



Fishing with a Future

Development process of a course package
for Sustainable Fishing training for fishing
academies

ResponSEAbLe project WP 5, deliverable 5.5: Educational packages for professionals

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Date: February 23, 2018

Project coordinator:



Project beneficiaries:



1. Description of the product

To keep up with the changes in the fishing industry, including an increased demand for sustainable development, fishers need additional skills, knowledge and information. For many fishers, accepting these changes is difficult, and embracing the need for sustainable development is even more challenging. Consequently, a sound process of including sustainable fishing training in the initial education of fishers would benefit fishers, the fishing sector and the marine environment in general.

Sustainable fishing training empowers (future) fishers to protect fish stocks and the marine environment for future generations and helps future fishers find a balance between planet (environmental challenges), profit (economic viability), and people (acceptance of your business by society – a license to operate) in shaping their sustainable and successful businesses.

The training course comprises of a wide variety of teaching methods, including interactive lectures, video's, animations, workshops, group assignments, games, quizzes and group presentations. 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. 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

Day 1	Day 2	Day 3	Day 4
<ul style="list-style-type: none"> • Introduction sustainability: what is it? Why we talk about it? • Workshop: own opinion about important sustainability issues • Marine Environment: lecture and field trip 	<ul style="list-style-type: none"> • The fishing fleet: developments, past 20 years and current trends • Fisheries economy: how to earn money with fishing and the fish supply chain • Workshop Image and Identity: acceptance by society 	<ul style="list-style-type: none"> • Fisheries management: lecture and exercises • Game: tragedy of the commons • People P – communication skills (theory and role-playing exercises with an actor) 	<ul style="list-style-type: none"> • Environmental challenges: oil, marine litter and air emissions • Workshop: drawing the ship of the future • Final assignment: presentation of sustainable future plans

The course package aims to inspire and assist fishing academies, their teaching staff and other experts to organize and introduce sustainable fisheries training for future fishers, with the ultimate goal to implement this as a structural element in the school curriculum of all fishing academies.

Therefore, in addition to course content, the package focusses on the challenges of implementation of sustainable fishing training. The fishing sector is unique in many aspects and setting up sustainable fishing training for fishery students in different countries requires that the courses are custom made, and adjusted to education level, language, culture, specifics of the fishing sector and the local environment. Given these special challenges, an important aspect of the implementation process is the building of a national network of partners that work together in customizing the course content for their country, and the execution of pilot courses in different countries to gain hands-on experience.

2.Target Group

The course is designed for (future) fishers at fishing academies.

3. Ocean Literacy goals

The sustainable fishing course covers a wide range of materials and teaching methods. While individual elements of the course may have specific goals or objectives, together they contribute to the overall message of the course and the main messages of the ResponSEAbLe project:

- We are collectively responsible for the state of the marine ecosystems
- The links between marine ecosystems and people are 'without borders'
- From understanding to ... taking actions (the road might be long)
- A good understanding of DAPSI(W)R, combined with the value chain, is a useful basis for effective Ocean Literacy

4. Design and Development process

The ProSea foundation has been conducting sustainable fishing courses in the Netherlands since 2004. Evaluations of these courses show that a variety of teaching methods are required to engage the students and as part of the ResponSEAbLe project, ProSea set out to complement the course materials with extra materials, notably more audiovisual tools. In addition to the development of the separate tools, ProSea focused on the production of a document that could serve as a basis for the implementation of sustainable fishing training at fishing academies, on testing effectiveness and on communication with multipliers both at the policy level and in the fishing sector.

4.1. Seven OL tools -working together with teachers

With the experiences and evaluations of sustainable fishing courses in mind, ProSea wrote a workplan for the development of educational materials. The plan describes a list of 7 new OL tools that can be to be used as part of the sustainable fishing courses, but that can also be used as a stand-alone product. The workplan included a short description and an estimate of time and resources needed for the development.



On June 13, 2017, ProSea organized the annual meeting for Dutch fishing academy teachers. In addition to teachers from all five schools, representatives from the fishing sector and from the Dutch Ministry of Economic Affairs were present.

The workplan was discussed and all teachers were positive about the proposed OL tools. They considered them as valuable additions to their educative materials. Especially the animation on the EU Common Fisheries Policy would help the teachers a lot, since many of the teachers and students are not well aware of the CFP and how it works. Some teachers offered to be involved in the development of the OL tools. The entire minutes of the meeting are available in Dutch.

During the development of the OL tools, individual teachers were asked to look at the concept-tools, encouraged to use them in class and to give their opinion on them. In May 2018, another annual teacher meeting will be organized, and the finished products will be shared with the teachers.

4.2. Course package – working together with the OSPAR commission

OSPAR has a stated aim to 'substantially reduce marine litter in the OSPAR Maritime area to levels where the properties and quantities of marine litter do not cause harm to the coastal and marine environment', and the Regional Action Plan for Prevention and Management of Marine Litter in the North-East Atlantic (RAP) describes various types of actions that OSPAR is working on. In the RAP, marine litter from fishing is identified as a key area for action, and two actions are specifically aimed at the education of fishers:

- OSPAR Action 58: Develop marine litter assessment sheets to assist Contracting Parties in developing material for education programs, including those for professional seafarers and fishers.
- Contracting Parties National Action 79: Promoting or adopting environmental awareness courses for fishers and the fishing sector.

In the spring of 2017, ProSea was contracted by the Dutch government to conduct a quick survey to get an impression of current education of fishers in OSPAR countries, not only about marine litter, but with the emphasis on 1. sustainability in the school curricula of fishing academies, and 2. on the needs and wishes to include this. One of the main conclusions was that Sustainability (People, Planet, Profit) is not structurally implemented as a separate theme in the curricula of fishery education. All interviewed fishing academies (Denmark, Belgium, Ireland and Scotland) were interested in participating in a project to enhance sustainable fishing education.

With these results, and using the work done in the ResponSEable project, ProSea developed a proposal to implement sustainable fishing training at fishing academies, that was presented at the Meeting of the OSPAR Intersessional Correspondence Group on Marine Litter (ICGML) on Corsica in May 2017, and further discussed at the ICGML meeting in Brussel in November 2017. At this November meeting it was decided to explore the possibilities to write a background document for OSPAR's Environmental Impacts of Human Activities Committee (EIHA) in 2018, with the goal to write and implement an OSPAR Recommendation in 2019.

The Dutch government contracted ProSea to assist in writing a background document and the expectation is that this document will be adopted in 2018. The background document follows the ResponSEable approach where we aim to conduct pilot courses to test the course package. The experiences gained should lead to an OSPAR recommendation to the member states to implement sustainable fishing training at their fishing academies.

In the meantime, ProSea has worked with OSPAR representatives in Denmark, Belgium, Spain, Norway and the UK to approach fishing academies and to look for ways to secure funding for the development of custom-made sustainable fishing courses in the respective countries. In the spring of 2018, ProSea formed a partnership with fishing academies in Belgium and Denmark to develop and conduct pilot courses. Funding proposals were submitted to the national administration (Belgium) and a private fund (Denmark) and we expect a decision by the end of May 2018.

4.3. Testing and measuring effectiveness – Netherlands, fall 2017

In September and October 2017, ProSea conducted 'Fishing with a Future' courses for all Dutch fishing academies. The five courses were attended by 99 students and 13 teachers (some of them participated only part of the program). These courses were paid for by the Dutch government and no ResponSEable budget was used, but we did use these courses to test the overall objective of the course and specifically to test one of the new OL tools. In addition, in close cooperation with Matthew Ashley from Plymouth University, we collected information about how to test effectiveness.

When these courses were conducted, a comprehensive framework of the effectiveness testing was not available, so we collected as much information about the course results as possible. This information included the results of some of the course workshops, a summary of student opinions on sustainability before and after the course, the results of the final group assignment and presentations and individual questionnaires after the course. This information was translated and sent to Matthew Ashley for analysis and further review.

In the last two courses we tested one of the new OL tools 'Who is the best fisherman?'. In addition to using the tool as part of the program, we tested effectiveness:

- BEFORE - we asked the student who the best fisherman is
- AFTER - six questions after the use of the tool, to be answered on a scale of 1-10
- AFTER - we asked the student who the best fisherman is

The results were translated and sent to Matthew Ashley.

4.4. Testing and measuring effectiveness – Spain, February 2018

On February 20 and 21, ProSea conducted a marine environmental awareness course at a maritime academy in Pasaia (San Sebastian) in Spain, in close cooperation with ResponSEable partner AZTI. This course is developed for seafarers and its main objective was to test its effectiveness in raising Ocean Literacy about the key story Marine Invasive Species.

However, most of the students were future fishermen, and since several subjects are similar to the sustainable fishing courses, the course gave us great insight in the effectiveness for fishing students and in the challenges and possibilities to develop a more fishing oriented course in Pasaia. So, we were able to test the course content and the course approach.



Matthew Ashley from Plymouth University was present at the course and he conducted a full effectiveness survey with questionnaires before and after the course, and he documented the results of workshops and student presentations.

The day after the course, we organized a debriefing with the director and teachers of the maritime academy, scientific institute AZTI, Matthew Ashley from Plymouth and local NGO Mater Museoa. Everyone attending that meeting participated in the course and all were very positive about course content and methodology. We discussed course content for a possible follow up course about sustainable fishing and all partners showed interest in joining a partnership to develop and conduct a pilot course. We agreed that we would write a starting document about involvement and content in order to establish partnerships and expectation, and to use a basis for securing funding.

4.5. Multipliers

The main multiplier for the sustainable fishing course is the OSPAR commission and its individual member states, as described in paragraph 3.2.

In addition to OSPAR, we have been working with the following multipliers:

- EP tender

The ProSea foundation is involved in a Research Study on “Training of fishers” for the European Parliament. In this study an extensive inventory is attempted to be made of the education institutes, regulations, standards and practices in the fisheries sectors in all EU-countries, with a focus on safety and sustainability education. The study is intended as a first step towards setting adequate and mandatory standards, Europe wide, for safety and sustainable fishing education. For ProSea, having the overview of fisheries education institutes and relevant stakeholders offers great opportunity to use this network for dissemination of our ideas, experience and materials/tools with respect to our sustainable fishing courses. It also helps to further identify international needs, interests and partners in this respect. The project is executed with a number of partners, amongst which the lead partner Blomeyer Sanz.

- FISH platform

FISH Platform (Fish Industry Safety and Health platform) is an international umbrella organization of fish industries, aiming to push attention and training/education standards for Health, Safety and Sustainability in the fish sector. ProSea is attending the meetings and working along to get the education message with respect

to sustainable fishing (and responsible behavior at sea) with the right focus and urgency in the education standards to be developed and implemented.

- Europêche

Following ProSea involvement in the study for the European Parliament and FISH platform, ProSea is also working with the European fisheries branch organization, the Association of National Organizations of Fishing Enterprises in the European Union (Europêche). Through Europêche, we have access to the international fisheries sector and we work together to increase the attention for sustainable fishing (education) and sustainability at sea.

- International Maritime Organisation (IMO)

Probably the most relevant organization, setting education/competence standards for the maritime sector, including fisheries, is the IMO, with the Standards of Training, Certification and Watchkeeping for Fishermen (STCW-F) as the key vehicle. STCW-F, however, is at present, not adequately defined and not sufficiently adopted in international fisheries. ProSea is opening talks with the Dutch Government and other partners to develop this STCW-F standard into an adequate standard, also for sustainability at sea, thus ensuring a structural and sustainable embedding of sustainable fishing education and sufficient ocean literacy amongst fishermen.

5. Planning

- In the fall of 2018, ProSea will conduct two 'Fishing into the Future' courses for one of the fishing academies in the Netherlands. In this course all newly developed OLtools will be tested.
- If the submitted proposals in Belgium and Denmark are successful (May 2018), and funding is secured, ProSea will work with the fishing academies in those countries to set up a network of partners, develop a custom-made course and conduct pilot courses.
- In 2019, ProSea will assist the Dutch government with writing a OSPAR recommendation for the implementation of sustainable fishing courses in OSPAR countries.
- ProSea, will work together with the maritime academy in Pasaia, AZTI and NGO Mater Museoa to form a partnership and investigate possibilities to develop a sustainable fishing course for the local situation.