

Ocean Literacy tools for maritime professionals

Work Package 5

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Introduction

Maritime professionals working at sea have a professional relationship with the sea. Their daily actions and decisions they make influence the marine environment, and therefore they share responsibilities for its wellbeing. Ocean Literacy and Sustainability education increases their knowledge of the importance of the ocean and awareness of the environmental pressures the ocean is facing. It contributes to their connection with the marine environment, their attitude towards environmental action, their willingness to be part of sustainable development of their industry and a willingness to be part of the solutions.

Within the ResponSEable project, ProSea has worked together with AZTI, Plymouth University and GRID-Arendal to develop OL tools to be used in OL education of maritime professionals. The development has focussed on the key stories Sustainable Fisheries and Marine Renewable Resources.

Summary of the OL tool for Sustainable Fisheries

ProSea developed a training course for students from fishing academies that comprises of a wide variety of teaching methods, including interactive lectures, video's, animations, workshops, group assignments, games, quizzes and group presentations. The document 'SF-Course package Fishing with a future – OL tool' describes the course package for this training course.

Sustainable fishing training covers a wide variety of subjects and this course package offers a basis for the development of sustainable fishing training at fishing academies. It describes a four-day training program:

- Day 1: Sustainability (seen as a balance between the three P's: People, Planet and Profit) and marine environment (planet P)
- Day 2: Profit P and People P
- Day 3: Fisheries management and People P - continued (communication skills)
- Day 4: Environmental challenges (planet P) and sustainability futuring

Seven extra OL tools were developed in the ResponSEable project, and they are described in the attachments of the course package document. The development of seven OL tools in the ResponSEable project contributed greatly to the variety of tools, by adding video's, animations, illustrations and slide shows to the course package.

- Importance of the Ocean

<https://www.youtube.com/watch?v=MvjpDcUtFPc>

This ResponSEable tool shows many ecosystem services in a dynamic video of 2 minutes. Over 70% of the world's surface is covered with water – the ocean. The ocean plays a very important role for human life on earth. It provides food and oxygen, regulates our climate, and is economically important, for instance because it provides a means for transport, and over 200 million people work in the fishing industry. This video is included in the course in the section about the marine environment.

- Marine Olympics for litter awareness

Marine litter is found everywhere in the marine environment, all around the world. It is a truly global problem, illustrated by the plastic soup, floating garbage that collects in so-called gyres. However, this ResponSEAbLe tool shows that most of the litter sinks to the sea floor. This humorous set of videos is included in the course in the section about environmental challenges:

Shot-Put: <https://www.youtube.com/watch?v=C4GgrBuTOnY>

Tennis : <https://www.youtube.com/watch?v=RoZRJ8uE1sY>

Hurdling : https://www.youtube.com/watch?v=bW_rsubZ9sE

Soccer: https://www.youtube.com/watch?v=5PEz_Jj2U8

Swimming : <https://www.youtube.com/watch?v=Ge2MOLU2xd4&t=42s>

- Who is the best fisherman? (pdf file). This ResponSEAbLe tool emphasizes one of the main aspects of economic thinking. It shows the need for fishers nowadays to be more than just fish-hunters, but fishing entrepreneurs. The series of illustrations shows a tough looking fisher that aims to catch as many fish as possible, and a second skinny looking fisher who also takes quality and cost into account. This set of illustrations is part of the course in the section about fishing economy.
- The story of the North Sea (pdf file). After the general information about marine ecology and the difference between open ocean and coastal seas, it is important to apply this knowledge to the specific sea that the fishers are working in. This ResponSEAbLe tool uses the North Sea as an example and shows pictures that emphasize the beauty and diversity, elaborates on the importance of the area for humans and shows the North Sea as an example of a coastal sea (with a food chain, food web etc. This power point presentation is included in the course in the section about the marine environment.
- Marine Spatial planning (video): <https://www.youtube.com/watch?v=xFzPqMC89os>
This ResponSEAbLe tool address that the sea is not used by fishers alone but has lots of activities going on by other (economic) sectors. It shows the North Sea as an example. This animation is included in the course in the section about the marine environment.
- EU Common Fisheries Policy animation - This ResponSEAbLe tool is an animation that describes the CFP. The CFP is a set of EU rules for managing European fishing fleets and for conserving fish stocks. It gives European fishing fleets equal access to EU waters and fishing grounds and allows fishers to compete fairly. The CFP aims to ensure that fishing is environmentally, economically and socially sustainable (People, Planet, Profit) and that it provides a source of healthy food for EU citizens. Its goal is to have a dynamic fishing industry and to ensure a fair standard of living for fishing communities. The current policy sets catch limits that are sustainable and maintain fish stocks in the long term. It also aims stop discarding by gradually instituting the landing obligation. This animation is part of the course in the section;

- Mapping of the Value chain in fisheries (pdf file) - After the fishers land the fish, the fish travels (sometimes a long way) to the consumer, the person eating the fish. This ResponSEAbLe tool shows an example of this approach for the Dutch fishing sector. As a fishing entrepreneur, it is important to understand the different steps the fish takes (e.g. auction, wholesale, processor, exporters, restaurants, retail), what happens to the fish during those different steps, and, how that influences the price of the fish. Why is the fish in the supermarket so expensive, while I as a fisher only get this low price? Ask the students for ideas how they can work with the supply chain in an economical profitable way and give examples where fishers have been successful. This power point presentation is part of the course in the section about fishing economy.

Summary of the OL tool for Marine Renewable Energy

This OL tool is an educational program about environmental disturbances in the construction phase of wind energy generation at sea for professionals involved in this construction phase. The workshop strives to make participants aware of the environmental issues connected to the construction of wind energy structures at sea, and to strengthen Ocean Literacy, as a basis for proactive thinking (in all situations) and taking adequate responsibility for environmental/sustainability in construction projects.

The document 'Environmental pressures - Construction Phase MRE - educational program describes this 2,5-hour program:

- The program starts with a practical element that uses a shark (or ray) from a fish vendor to introduce the subject of sensitive species. Participants are invited to investigate and talk about the shark, learning how it perceives its environment and discuss how human activities can interfere with these abilities. By introducing and focusing on these sensitive species (sharks and rays), environmental disturbances get more tangible, enabling the educator to discuss the subject from the perspective of such animals. Instructions for this practical element are described in Practical Element instruction - Sensitive Species.
- The workshop leader conducts a PowerPoint presentation (Disturbances by construction activities.) that is designed to start and structure the discussion on man's impact on elasmobranchs, fish and cetaceans. During the presentation, the educator shares knowledge about the environmental disturbances of electromagnetic radiation, turbidity and underwater noise, when possible connecting it to the experiences of the practical shark workshop. A document with background information is available Background document - MRE pressures construction phase.
- The workshop is closed with a plenary, Questions and Answers discussion session, aimed at answering any questions participants might have, and discussing potential consequences of this information for MRE construction projects, sharing experiences and ideas of best practices (tips and tricks) in mitigating environmental impacts and exploring personal opportunities to work towards solutions.