean People' coalition. This coalition forms a national network comprising five communities along the Israeli coast. These communities share a common goal: the establishment of marine reserves in Israel's territorial waters. Through collaborative efforts, they work together to advocate for and contribute to the preservation and sustainable management of marine ecosystems in the Mediterranean region.

Implementation Context: Mediterranean Sea

Key Stakeholders: Surfers, divers, swimmers, sea and environment lovers and many others

Results and Impact: Activists, much like marine biologists, undergo training to acquire qualifications in gathering scientific information and monitoring the marine and coastal environment. Through their involvement in citizen science initiatives, these activists contribute high-standard data to assist marine scientists in gaining a better understanding of what needs to be conserved, particularly in the context of establishing and managing marine protected areas. This collaboration enhances the synergy between dedicated individuals and scientific experts, fostering a more comprehensive and informed approach to marine conservation efforts.

Contact information: https://www.ecoocean.org/en/

Practice 19: Net Free Black Sea

Initiator of the Practice: Mare Nostrum

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The "Net Free Black Sea" project receives financial support from the Ocean Conservancy's Small Grants Program under the Global Ghost Gear Initiative. This initiative is an extension of Mare Nostrum's ongoing efforts to decrease the prevalence of fishing nets in Black Sea waters, and to recover those already present.

The primary goal of the project is to remove a minimum of 1000kg of abandoned fishing nets from the Black Sea. This objective aligns with the broader mission to address the environmental impact of ghost gear, promote marine conservation, and contribute to the health of the Black Sea ecosystem.

Implementation Context: Black Sea

Key Stakeholders: Fishermen, local government authorities.

Results and Impact: Raising awareness and addressing the issue of marine litter, particularly stemming from maritime activity and abandoned fishing nets, is crucial. The outcomes of the workshop are anticipated to offer practical solutions to the problem of marine litter, specifically from economic sectors, with a focus on prioritizing implementable initiatives that yield benefits for the marine environment.

Figure 26: Net Free Black Sea, Credit: Mare Nostrum

Moreover, the workshop aims to instigate a shift in practices within the sector, identifying viable solutions for the removal of marine litter. Recognizing the importance of continuous education and motivation, the initiative seeks to actively engage stakeholders in avoiding, minimizing, and effectively addressing the impacts of ship and marina-generated litter on the marine environment. Through these efforts, the workshop aspires to contribute to lasting positive changes in practices and attitudes toward marine litter.

Contact information: https://www.marenostrum.ro/

Practice 20: Engaging with the public: the experience of MareDireFare a new science & art festival to promote the Ocean Decade

Initiator of the Practice: Instituto Nazionale di Oceanografia e di Geofisica Sperimentale

Type of initiator: Public Institution

Description of the Practice: The Festival's inception stems from the essence of the "Sea," serving as the central figure guiding the entire occasion. "Express" embodies the imperative to disseminate information about seas and oceans comprehensively, encompassing various languages of art, literature, and science. The goal is to prompt individuals to take immediate action, to "Act," and safeguard the equilibrium and functionality of the sea. This collective effort aims to preserve the myriad services and benefits the sea provides daily, making our existence on this planet possible.

Implementation Context: Italy

Key Stakeholders: Scientists, artists

Results and Impact: Over a span of 15 days annually, an elaborate schedule of events unfolded, giving rise to a widespread festival that, emanating from the focal point of the exhibition, engaged the entire city (and region). The festivities permeated various venues, including libraries, bookstores, literary cafes, museums, and more. The festival's triumph lay in its adept use of diverse languages, facilitating the promotion of ocean literacy in an inclusive manner. Through this linguistic diversity, the festival effectively heightened awareness among adults, children, and families assembled, emphasizing the critical significance of oceans and seas.

Contact information: https://ricerca.ogs.it/handle/20.500.14083/16068

Practice 21: Ocean Discoverability

Initiator of the Practice: The Island Trust

Type of initiator: Charity

Figure 27: Ocean Discoverability, Credit: The Island Trust

Description of the Practice: Ocean Discovery Day sails provide assistance to youth from special needs schools and day centers in Plymouth, Devon, and Cornwall, including those with life-limiting conditions. This initiative has broadened existing day-sail offerings and is conducted alongside our residential sailing voyages. During a typical day, the youthful crew engages in observing, touching, and experiencing marine life within the marina. Subsequently, they scrutinize marine specimens under a microscope and through an underwater camera positioned on the seabed. Following a safety briefing and orientation to the boat, the journey commences smoothly by motoring down the River Plym to Plymouth Sound, all the while stowing ropes and fenders.

Implementation Context: Plymouth, Devon, Cornwall

Key Stakeholders: Young people from special needs schools

Results and Impact: Within this environment, children gain insights into geography, marine life, and diverse watercraft, which they document in a specially curated guide. Tailored to various skill levels, activities encompass the identification of mystery objects on deck, executing straightforward tasks such as locating and counting all stanchions, participating in a nautical word search, calculating the sail area of the boat, and acquiring knowledge of essential knots. These engagements play a pivotal role in acquainting participants with the boat and its motion.

Contact information: https://www.theislandtrust.org.uk/the-island-trust/ocean-discoverability/

Practice 22: Virtual (and hybrid) Summer School

Initiator of the Practice: GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany

Type of initiator: Research Center

Figure 28 GEOMAR

Description of the Practice: 2 courses in 2021 (virtual, 2 weeks) and 2022 (hybrid, 1 week) in cooperation between German, Polish and Romanian partners for students (age 14 to 19). Mix of lectures on different aspects of ocean research and sustainability topics and practical tasks for the students. Goal: to create awareness about the effects of climate change on the ocean and to build up an understanding of scientific methods.

Implementation Context: Kiel, Germany; Sopot, Poland; Constanta, Romania. 2021: at home, 2022: at the research institutions and the NGO

Key Stakeholders: GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany; IOPAN Institut for Oceanology, Polish Academy of Sciences, Sopot, Poland; Mare Nostrum, Constanta, Romania

Results and Impact:

- 1st year: In spite of having to participate virtually from their homes (or in some cases: vacation places) during the COVID-restrictions, the students were highly motivated and contributed from the three countries both to the theoretical parts and also to the practical tasks (like going to a playground and sampling plastic particles from the sand);
- 2nd year: This time, the students were in place in one location in their respective countries and able to do experiments and activities as an interactive group. Again, participation was great and discussions on the results and implications of their activities very lively. In both years, some students continued with activities after the summer school (e.g. by doing internships at the research facility, participating in other courses or successfully applying for a 9-month ocean explorer sailing cruise).

Challenges Faced: Obviously, the purely virtual summer school had the challenge of sustaining interest for 10 working days while the students were sitting in front of their computer screens at home, while outside there was nice weather. By using a mixture of lectures, break-out groups and off-screen tasks, attention levels remained high, however. In the hybrid format, technology (particularly sound) was sometimes a challenge when dealing with the video-communication between students in one room in one country and another room in another country.

Source: https://www.geomar.de/ocean-at-home

Practice 23: Involving scuba divers in marine protection

Initiator of the Practice: Guardians of the Blue

Type of initiator: Non-profit organization (NGO)

Figure 29 Guardians of the Blue

Description of the Practice: The goal of this practice is to enhance the understanding of local divers about the local marine environment, the threats it faces, and methods to safeguard marine life. The major activity is cleanup dives in Byblos' harbor, which hosts many juvenile species that rely on it as their nursery. Each cleanup is a collaboration between the divers, fishermen and non-diving volunteers. Volunteer divers from Xiphias Diving club and across Lebanon can take part in each cleanup. They are paired to work together underwater to collect the marine debris, and are given bags and gloves for safe handling of the waste. A safety briefing as well as training on environmentally respectful behaviors to adopt during underwater cleanups are conducted with divers before each cleanup. The fishermen and non-diving volunteers collect the retrieved waste from land, which is then weighed and assessed. The waste is then transported to the recycling facilities of Ziad Abi Chaker, a Lebanese pioneer in recycling. We also created infographics and a poster highlighting marine species found in the area, which was made by using all the pictures taken by the diving club over the years. These visuals exposed at Xiphias Diving Club foster diver education about local marine life and marine science. The scuba diving training at the club is intertwined with nurturing environmental consciousness. Finally, we also train divers on lionfish hunting techniques, which allows them to hunt them safely and legally, in order to mitigate the impacts of its invasion.

Implementation Context: The practice is implemented in Lebanon, mainly in the coastal city of Byblos.

Key Stakeholders: The main implementer is the NGO Guardians of the Blue, who is directly partnering with the scuba diving club Xiphias Diving. The local diving community and fishermen community are also involved in the process, especially during the underwater clean ups.

Results and Impact: So far, the underwater clean ups allowed the organization to removed 3,600kg of waste from the seafloor. More than 20 divers have been involved in the process. Each diver coming to the club is educated on local marine life and the need to protect it. A few divers have taken the lionfish hunting course and are now participating in the hunting efforts.

Challenges Faced: Lebanon is an unstable country, currently facing many crises, so carrying volunteer work is difficult. The public authorities don't always see environmental initiatives as relevant or worthy of collaboration, so we have to rely on the civil society and international partners. Funding is also difficult to acquire for such projects because of the instability of the region. It can be difficult for some divers to feel motivated to participate to an underwater clean up, as they prefer to see it as a fun activity rather than a chore. Environmental protection is relatively new in the population's awareness, and still needs to be spread across the population.

Contact information: https://www.oceanculture.life/guardian/guardians-of-the-blue

Practice 24: Empowering the Asterousia Local Community: filling in the knowledge gaps through a participatory science and promoting ocean literacy.

Initiator of the Practice: MIO-ECSDE

Type of initiator: Non-profit organization (NGO)

Description of the Practice: With the aim to tackle the marine litter threat in the Asterousia BR and concretely contribute to its sustainable development, a one-year-long project entitled "Monitoring marine litter and generating fit-for-purpose data through a participatory science approach in Asterousia Biosphere Reserve" was launched in the last quarter of 2022. The project, which was funded by UNESCO and the abrdn Charitable Foundation, entailed actions focused on improving the marine litter knowledge base and evidence in the Biosphere Asterousia. Strengthening its management plan with tailored-made marine litter prevention and mitigation measures and innovative solutions, educating and engaging local communities (in particular youth) in generating fit-for-purpose marine litter data through a participatory science approach were included in the action plan.

Figure 30 Participatory science and ocean literacy in Asterousia, Credit: MIO-ECSDE

The main lines of action included:

- Organization of a high-calibre and effective participatory science campaign aiming to generate fit-for-purpose marine litter data and co-create scientific knowledge by engaging all societal actors (research component);
- Implementation of education for sustainable development and ocean literacy interventions focused on marine litter and marine plastic pollution (education component);
- Setting up a platform to collectively deliberate and establish consensus on the most promising and scalable solutions that should be implemented towards litter-free coasts and sea in the in the Asterousia Biosphere Reserve (innovative solutions component).

Implementation Context: The Asterousia Mountain Range Biosphere Reserve, located in the southernmost area of Europe with a long coast and wide marine zone in the Southern Cretan / Libyan Sea, is characterized by an exceptional wealth of habitats and species. Just as other biosphere reserves and protected areas, the Asterousia Biosphere Reserve is increasingly being affected by marine litter, which is building up, threatening habitats and species and inhibiting sustainable development.

Key Stakeholders: Associations, cooperatives, youth groups, foundations, businesses, research institutes, and public authorities, management bodies of BRs

Results and Impact:

- Two impactful participatory science campaigns were conducted in the winter and spring of 2023. In total 250 local community members, including grassroot NGO members, university students, teachers and schoolchildren, residents and long-term visitors took part in the 18 beach litter surveys carried out in 9 carefully selected locations within the Asterousia Biosphere Reserve;
- Nine on-site and two online capacity building and awareness raising events were organized focused on the topic of marine plastic pollution and community-based research, involving 65 stakeholders from the Asterousia Biosphere Reserve. In addition, two school interventions and two school field activities were conducted, involving 215 teachers and students from four primary schools of the Asterousia Biosphere Reserve;
- A dynamic and inclusive workshop was held to foster a collaborative, co-creative, and inclusive environment, encouraging vibrant discussions and the identification of innovative measures to prevent and mitigate marine litter within the Asterousia Biosphere Reserve. The workshop brought together over forty stakeholders from various backgrounds with the aim to establish consensus on the most promising and scalable measures that should be incorporated into the Biosphere Reserve's Management Plan. A total of seven science-based marine litter measures were agreed upon, prioritizing prevention actions over mitigation ones;
- Three Memorandums of Understanding were signed between the project core partners and the three municipalities of the Asterousia Biosphere Reserve to solidify their collaboration and shared commitment to transform the Asterousia Biosphere Reserve into a litter-free area. The Memorandum of Understanding outlines five strategic lines of action that will effectively combat the threat of marine litter within the reserve. These include the implementation of sustainable public procurement practices, the enhancement of waste management infrastructure, the reinforcement of beach cleaning programs, the support for adopt-a-beach schemes and participatory science campaigns, and the execution of targeted awareness-raising campaigns;

Figure 31 Participatory science and ocean literacy in Asterousia, Credit: MIO-ECSDE

- The community-based research initiative deployed a pan-European-wide tested and validated approach for marine macrolitter that is applied by competent authorities. This was the first-of-its-kind effort to generate fit-for-purpose data on the amounts, distribution, composition and sources of marine litter along the coastline of the Asterousia Biosphere Reserve. The research results reveal

that only two of the studied beaches are in good environmental status, meeting the European threshold value for beach litter of 20 items per 100-metter stretch, while the remaining seven beaches surpassed this threshold, illustrating the pressing need for action. A notable 20% of the litter recorded can be directly attributed unsustainable practices of beach users and beach goers and inadequate waste management. In addition, agriculture emerged as the second significant contributor, accounting for 10% of the total litter items within the Asterousia Biosphere Reserve. The research data are to be submitted to the European Marine Observation and Data Network.

- The project stands out for its exceptional focus on promoting ocean literacy via a hands-on inquiry-based learning style, which has brought numerous benefits to the Asterousia community members. Through this approach, individuals have had the unique opportunity to actively investigate and gather information on beach macrolitter in the Asterousia Biosphere Reserve. This educational approach not only nurtured a sense of ownership of the research results but also enhanced the participants' problem-solving skills and their ability to apply the acquired knowledge, transforming it into informed actions that promote ocean literacy.
- The project successfully demonstrated how various societal actors can act as scientists and co-create robust scientific knowledge within an open science context. Through the project's science-based and bottom-up participatory approach, the Asterousia community actors collectively and collaboratively identified tailor-made marine litter prevention and mitigation measures to enhance the Management Plan of the Asterousia Biosphere Reserve.
- Overall the entire project provides a concrete showcase of how community-based research can deliver the “Science We Need for the Future We Want”, within the context of the UN Ocean Science Decade and the Ocean Literacy Framework.

Challenges Faced: Very few challenges were encountered, primarily related to the means required to engage with remote communities and adverse weather conditions that occasionally hindered outdoor activities with students.

Contact information: https://mio-ecsde.org/empowering-the-asterousia-local-community-monitoring-marine-litter-and-promoting-ocean-literacy/

Practice 25: Marine Plastic pollution

Initiator of the Practice: AWI School lab OPENSEA

Type of initiator: Research Institution

Description of the Practice: The 5-day workshop teaches the topic of "plastic waste in the sea". In various thematically coordinated modules, the topics of macro waste and identification of plastic materials, microplastics and methods of sampling and identification are developed in field work and experimental work in the OPENSEA school laboratory. The participants are trained as experts for different areas of the sea (sediments, harbours, beaches). Units on everyday reflection as well as on approaches to solutions for the specific marine areas will serve to train assessment competence and awareness and to impart competences for action.

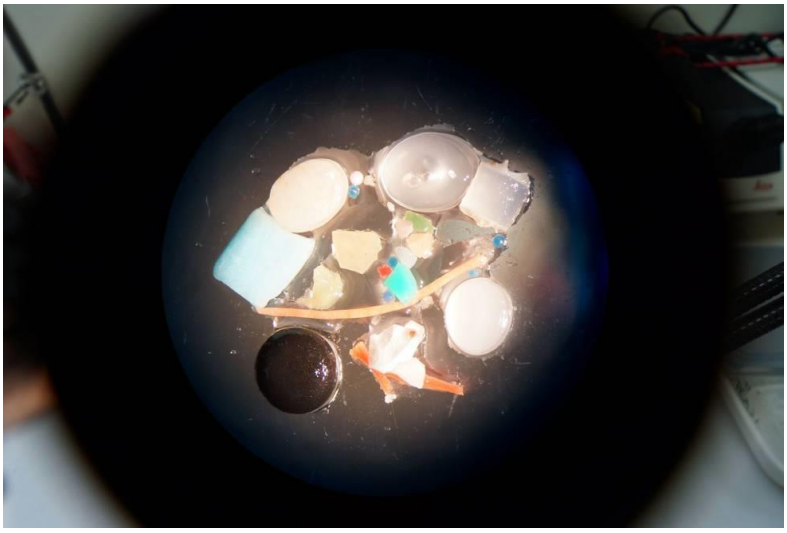


Figure 32 Experiments with micoplastics, Credit: Martin Löder

Implementation Context: Germany, Island of Helgoland, North Sea, German Bight, marine station

Key Stakeholders: Upper secondary school students

Results and Impact: The students have learned that a very important strategy is to avoid plastic waste. They have developed ideas for their own school on how to avoid plastic waste and want to develop projects for this purpose.

Challenges Faced: When you work with students from different European countries, their knowledge and awareness of plastic waste is very different. You have to work out the baseline at the beginning

Contact information: https://www.awi.de/en/

Practice 26: Un Monde de plastique (short film to raise awareness of plastic pollution)

Initiator of the Practice: Choisis ta Planete and The Sea Cleaners

Type of initiator: Non-profit organization (NGO)

Description of the Practice: WHAT'S AT STAKE IN THE FILM. By 2050, the ocean will probably contain more plastic than fish, if we do nothing. This film takes stock of the current state of pollution, the sources of this pollution and suggests ways to fight against it. Every piece of information presented in the film has been verified by the scientific committee of The SeaCleaners association, renowned for its work in cleaning up the oceans.

Summary: Four children scour the beach for treasures left behind by tourists, but all they find is plastic. Discovering that this waste can kill or injure animals, they decide to fight against this pollution. Their adventure may well shake up the harbor master's office, the fishermen and even the researchers at the Océarium laboratory.

Implementation Context: Lorient (France)

Key Stakeholders: Choisis ta planète (ONG organisatrice) The SeaCleaners (ONG Partenaires)

Results and Impact: The film is shown to raise awareness and inspire action. In 2022, nearly 5,000 schoolchildren saw the film, which was accompanied by an educational animation.

Contact information: https://www.choisistaplanete.com/

Practice 27: Ocean of Changes

Figure 33 IOPAN

Initiator of the Practice: Institute of Oceanology of Polish Academy of Sciences (IOPAN)

Type of initiator: Research Institution

Description of the Practice: An ongoing project, coordinated by the CORE (Climate and Ocean Research and Education Laboratory) in close cooperation with international partners is a part of the European educational platform, EU4Ocean Coalition. Since 2021, the Ocean of Changes is an official partner of the UN Decade of Ocean Science for Sustainable Development (2021-2030). The idea of the Ocean of Changes project is to exchange information on matters relating to the seas and oceans in order to build a community operating under the UN Sustainable Development Goals, and in the case of local activities, with particular emphasis on the Baltic Sea. The project consists of two annual, international conferences for youth and young researchers entitled “Where the World is Heading”, an annual science picnic and year-round educational workshops for children and youth.

Implementation Context: Global

Key Stakeholders: General public, youth, ECOPS

Results and Impact: Involvement of large-scale international community every year

Challenges Faced: Promotion limits, reluctance of local authorities to make the project a better platform

Contact information: http://www.iopan.pl/

Practice 28: Wiener Wasserschule

Initiator of the Practice: MA31-Wiener Wasser (MA31 - Vienna Water)

Type of initiator: Public authority

Description of the Practice: At the Vienna Water School in Favoriten, students from age 8-15 years learn everything they need to know about water in a playful way. Every morning a school class has the opportunity to visit the Vienna Water School free of charge. The mediation program begins at 9 a.m. Until around 11.30 a.m., the children work together with the head of the Vienna Water School as well as in small groups and through experiments to find answers to questions raised. The mediation is rounded off with a final quiz before everyone sets off to visit the Favoriten water tower at around 12 p.m. The water school ends around 1 p.m. The water school offers 4 modules:

- Water globally
- Vienna water supply
- Historical water supply
- Water protection

More than 4000 school students are visiting the Vienna Water School every year!

Implementation Context: Water school in the historic building Since 2005, the Vienna Water School has been housed in the former Wienerberg water pipeline power plant, which was in operation from 1915 to 1971. The historic building was carefully adapted for the water school

Key Stakeholders: The Vienna Water School is run by the municipal department MA31 - Vienna Water. MA31 is a department of the city of Vienna, responsible for all matters relating to Vienna and water

Contact information: https://www.wien.gv.at/kontakte/ma31/index.html

Practice 29: Nationalpark Donau-Auen

Figure 34 Nationalpark Donau-Auen

Initiator of the Practice: schlossORTH National Park Centre

Type of initiator: Public authority

Description of the Practice: In matters of environmental awareness, the Donau-Auen National Park cooperates with several schools which are located in the surrounding area of the national park. Programmes of the living spaces in the Donau-Auen National Park have been created with the teaching staff. The object is to acquaint the pupils with "their" protected area.

Implementation Context: With over 9,600 hectares area, the Donau-Auen National Park protects the last remaining major wetland environment in Central Europe. For a distance of just over 36 km, the Danube flows freely and is the lifeline of the national park. The dynamic rise and fall of water levels - sometimes up to 7 meters - mean that the wetlands landscape is constantly recreated and reformed. In this way, the flow of the Danube creates habitats for a large number of plants and animals.

Key Stakeholders: Public authority

Contact information: https://www.donauauen.at/

Practice 30: Junior Ranger Programme

Initiator of the Practice: Nationalpark Donauauen

Type of initiator: Public authority

Description of the Practice: At the annual summer camp, a week of adventure awaits youth in the heart of the national park - here the Junior Rangers cannot only explore the Danube wetlands and their inhabitants, but also do nature conservation work with the national park rangers. But also, during the year they meet often and do interesting things. At the age of 18 the Junior Rangers become Danube Rookies with their own focus and tasks.

Implementation Context: With over 9,600 hectares area, the Donau-Auen National Park protects the last remaining major wetland environment in Central Europe. For a distance of just over 36 km, the Danube flows freely and is the lifeline of the national park. The dynamic rise and fall of water levels - sometimes up to 7 meters - mean that the wetlands landscape is constantly recreated and reformed. In this way, the flow of the Danube creates habitats for a large number of plants and animals.

Key Stakeholders: schlossORTH National Park Centre

Contact information: https://www.donauauen.at/

Practice 31: "Waste ashore-Waste in the net" Three projects combating marine litter in Crete, Greece

Initiator of the Practice: MIO-ECSDE/MEdIES Secretariat

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Communities in selected coastal regions of Crete team up to reduce the production of marine litter, including plastics, by improving waste management. Particular objectives of the projects were:

- Awareness raising and sensitization of tourism and leisure businessmen and staff on the impacts of marine litter on tourism, as well as on sustainable solid waste management;
- Awareness raising and sensitization of fishermen on the impacts of marine litter, especially plastics, in fish stocks;
- Sensitization & development of competences of educators on topics related to causes, impacts and solutions regarding the marine litter issue and about ocean literacy;
- Empowerment of various target groups: students, educators, fishermen, entrepreneurs to undertake voluntary pilot activities to combat marine litter issue and protect the sea/ocean;
- Raise awareness of the citizens of the areas on the results of their project, empowerment in following up on the activities.

Implementation Context: The projects took place in selected coastal areas of Crete, namely Mylopotamos, Mesara and Malevisi areas.

Figure 35: Waste ashore-Waste in the net, Credit: MEdIES

Key Stakeholders: All three projects engaged the following target groups: local communities, schools and teachers, with the two of them involving owners and staff of tourism and leisure businesses, and the third the local fishermen.

Results and Impact:

a) Tourism and leisure businessmen and staff, among them young ones, were informed about the impacts of marine litter on tourism, are informed of good waste management and, took part in a voluntary “responsible shop” piliot action, which, among other things, reduces the single use plastics (SUPs) in their business;

b) Fishermen were informed about the impacts of marine litter, especially plastics, in fish stocks, and took part in a voluntary “fishing for litter” pilot project, among them young ones;

c) Local teachers were trained, through appropriate custom-made educational material on ocean literacy useful for their school projects;

d) Local students undertook voluntary pilot activities e.g. beach clean-ups, and beach "adoptions".

e) The residents of the area were informed about the project, and inspired to follow up.

Source: https://medies.net/project/three-projects-for-marine-litter-in-crete/

Practice 32: Beach Tennis for environmental awareness

Initiator of the Practice: Active Zone Outdoor

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The main objectives of the practice is to provide beach tennis training sessions for people of different ages as a mechanism to raise awareness about environmental protection. The activity was part of the EU funded project Green Sport and Outdoor Activities for Environmental Awareness and Lifestyle.

Implementation Context: Larnaca, Cyprus

Key Stakeholders: Local community of different ages

Results and Impact: Beach tennis sessions contributed to the physical and mental well-being of children and youth, promoting outdoor activities and exercise taking place by the beach. Beyond that, the participants got the opportunity to understand the environmental impact of the sport in terms of the equipment used (e.g. rackets, balls) and identify ways to reduce their footprint while exercising (e.g. use of recycled bottles).

Figure 36: Beach Tennis Ball, Credit: Andreas Andreou

Challenges Faced: Recycling beach tennis balls remains a challenge for players given the fact that the balls are made out of rubber. As a result, the balls are thrown away once their lifespan dies out and alternative ways for reusing them for other purposes should be identified (e.g. cushioning purposes, pots for planting herbs)

Source: https://www.activezoneoutdoor.cy/green-sport-and-outdoor-activities

Practice 33: Stand Up Paddle for sea literacy and protection

Initiator of the Practice: Active Zone Outdoor

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The goal of the activity is to provide SUP excursions as a vehicle for facilitating the mental and physical health of citizens while raising awareness about ocean protection. The activity was included in the context of the EU projects "Green Sport and Outdoor Activities for Environmental Awareness and Lifestyle" and ""StayUP - Stand Up for your Mental Health".

Implementation Context: All over coastal areas of Cyprus

Key Stakeholders: Local communities

Results and Impact: The participants developed a close connection with the water and the marine environment allowing them to gain an increased awareness and understanding of marine ecosystems, fostering a sense of responsibility for ocean conservation. Being in the water and practicing the activity allowed the participants to adopt and exercise a “leave no trace” behavior, which is explained as cleaning up and collecting any trash found on the seabed or on the water surface. In addition, the activity allowed them to understand how SUP could be a more environmentally friendly activity by following simple practices: Choosing SUP equipment (e.g. board, paddle) created with eco-friendly materials; Using of eco-friendly apparel made of recycled materials to stay warm and dry on the water; Using of eco-friendly sunscreens made of non-toxic ingredients; Following local regulations and best practices for SUP etiquette, such as avoiding areas with sensitive wildlife or habitats.

Source: https://greensports.my.canva.site/

Figure 37: Stand Up Paddle for sea literacy and protection, Credit: Constantinos Avraam

Practice 34: Yoga by the beach

Initiator of the Practice: Active Zone Outdoor

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The goal of the activity was to provide yoga sessions by the beach as a tool for the better understanding and enhancement of mental health of young people while highlighting the diversity of beaches around Cyprus as a potential alternative recourse for yoga sessions. The activity was part of the EU funded project "Beach yoga as a vehicle for mental health interventions".

Implementation Context: In coastal areas of Cyprus

Key Stakeholders: Local communities

Results and Impact: Beach yoga allowed the participants to practice mindfulness and connect with the natural elements around them, including the sea leading to a greater appreciation for the beauty and importance of the marine environment. The yoga instructor was also integrating educational components into her beach yoga sessions, providing information about local marine ecosystems, the importance of biodiversity, and the threats facing oceans as well as sustainable practices (e.g. reusable water bottles, leave-no-trace mentality). Finally, the participants acquired a sense of respect for the natural surroundings becoming more mindful of their impact on the beach and the marine life.

Source: https://www.activezoneoutdoor.cy/beach-yoga

Practice 35: Eco-Navigation for Marine Conservation

Initiator of the Practice: Archipelagos Institute of Marine Conservation

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Eco-Navigation is a citizen-science platform developed by Archipelagos, an NGO dedicated to marine conservation. This initiative aims to protect the diverse marine species of the Mediterranean Sea, which is under threat due to pollution, habitat destruction, and overfishing. Eco-Navigation enables collaboration between sea enthusiasts and expert scientists to collect valuable data on marine life. Participants are encouraged to report species sightings, their locations, and abundance, with a focus on marine mammals like dolphins. Images are also welcomed for closer identification.

Implementation Context: The practice is primarily implemented around the Greek islands, focusing on the Mediterranean Sea.

Key Stakeholders: The key stakeholders involved in this practice include Archipelagos researchers, sea enthusiasts, and expert scientists collaborating to protect marine life in the Mediterranean.

Results and Impact: The initiative allows for the collection of essential data for marine conservation efforts. It promotes awareness and engagement among sea enthusiasts and contributes to the protection of the Mediterranean's marine biodiversity.

Challenges Faced: Challenges may include the need for continued participation and data accuracy from sea enthusiasts, as well as logistical considerations for researchers working around the Greek islands.

Contact information: https://archipelago.gr/

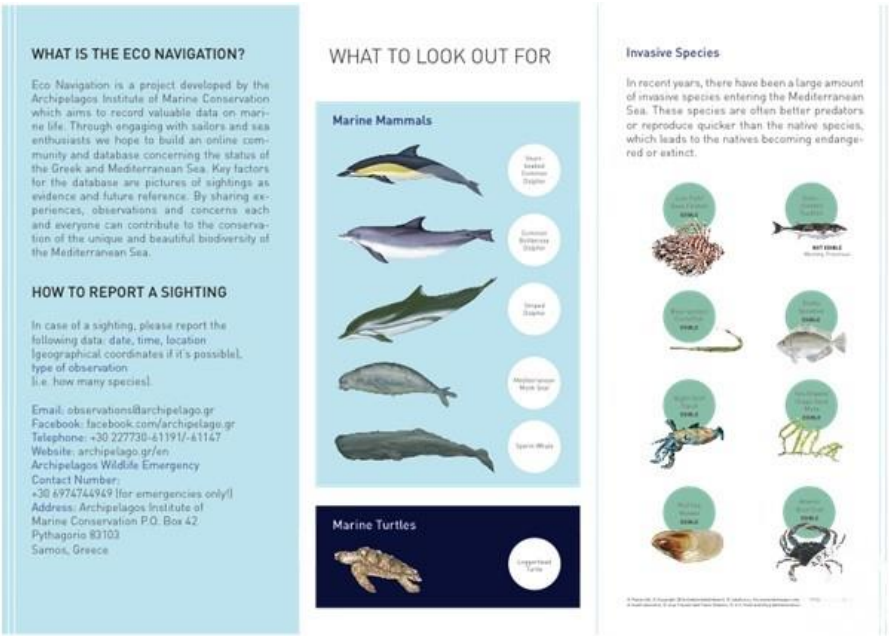


Figure 38: Eco Navigation, Credit: Archipelagos Institute of Marine Conservation

Practice 36: Exploring the ocean to inspire action

Figure 39: SeaLegacy

Initiator of the Practice: SeaLegacy

Type of initiator: Non-profit organization

Description of the Practice: SeaLegacy, an NGO focusing on ocean conservation, employs a unique approach known as Storytelling+ to drive change. This approach combines the expertise of its co-founders, Cristina Mittermeier, Paul Nicklen, and Andy Mann, who bring decades of experience as marine scientists, documentary filmmakers, and fine art photographers. Storytelling+ leverages the power of storytelling, visual media, and scientific knowledge to reshape the narrative about ocean conservation.

Implementation Context: The practice is implemented in the context of global marine conservation efforts, with a focus on raising awareness and advocating for the protection and rewilding of the oceans.

Key Stakeholders: Key stakeholders involved in Storytelling+ include marine and climate experts, philanthropists, investors, local communities, Indigenous leaders, and policymakers from around the world. SeaLegacy collaborates with these stakeholders to advance their conservation objectives.

Results and Impact: SeaLegacy's Storytelling approach has been effective in reshaping the narrative about ocean conservation. By combining science and storytelling, they have raised awareness and influenced conversations that are crucial for protecting and rewilding the oceans.

Challenges Faced: Challenges may include the need for continued engagement and support from various stakeholders, as well as addressing the complex and interconnected issues related to marine conservation and climate change.

Source: https://www.instagram.com/sealegacy/

Practice 37: Aegean Marine Life Sanctuary (AMLS)

Initiator of the Practice: Aegean Marine Life Sanctuary

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Aegean Marine Life Sanctuary (AMLS) is a pioneering project aimed at providing expert care and rehabilitation to sick and injured marine animals in and around the Greek islands, with a special focus on formerly captive dolphins. The sanctuary is designed to offer a natural and pristine environment for dolphins to thrive, combining innovation with high standards of animal welfare. It serves as a cost-effective and sustainable solution to a global problem and is situated on the Greek island of Lipsi, in the Southeastern Aegean. The AMLS is inspired by ancient Greek laws protecting dolphins and aims to establish the first-of-its-kind veterinary clinic and rehabilitation center for marine animals, including dolphins, sea turtles, and monk seals. The sanctuary also promotes biodiversity conservation research through innovative habitat enhancement techniques like artificial reefs and seagrass meadow replantation.

Figure 40: Aegea Marine Life Sunctuary, Credit: Aegean Marine Life Sanctuary

Implementation Context: The AMLS is located on the Greek island of Lipsi, in the Southeastern Aegean, and focuses on marine animals in distress within the region.

Key Stakeholders: Key stakeholders include the founders of AMLS, marine biologists, veterinarians, local communities, conservation organizations, and researchers. Additionally, the sanctuary seeks to engage with the international community interested in marine conservation and animal welfare.

Results and Impact: The AMLS aims to provide a safe haven for marine animals, particularly dolphins, and contribute to the long-term welfare and conservation of these creatures. The sanctuary's innovative approach to rehabilitation and its focus on sustainability and research can lead to positive impacts on marine animal welfare and conservation efforts.

Challenges Faced: Challenges may include securing funding and resources for the sanctuary, ensuring adherence to high animal welfare standards, and managing potential environmental impacts of the sanctuary on the local ecosystem.

Source: https://aegeansanctuary.com/

Practice 38: Save the Aegean - Collaborative Environmental Initiative

Initiator of the Practice: Archipelagos Institute of Marine Conservation

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Save the Aegean is an initiative led by the Archipelagos Institute of Marine Conservation, with the goal of forming an alliance between environmentalists, scientists, businesses, and consumers. The primary objective is to reduce the environmental footprint caused by daily life, which is negatively impacting the planet and its seas. This initiative seeks to contribute to the protection and preservation of the Aegean Sea's unique biodiversity through research, awareness-raising, and effective conservation actions. An important aspect of Save the Aegean is the promotion of truly eco-friendly products.

Figure 41: Archipelagos Institute of Marine Conservation

- For Consumers: Save the Aegean empowers consumers by allowing them to influence the availability of sustainable and environmentally friendly products in the market. By being the demand that triggers the supply, consumers have the power to encourage companies to offer eco-friendly alternatives, reducing their personal environmental footprints.
- For Companies: Companies are encouraged to improve their products and environmental impact by offering eco-friendly alternatives to consumers. This not only supports environmentally conscious decision-making by consumers but also contributes to protection and conservation efforts. Some companies also commit to donating a portion of their profits to support targeted conservation actions.

Implementation Context: The initiative operates within the context of the Aegean Sea, focusing on reducing the environmental impact in the region and promoting sustainable practices.

Key Stakeholders: Key stakeholders include the Archipelagos Institute of Marine Conservation, environmentalists, scientists, businesses, consumers, and manufacturers. Companies and consumers are critical stakeholders who play a central role in driving change.

Results and Impact: Save the Aegean has the potential to reduce the environmental footprint in the Aegean Sea region through increased awareness, research, and the promotion of eco-friendly products. By involving both consumers and businesses, the initiative can significantly impact environmental conservation efforts in the area.

Challenges Faced: Challenges may include raising awareness among consumers and businesses, ensuring the availability of truly eco-friendly products, and securing the long-term commitment of companies to support conservation actions.

Source: https://archipelago.gr/

Practice 39: Fish4Life - Sustainable Seafood Consumption Guide

Initiator of the Practice: Archipelagos Institute of Marine Conservation

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Fish4Life is a guide for sustainable seafood consumption in Greece and the Mediterranean region. It is designed to provide the public with accessible information about which seafood is sustainable to consume and when. The guide includes information on the status of each species, indicating whether it is legal or sustainable to consume, and specifies breeding seasons during which consumption should be avoided. It also offers details on the minimum legal size for catching or consuming each species within Greece and the recommended minimum sustainable size for the regeneration of the species. Additionally, the guide lists various commercial fishery practices in Greece, using symbols to represent each species and the method by which they are caught. Fish4Life was initially created by researchers from the Archipelagos Institute of Marine Conservation and was developed as an app, with ongoing redesign efforts.

Implementation Context: The practice focuses on sustainable seafood consumption in Greece and the wider Mediterranean region.

Key Stakeholders: Key stakeholders include the Archipelagos Institute of Marine Conservation, researchers, seafood consumers, and local fisheries. The guide aims to educate and engage consumers in making responsible seafood choices and encourages collaboration with the broader seafood industry.

Figure 42: Fish4Life, Credit: Archipelagos Institute of Marine Conservation

Results and Impact: Fish4Life serves as an educational tool that helps consumers make responsible choices regarding seafood consumption. By categorizing species into sustainable, cautious, and unsustainable categories, it raises awareness about the importance of sustainable fishing practices and contributes to the protection of marine life in the Aegean and Mediterranean seas.

Challenges Faced: Challenges may include promoting awareness and the adoption of responsible seafood consumption practices among consumers, and ensuring the accuracy and reliability of the information provided in the guide.

Source: https://archipelago.gr/

Practice 40: The Lagoon of Life

Initiator of the Practice: Bulgarian Biodiversity Foundation

Type of initiator: Non-profit organization (NGO)

Description of the Practice: "The Lagoon of Life" project is a significant and complex initiative aimed at restoring and managing the Atanasovsko Lake coastal wetland on a European scale. It represents a remarkable effort to preserve the symbiotic relationship between humans and nature in the Atanassovsko Lake region. The project's funding from the LIFE Programme of the European Commission acknowledges the high conservation value and European importance of the lake while recognizing the exceptional quality of work carried out by the project partnership thus far. it will encourage development of new products like the chocolate with salt, lye soap, natural salt from Atanasovsko Lake 'Fleur of Salt' that will reinforce the value of the Natura 2000 zone as an important economic asset for Burgas – as a salt producing facility and as one of the most valuable reservoirs of biodiversity in Bulgaria and as a key site for recreation and inspiration for the people.

Implementation Context: Natura 2000 area Atanasovsko Lake, Bulgaria

Key Stakeholders: Bulgarian Biodiversity Foundation (coordinator), Bulgarian Society for the protection of Birds/ BirdLife Bulgaria, Black Sea Salinas Ltd., Zaedno 2011 (partners)

Results and Impact: The project will develop a sustainable financing mechanism that will allow for the long-term preservation of this natural territory also through the creation of value-added product chains and the establishment of earmarked trust fund. The project is expected to achieve significant socio-economic benefits through the creation of green jobs and marketing of high added value products obtained from raw materials from the Atanasovsko Lake, that will be more expensive and for which there is already high demand; parallel to these new services from the lake will be developed. The project will seek for solution to the problem with the low market value of the salt and the risk of abandoning the traditional salt production.

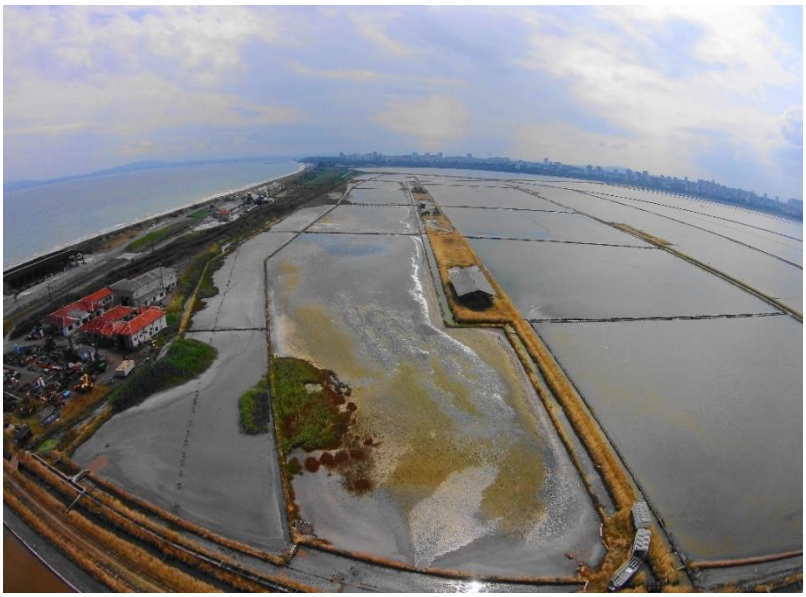


Figure 43: The Lagoon of Life, Credit: Restoring Atanasovsko Lake's Biodiversity

Source: www.lagoon.biodiversity.bg

Practice 41: Thresher sharks: Shark tourism as an alternative to shark fishing and shark finning

Initiator of the Practice: Swiss marine biologist Kerstin Glaus in collaboration with the University of Basel

Type of initiator: University

Description of the Practice: Kerstin Glaus conducted research on young bull sharks in the Fiji Islands, particularly in the Rewa River. The study aimed to understand the presence of a unique "red eye" phenomenon in juvenile bull sharks and investigate its causes. The government of Fiji is interested in protecting sharks and relies on scientifically sound data to support conservation efforts. The research revealed the importance of Fiji's river systems, including the Rewa, Sigatoka, and Navua rivers, in the conservation of bull sharks.

Implementation Context: The research was carried out in the Republic of Fiji, an archipelago in the South Pacific known for its diverse shark species.

Key Stakeholders: Kerstin Glaus, the University of Basel, and the government of Fiji

Results and Impact: The research conducted by Kerstin Glaus sheds light on the unique "red eye" phenomenon in juvenile bull sharks, providing valuable insights for shark conservation in Fiji. This research contributes to establishing bull sharks as a flagship species for national shark protection.

Challenges Faced: The origin and implications of the "red eye" phenomenon in juvenile bull sharks remain mysterious and require further investigation.

Source: https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.5304

Practice 42: Blue Eco Forum 2021

Initiator of the Practice: Mediterranean civil society

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Eco-Forum is a collaborative and participative initiative that addresses major regional challenges in the Mediterranean region. It focuses on environmental, geopolitical, and economic crises that threaten the Mediterranean's future. The forum serves as a platform for reflecting on these challenges and finding new solutions for a more sustainable and inclusive development of the Mediterranean region. It brings together key stakeholders from the Euro-Mediterranean political, economic, and social world through debates, workshops, exhibitions, and meetings, both virtual and in-person.

Figure 44: Blue eco focum

Implementation Context: The Eco-Forum is organized in the Mediterranean region, which unites 22 countries and over 450 million people, with a focus on addressing regional challenges.

Key Stakeholders: Key stakeholders include Mediterranean civil society, Euro-Mediterranean political, economic, and social stakeholders, project and policy officers from public institutions, representatives of civil society organizations, academics, researchers, students, and economic actors in the blue economy.

Results and Impact: The Eco-Forum aims to foster collaboration and creative thinking to address the crises in the Mediterranean region. It provides a platform for generating new ideas and solutions for sustainability, including initiatives like "Towards Sustainable Blue Food in the Mediterranean." This initiative promotes the shift in blue food production and regulation to support healthier, more sustainable, and equitable food systems, as well as biodiversity and ecosystem preservation.

Challenges Faced: The Eco-Forum addresses complex and interconnected challenges in the Mediterranean, including environmental degradation, geopolitical conflicts, and economic disparities. Finding effective and holistic solutions to these issues is a significant challenge.

Source: https://www.global-ecoforum.org/

Practice 43: Blue Eco Forum 2020: Towards a Blue Solidarity Economy for a Sustainable Mediterranean

Initiator of the Practice: Eco-union and iesMed

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Eco Forum is an initiative organized by eco-union and iesMed, focused on addressing major regional challenges in the Mediterranean region. It brings together key stakeholders from the Euro-Mediterranean political, economic, and social world to reflect on and find new solutions for the environmental, geopolitical, and economic crises threatening the Mediterranean's future. The forum promotes a collaborative, creative, and participative approach to envisioning a more sustainable and inclusive development for the Mediterranean region. Each edition of the forum focuses on specific themes, with the 2020 edition centered on the concept of the Blue Solidarity Economy (BSE), which combines elements of the Sustainable Blue Economy with the Social and Solidarity Economy to promote sustainable economic growth.

Implementation Context: The Eco Forum is organized in the Mediterranean region, which encompasses 22 countries and over 450 million people, most of whom live in the coastal strip. It addresses the challenges and opportunities in this unique geographical and cultural space.

Key Stakeholders: Key stakeholders include representatives of local communities, city and regional authorities, actors of the Blue Economy (coastal tourism, fisheries, aquaculture, marine energies, etc.), actors of the Solidarity Economy (associations, foundations, cooperatives, social businesses, etc.), researchers, experts, public/private investment and development agencies, professionals, and citizens interested in social and environmental sustainability in the euro-Mediterranean context.

Results and Impact: The Eco Forum aims to raise awareness about opportunities for sustainable economic growth linked to the Blue Solidarity Economy in Catalonia and the Mediterranean. It disseminates measures and actions carried out in Catalonia and other Euro-Mediterranean regions to promote the Blue Solidarity Economy. The event engages public bodies and social agents in the development of policies and programs to promote the Blue Solidarity Economy in the Mediterranean.

Challenges Faced: The Eco Forum addresses complex challenges related to environmental degradation, geopolitical conflicts, and economic disparities in the Mediterranean region. Finding comprehensive and sustainable solutions to these multifaceted issues is a significant challenge.

Source: https://www.global-ecoforum.org/

Practice 44: Scianema Film Festival

Initiator of the Practice: Sciaena

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Scianema Film Festival is an initiative by Sciaena, an ocean conservation NGO. The main event of the festival is a screening of documentaries dedicated to the oceans and their conservation, held annually between February and March in Faro, Portugal. Scianema aims to showcase ocean-related documentaries to a diverse audience, encouraging, inspiring, raising awareness, and promoting open access to ocean-related films, not only for specialists but also for the general public. In addition to the film screenings, Scianema aims to facilitate scientific communication about the marine world by creating opportunities for researchers, students, filmmakers, and the public to discuss ocean-related issues. The festival encourages open discussion and provides a platform for exploring the wonders and challenges of the sea. Scianema believes that the oceans have a voice, and it's a voice for all of us.

Figure 45: Scianema

Implementation Context: The Scianema Film Festival is held in Faro, Algarve, Portugal, and is open to participants from Portugal and around the world.

Key Stakeholders: Key stakeholders involved in the Scianema Film Festival include individuals or groups who submit short films, filmmakers, researchers, students, and the general public interested in ocean conservation and awareness.

Results and Impact: The Scianema Film Festival aims to raise awareness about ocean conservation and promote discussions around marine-related topics. It serves as a platform for sharing knowledge, inspiring action, and fostering a deeper connection to the oceans. It encourages the participation of a wide range of individuals and groups, fostering a sense of community and shared responsibility for ocean protection.

Challenges Faced: The festival may face challenges related to selecting and screening the best short films, coordinating events, and ensuring the engagement of a diverse audience interested in ocean conservation and awareness.

Source: https://www.sciaena.org/

Practice 45: Mar Motto

Figure 46 Sciaena

Initiator of the Practice: Sciaena

Type of initiator: NGO

Description of the Practice: The Mar Motto concept, initiated by Sciaena, aims to use art as a means of communicating the message of ocean conservation in a creative and impactful way. With the understanding that the health of our oceans is seriously threatened, the initiative uses art to generate action and raise environmental awareness. Mar Motto encourages Portuguese artists to express their creativity and contribute to the protection of the oceans through various art forms, from mainstream to underground. The primary goal is to create art pieces and materials that can be exhibited, with the funds generated from these exhibitions being used for awareness-raising and ocean protection actions organized by Sciaena. This initiative harnesses the power of art as a tool for scientific dissemination and environmental consciousness. Species ABC is another initiative by Sciaena that introduces various marine species inhabiting the Portuguese coast. It uses the alphabet, starting with the Shortfin Mako Shark and ending with the Cuvier's Beaked Whale, to guide people through the diversity of species found along the coast. The initiative showcases photographs by Portuguese photographers and provides fun facts about the biology and unique characteristics of these species, including some that are threatened and/or protected. It informs citizens about where to find these species and how they can contribute to their preservation.

Implementation Context: The Mar Motto concept and Species ABC are initiatives taking place in Portugal, a country with a strong connection to the sea.

Key Stakeholders: Key stakeholders involved in these initiatives include Portuguese artists, photographers, environmentalists, and the general public interested in ocean conservation and awareness.

Results and Impact: These initiatives aim to create awareness about the importance of ocean conservation and generate funds for actions related to protecting the ocean. They engage artists, photographers, and the public in the cause, using creative approaches to inspire action and preservation.

Challenges Faced: Some challenges may include coordinating art exhibitions, ensuring the successful fundraising, and reaching a diverse audience to raise awareness effectively.

Source: https://www.sciaena.org/

Practice 46: ESCOLHA MÚLTIPLA

Initiator of the Practice: Sciaena

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Multiple Choice is a project focused on promoting responsible consumption of seafood, particularly through social media. The initiative addresses the growing concern among citizens regarding responsible or sustainable consumption practices related to seafood. To simplify the complex concept of responsible consumption, the project identifies several key aspects, including reducing, diversifying, fishing gear, origin, aquaculture, certification, and packaging. Within each of these themes, specific topics that can guide consumers in making more responsible and informed choices when purchasing seafood are organized and presented.

Implementation Context: The project is designed to be implemented through social media platforms, making it accessible to a wide audience.

Key Stakeholders: The key stakeholders involved in this project may include consumers, seafood suppliers, environmental organizations, and social media platforms.

Results and Impact: The primary goal of Multiple Choice is to inform and guide consumers to make more responsible seafood consumption choices. It provides a structured framework for understanding responsible consumption practices and aims to help consumers navigate the complexities of seafood sustainability.

Challenges Faced: The project's main challenge may involve effectively reaching and engaging the target audience on social media and ensuring that consumers can easily apply the provided information when making seafood purchasing decisions.

Source: https://www.sciaena.org/

Practice 47: HÁ MAR E MAR

Initiator of the Practice: Sciaena

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The "Há Mar e Mar, Há Uso e Recuperar" (There is Sea, and Sea, There is Use and Recover) campaign was established in 2019 and is a collaborative effort involving more than 40 organizations from Portugal and Spain. The campaign was launched following the approval of decree-law 69/2018 by the Assembly of the Republic, which supported the implementation of a deposit return system (DRS) for beverage packaging in Portugal. This system covers all types of materials, including plastic, aluminum, and glass. One of the key activities of this campaign was the collection of signatures for a petition addressed to the Minister of Environment and Climate Action. The petition urged the swift implementation of the deposit return system, emphasizing the environmental benefits it could bring. Sciaena, an environmental organization, leads the communication of this project through the campaign's Instagram page. They use this platform to showcase successful DRS practices in European countries, educate the public about the environmental consequences of the absence of such a system, and raise awareness about the significant daily waste of 4 million beverage packages in Portugal due to the lack of a DRS.

Implementation Context: The campaign operates within the context of environmental conservation and waste reduction, with a focus on beverage packaging.

Key Stakeholders: The key stakeholders involved in this campaign include environmental organizations, NGOs, the Portuguese Assembly of the Republic, the Minister of Environment and Climate Action, and the general public

Results and Impact: The campaign aims to mobilize public support for the implementation of a DRS in Portugal, thereby reducing waste and encouraging responsible recycling practices. While the specific outcomes and impact of the campaign are not detailed, the initiative seeks to influence environmental policy and practices.

Challenges Faced: One of the main challenges faced by the campaign may be the resistance or delay in implementing the DRS in Portugal, despite public and organizational support. Additionally, raising public awareness and garnering sufficient signatures for the petition may have presented challenges.

Source: https://www.sciaena.org/

Practice 48: Good Fish Guide

Initiator of the Practice: Marine Conservation Society

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Good Fish Guide is a tool designed to help consumers make environmentally responsible choices when it comes to seafood consumption. The guide offers information about the sustainability of different fish and seafood species, helping individuals make choices that support healthy marine ecosystems.

Implementation Context: UK

Key Stakeholders: Marine Conservation Society

Results and Impact: The service provides sustainability ratings about 130 fish species in the UK which can be used by consumers and restaurants before buying fish. The fact that the service is updated twice a year is an important indicator of its credibility allowing any interested customer and stakeholder to have valuable information regarding among others how fish are farmed as the rating considers factors such as: fish feed, environmental impact, fish welfare, and management. To this respect, the Guide constantly reviews and updates its list by including and excluding species from "Best Choice" and "Fish to Avoid, according to the predefined criteria.

Figure 47: Good Fish Guide, Credit: Marine Conservation Society

Challenges Faced: Many of the ratings on the Good Fish Guide are negatively affected by a lack of data and as a result, some species might falsely be indicated as "Fish to Avoid".

Source: https://www.mcsuk.org/goodfishguide/

Practice 49: Removal of abandoned or discarded fishing nets from the seas

Initiator of the Practice: Healthy Seas

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The goal of this activity is to remove abandoned or discarded fishing nets from the seas as it is estimated that 640,000 tons of fishing gear are lost or abandoned in the seas and oceans putting in danger or causing death to millions of marine species. Through collaboration with various partners, including fisheries, aquaculture industries, volunteers and divers, the ghost nets are removed from the oceans and are then regenerated and transformed into sustainable products, such as textiles, swimwears and carpets.

Implementation Context: Internationally

Key Stakeholders: Healthy Seas, divers, volunteers, fisheries, aquaculture industries, recycling companies

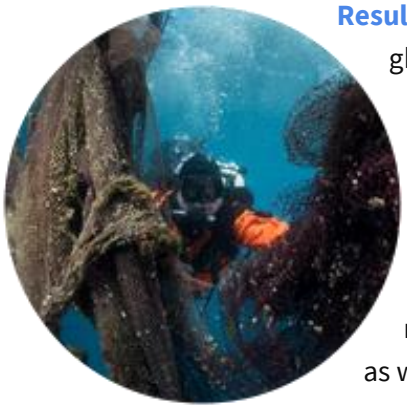


Figure 48: Removal of abandoned or discarded fishing nets from the seas, Credit: Healthy Seas

Results and Impact: The activity contributes towards reducing the impact of ghost nets ensuring the protection of marine habitats and biodiversity. By regenerating the nets into sustainable products, such as textiles and carpets, the activity promotes circular economy while being aligned with the principles of reducing waste and promoting recycling.

Challenges Faced: Securing sufficient financial resources to sustain and expand the activity is one of the main challenges faced and for this reason, the organization depends on individual and companies' funding as well as the service from volunteers (e.g. divers).

Source: https://www.healthyseas.org/

Practice 50: Healthy Seas Virtual Reality Experience

Initiator of the Practice: Healthy Seas

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Utilising state-of-the-art technology, the Healthy Seas Virtual Reality Experience puts children, ideally above the age of 13, in the fins of the Ghost Diving volunteers, on a mission to remove ghost nets from one of the biggest WWII submarines, sunken in the Ionian Sea, in Greece.

Implementation Context: Internationally

Key Stakeholders: Healthy Seas, Morild Interactive and A.W.E. S.O.M.E. Technologies

Source: https://www.healthyseas.org/

Figure 49: Virtual Reality Experience, Credit: Healthy Seas

Practice 51: HACK4OCEANS II

Initiator of the Practice: European Commission's Directorate General for Maritime Affairs and Fisheries (EC DG MARE)

Type of initiator: EC

Description of the Practice: HACK4OCEANS II is a 2-day Youth Innovation Event where participants from across Europe will learn, explore and co-create opportunities for prosperity through ocean conservation and sustainable use of marine resources

Implementation Context: Brussels

Key Stakeholders: EC DG MARE, undergraduate students in disciplines relevant to coastal tourism, aquaculture, marine biotech, seabed mining, ocean energy, design, information technology, data science, innovation and entrepreneurship

Results and Impact: Participants get the opportunity to work with talented peers and marine sector experts from across Europe to develop innovative ideas that could become paths to an exciting career or a new venture in the Blue Economy allowing them to rapidly expand their professional network at a European level and create new opportunities for a future career in the Blue Economy

Figure 50: HACK4OCEANS II, Credit: EC

Source: https://hack4oceans.eu/

Practice 52: Youth Ocean Action Toolkit

Initiator of the Practice: The Ocean Foundation

Type of initiator: Activists

Description of the Practice: The Toolkit was created by six young writers to share the importance of Ocean Literacy and Marine Protected Areas (MPAs) for sustainable ocean management. It contains a collection of stories and case studies illustrating the power of collaboration, community action, and youth activism in conserving our worldwide ocean. Each of the writers combined their own knowledge with firsthand accounts from local community members, protected area managers, and ocean explorers to describe unique ocean ecosystems from the Arctic to the South Pacific and beyond.

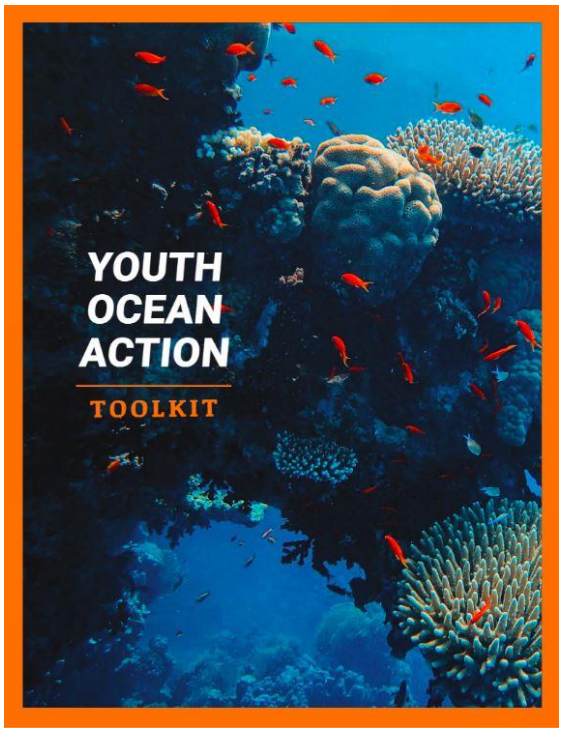


Figure 51: Youth Ocean Action Toolkit, Credit: The Ocean Foundation

Implementation Context: Internationally

Key Stakeholders: Experts, National Geographic Society, Ocean Foundation, volunteers, local communities

Results and Impact: The Toolkit includes among others concise steps to follow for effective campaigns towards ocean protection and advocacy with emphasis given on social media

Source: https://oceanfdn.org/youth-ocean-action-toolkit/

Practice 53: Ocean Literacy for All: A Toolkit

Initiator of the Practice: UNESCO

Type of initiator: Other

Description of the Practice: The toolkit aims to raise awareness on the conservation, restoration and sustainable use of the ocean and its resources and to build a public knowledge base regarding the global ocean

Implementation Context: Internationally

Key Stakeholders: UNESCO, experts, scientists, educators

Results and Impact: The Toolkit can provide educators and learners worldwide the innovative tools, methods, and resources to understand the complex ocean processes and functions and, as well, to alert them on the most urgent ocean issues. It also presents the essential scientific principles and information needed to understand the cause-effect relationship between individual and collective behavior and the impacts that threaten ocean health.

Source: https://unesdoc.unesco.org/ark:/48223/pf0000260721/PDF/260721eng.pdf.multi

Figure 52: Ocean Literacy for All: A Toolkit, Credit: UNESCO

Practice 54: #LovetheOcean

Initiator of the Practice: The Marine Biological Association, UK

Type of initiator: Learned Society

Figure 53: Love The Ocean

Description of the Practice: The EU Horizon 2020 funded Sea Changes #LoveTheOcean, hosted on Valentine's Day 2018, aimed to engage people through their love of ocean spaces by committing to take real action every day. The campaign reached out to communities and asked them to post photos or short videos indicating the changes they planned to make in their daily lives, and coincided with the final conference event of the Sea Changes Project in Paris. Participants shared project pledges, actions and the small changes they planned to make online, tagging them with #LovetheOcean.

Implementation Context: Internationally

Key Stakeholders: NGOs, local communities, young people

Source: https://www.ecsite.eu/activities-and-services/news-and-publications/lovetheocean-new-sea-change-campaign

Practice 55: I live by the Sea Contest

Initiator of the Practice: Today We Have

Type of initiator: Non-profit organization (NGO)

Description of the Practice: "I live by the Sea" is a worldwide competition for youths up to the ages of 21. Contestants are invited to use any type of visual art to present a story of their sea with the goal of spreading and sharing knowledge about marine environments and marine conservation issues, and promoting knowledge exchange between marine users across regions. The competition is based on the principle that we all live by the sea. No matter how far from the sea you live, next to the beach or far away in the mountains, we still have a great impact on it.

Implementation Context: Internationally

Key Stakeholders: Today We Have, institutions and members of the EU4Ocean coalition, young people under 21

Results and Impact: The participants of the contest will have the chance to have their art work presented in important events dedicated to the ocean and therefore promote their own perception of the reality and their regions.

Source: https://maritime-forum.ec.europa.eu/contents/i-live-sea-international-youth-photo-and-film-contest-2022_en

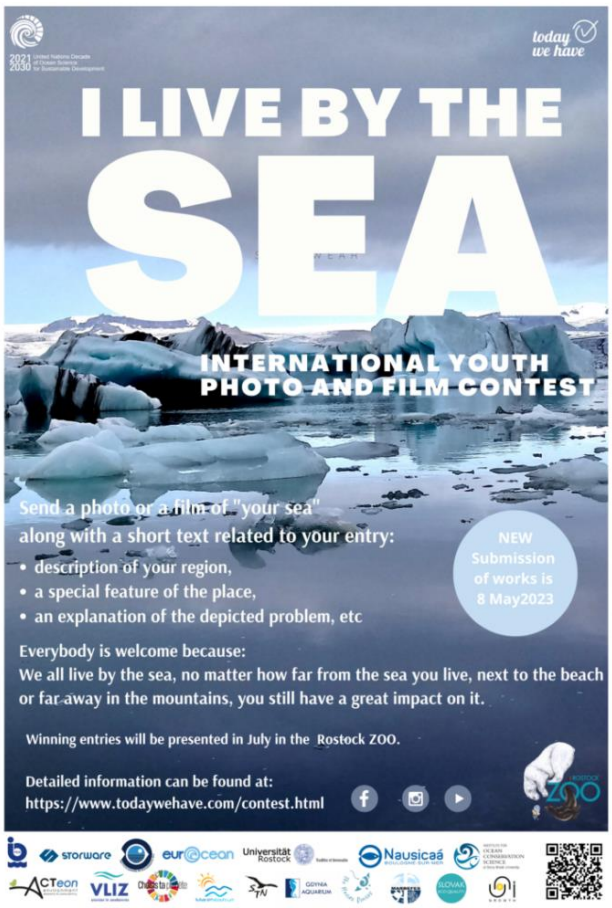


Figure 54: I Live by the Sea Contest, Credit: Today We Have

Practice 56: @oceanseaicenpi Social Media

Initiator of the Practice: Norwegian Polar Institute

Type of initiator: Institute

Description of the Practice: @oceanseaicenpi is a science communication initiative led by a small group of polar oceanographers, sea ice, and atmospheric scientists at the Norwegian Polar Institute. Here we present our experience establishing, developing, and maintaining this successful Arctic science communication initiative on Instagram, Twitter, and Facebook. The initiative is run entirely by the team of 25 researchers with limited time and financial resources.

Figure 55: © Frede Lamo, Norwegian Polar Institute

Implementation Context: Nordic countries

Key Stakeholders: Researchers, scientists

Results and Impact: Over 4 years, the initiative has built a broad audience of more than 7700 followers. The initiative has helped other researchers and scientists to learn how to effectively communicate their scientific findings to the broader public.

Source: https://www.instagram.com/oceanseaicenpi/

Practice 57: Sea Walls: Artists for Oceans

Initiator of the Practice: PangeaSeed Foundation

Type of initiator: Non-profit organization (NGO)

Description of the Practice: Sea Walls: Artists for Oceans is a groundbreaking public art program that brings the oceans into the streets around the world. The Foundation collaborates with some of today's most renowned contemporary artists to create large-scale public murals that address pressing environmental issues the oceans are facing including: overfishing, plastic pollution, ocean acidification, coastal development

Implementation Context: Internationally

Key Stakeholders: Artists

Results and Impact: 500 murals in 19 countries across the globe have already been designed

Source: https://seawalls.org/

Figure 56: Sea Walls: Artists for Ocean, Credit: PangeaSeed Foundation

Practice 58: ORCA OceanWatchers

Initiator of the Practice: ORCA

Type of initiator: Non-profit organization (NGO)

Figure 57: ORCA

Description of the Practice: The ORCA OceanWatchers is a citizen science monitoring program that gives the opportunity to citizens to collect data about whales, dolphins and porpoises while raising awareness about marine mammal conservation. The data can be collected from anywhere that you can see the sea - whether that's from your local beach, on holiday at the coast, scanning the seas from a cruise ship, travelling via ferry, or from your own boat.

Implementation Context: UK

Key Stakeholders: Citizens

Results and Impact: The survey data collected over the last three decades has led to better protection for whales and dolphins in ocean hotspots. The knowledge and understanding of cetacean conservation issues means that ORCA's experts are actively involved in high-level global forums to safeguard marine mammals and their habitat.

Source: https://orca.org.uk

Practice 59: Ocean Limited

Initiator of the Practice: University Students from Germany

Type of initiator: University Students

Description of the Practice: Ocean Limited is a game for groups of at least 10 players aged 15 and over, developed for use in interdisciplinary school lessons, in project weeks and environmental education in order to learn through fun about the complex and fragile ocean system. In Ocean Limited, players take on the roles of deep-sea fishermen, recreational divers, energy and aquaculture companies and other actors and negotiate their interests in the ocean's resources. They are confronted with the ecological consequences of human use and the effects of climate change on the oceans. If they want to preserve their common livelihood for the future, they have to find sustainable compromises!

Implementation Context: Internationally

Key Stakeholders: Schools

Source: https://www.ocean-limited.de/

Figure 58: Ocean Limited, Credit: Ocean Limited

Figure 59: Cool Seas Explorers - Teach on the beach, Credit: Marine Conservation Society

Practice 60: Cool Seas Explorers - Teach on the beach

Initiator of the Practice: Marine Conservation Society

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The beach clean - litter search

This activity engages students in exploring the variety of litter present on the beach. Working in teams, students will undertake a beach cleanup, during which they will survey and document the types of litter they encounter on a designated survey sheet, and gather the waste in black trash bags. The subsequent activity, to be carried out back at school, delves into prevailing topics and concerns related to marine conservation and the influences humans have on the environment.

- Treasure hunt

This activity allows students to investigate the local beach ecosystem, gain knowledge about some of the prevalent marine species they might encounter, and examine the assortment of items that are deposited on the shore.

- Tangled web

This activity introduces children to the role of turtles in the marine ecosystem and offers an enjoyable perspective into ecosystems and food webs. Each student in the class will symbolize a distinct element of the web and determine how they are interconnected with other elements. It will be essential for the teacher to assist students in clarifying the connections between several of the components.

- Limpet game

This engaging activity serves as an entertaining method to familiarize children with the interconnectedness between the life processes of animals and the habitats in which they reside. Through this game, children can gain insights into how each species is uniquely adapted to its environment and how it interacts within its ecosystem. They can learn about the intricate balance of ecosystems and how each organism, from the smallest invertebrate to the largest mammal, plays a critical role in maintaining ecological equilibrium. It's not only an educational tool but also a means to foster curiosity and a deeper appreciation for wildlife and their respective habitats, helping children to understand the importance of biodiversity and conservation from an early age.

- How does echolocation work?

This exercise explores the concept of echolocation, a technique used by marine mammals like dolphins to navigate and locate objects in their environment. Participants will start by deliberating the potential challenges marine creatures might face in their underwater habitats. Subsequently, they will be acquainted with the concept of echolocation and will delve deeper into understanding its mechanics through an interactive, simplistic game. This approach aims to facilitate learning by providing a tangible experience of the complexities and innovations of marine animal behaviours and adaptations in a manner that is accessible and engaging for children.

- Journey stick

In this exercise, students are encouraged to contemplate and introspect on the experiences they've accumulated throughout their day at the beach and transform those reflections into a visual log, denominated as a 'journey stick'. By amalgamating both natural and artificial elements gathered during the day, students will engage in an artistic journey to manifest their interactions with and observations of the natural environment. Subsequently, the 'Journey Stick' is designated to serve as a central point for imaginative composition and creative writing activities.

Implementation Context: Nationwide, U.K., Atlantic Ocean, North Sea

Key Stakeholders: Local communities, schools

Source: https://media.mcsuk.org/documents/Teach_on_the_Beach.pdf

Figure 60: EcoOcean

Practice 61: Yam HaSharon volunteer community – The Mediterranean people

Initiator of the Practice: EcoOcean

Type of initiator: Non-profit organization (NGO)

Description of the Practice: The Yam HaSharon community, spearheaded by EcoOcean, is an integral part of the 'Mediterranean People' coalition. This coalition forms a national network comprising five communities along the Israeli coast. These communities share a common goal: the establishment of marine reserves in Israel's territorial waters. Through collaborative efforts, they work together to advocate for and contribute to the preservation and sustainable management of marine ecosystems in the Mediterranean region.

Implementation Context: Mediterranean Sea

Key Stakeholders: Surfers, divers, swimmers, sea and environment lovers and many others

Results and Impact: Activists, much like marine biologists, undergo training to acquire qualifications in gathering scientific information and monitoring the marine and coastal environment. Through their involvement in citizen science initiatives, these activists contribute high-standard data to assist marine scientists in gaining a better understanding of what needs to be conserved, particularly in the context of establishing and managing marine protected areas. This collaboration enhances the synergy between dedicated individuals and scientific experts, fostering a more comprehensive and informed approach to marine conservation efforts.

Source: https://www.ecoocean.org/en/

Conclusions

As part of Activity 2: Research on Ocean Protection Practices, the consortium identified a number of 60 good practices in the field of ocean protection and conservation from initiatives developed and implemented internationally with emphasis given on practices taken place in European countries. The desk research and online survey also took into consideration sport and outdoor activities aiming at bringing young people closer to the sea giving them the opportunity to become aware of environmental issues concerning the sea while practicing a sea or beach sport. As evident in the demonstration of the practices, the consortium primarily focused on good examples initiated by non-profit organizations (NGOs) which could either be replicated or modified to serve the needs of young people at a local level without, however, excluding a limited number of practices which have been developed by the industry aiming at a bigger scale impact. The results of the desk research will be reviewed in the light of the outcomes generated as part of Activity 3: Collaborative dialogues towards ocean protection, which entails the engagement of young people and policy/decision makers and professionals in discussions to identify feasible measures to protect the ocean from climate change and pollution while promoting ocean literacy among youth. The compilation of the results from Activity 2 and 3 will synthetize the “Booklet of Best Practices for a Bluer Ocean”.

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