

Report

WP 3 CAPACITY BUILDING THROUGH STAFF TRAINING AND EQUIPMENT PURCHASE

DEV 3.4.3: KNOW-HOW TRANSFER RELATED TO THE TO THE LATEST TOPICS IN INTERNATIONAL LAWS ON CLIMATE CHANGE AND MARINE POLLUTION

Development of Regional Joint Master Program in Maritime Environmental Protection and
Management – MEP&M

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REPORT ON KNOW-HOW TRANSFER RELATED TO THE TO THE LATEST TOPICS IN INTERNATIONAL LAWS ON CLIMATE CHANGE AND MARINE POLLUTION

Overview of MSc programs in field of MEP&M at EU HEIs

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1. Introduction

Author(s) of Introduction: Javier Moreno Andrés, María de Andrés García and Ana Macías Bedoya. University of Cadiz (Spain).

1.1. Objectives

In the project, the main objective of DEV.3.4.3 was to provide to Montenegrin and Albanian HEIs' teaching staff additional know-how with research activities in topics of international laws on climate change and marine pollution. Training addressed various topics including international law on marine pollution from ships, Prevention of Marine Pollution & Compensation of Marine Pollution, Marine law and spatial planning or Environmental Impact Assessment and compensation.

Based on this, the specific objectives to be achieved in DEV.3.4.3 are the following:

- Obj. 1** To be introduced to the main international legal instruments related to Climate Change and Environmental Pollution (IMO)
- Obj. 2** To be introduced to the main legal tools about marine pollution
- Obj. 3** To get further insight into the marine management
- Obj. 4** To increase knowledge on marine protected areas and law aspects

1.2. Format

The objectives allowed specific topics to be obtained, which were developed in the training sessions. Thus, the topics proposed for DEV.3.4.3 are as follows:

- **Topic 1.** International law on marine pollution from ships: the MARPOL Convention and the Ballast Water Memorandum (Obj. 1)
- **Topic 2.** Prevention of Marine Pollution & Compensation of Marine Pollution (Obj. 2)
- **Topic 3.** Towards a more sustainable marine management: from sectoral planning to marine spatial planning (Obj. 3)
- **Topic 4.** Marine law and spatial planning with a focus on the Mediterranean (Obj.1, 3)
- **Topic 5.** Management of MPA in Europe, law aspects (Obj. 4)
- **Topic 6.** Environmental Impact Assessment and compensation, law aspects (Obj. 3, 4)



The topics were developed by professors from the University of Cadiz, Spain (UCA-S) and the University of Cote D'Azur, France (UCA-F); they are researchers and specialists in the areas of knowledge proposed. Specifically, the **University of Cadiz addressed topics 1, 2 and 3**, while the **Cote D'Azur University developed topics 4, 5 and 6**

On the other hand, the format of the training sessions was initially planned to be developed in person, during two days at the University of Montenegro. However, due to the restrictions arising from the covid-19 pandemic, it was agreed at the Kick-off meeting that the **sessions related to DEV.3.4.3** would be held in an **online format**.

The online format made it easier for both teachers and participants to conduct the sessions independently. A professor to develop a specific topic addressed each session. To this end, a Doodle was created for each of the proposed sessions in which the participants could show their availability. Based on the results obtained in the Doodles, the dates of the sessions were established (**Table 1**). The agenda shows the days and times set for each of the training sessions.

In terms of participants, as shown in the project, there should be at least 15 representatives of teaching staff from Montenegrin and Albanian partners. Accordingly, the different dates set in the agenda were circulated by UCA-S to WP3 contact people for dissemination to interested professors.

Table 1. Calendar for DEV.3.4.3 training sessions

11 th March 2022	UCA-S training session	International law on marine pollution from ships, Prevention and compensation of marine pollution & marine spatial planning
20 th April 2022	UCA-F training session	Marine law and spatial planning with focus on Mediterranean, Environmental Impact assessment.



1.3. Agenda

In order to facilitate the attendance of the greatest possible number of professors of the universities of Montenegro and Albania, the agenda for this task was organized over two days, concentrating in each one of them the three sessions of professors from the University of Cádiz (UCA-S) and the University University Côte d'Azur (UCA-F) respectively. The specific Agenda of each session is detailed on **Table 2**.

Table 2. Agenda for DEV. 3.4.3 training sessions

Friday, 11th March 2022

9:45- 10:00	Entry and welcome Link for the meeting: https://meet.google.com/nyc-udsz-ecz
10:00 – 10:50	Dra. Ruth García Llave University of Cádiz (UCA-S) Topic 1: International law on marine pollution from ships: the MARPOL Convention and the Ballast Water Memorandum (Part 1)
10:50-11:00	Break
11:00- 12:00	Dr. Jorge Walliser University of Cádiz (UCA-S) Topic 1: International law on marine pollution from ships: the MARPOL Convention and the Ballast Water Memorandum (Part 2) Discussion and questions
12:00-12:10	Break
12:10- 13:00	Dr. Emilio Rodríguez-Díaz University of Cádiz (UCA-S) Topic 2: Prevention of Marine Pollution & Compensation of Marine Pollution (Part 1)
13:00-13:10	Break
13:10-14:00	Dr. Emilio Rodríguez-Díaz University of Cádiz (UCA-S) Topic 2: Prevention of Marine Pollution & Compensation of Marine Pollution (Part 2) Discussion and questions
14:00-15:00	Lunch
15:00-15:50	Dr. Javier García Sanabria University of Cádiz (UCA-S) Topic 3: Towards a more sustainable marine management: from sectoral planning to marine spatial planning (Part 1)



15:50-16:00	Break
16:00-16:50	Dr. Javier García Sanabria University of Cádiz (UCA-S) Topic 3: Towards a more sustainable marine management: from sectoral planning to marine spatial planning (Part 2) Discussion and questions
16:50-17:00	Closure

Wednesday, 20th April, 2022

09:00-9:30	Welcome Link for the meeting: https://univ-cotedazur.zoom.us/j/88540593823?pwd=T3lPb0NQbUFsQ0N0QWV05bmRpTCtpUT09
09:30-10:20	Conference 1 Marine law and spatial planning with a focus on the Mediterranean Frederic Villers, OFB (French Office for Biodiversity)
10:20-10:30	Break
10:30-11:00	Conference 1 continues, followed by discussion
11:00-12:20	Conference 2 Management of MPA in Europe, law aspects Frederic Villers, OFB (French Office for Biodiversity)
12:20-12:30	Break
12:30-13:30	Conference 2 continues, followed by discussion
13:30-14:30	Lunch
14:30-15:20	Conference 3 Environmental Impact Assessment and compensation, law aspects Frederic Villers, OFB (French Office for Biodiversity)
15:20-15:30	Break
15:30-16:30	Conference 3 continues, followed by discussion
16:30	Closure

2. Overview of University of Cadiz training sessions

2.1. Topic 1. International law on marine pollution from ships: the MARPOL Convention and the Ballast Water Memorandum

Author(s) of topic 1: Javier Moreno Andrés, Ruth García-Llave and Jorge Walliser, University of Cadiz (Spain).

Date: Friday, 11st March 2022.

Organized by: University of Cadiz, Spain.

Professor: Dr. Ruth García-Llave (Part 1) and Dr. Jorge Walliser (Part 2).

Contents taught:

The topic “International law on marine pollution from ships: the MARPOL Convention and the Ballast Water Memorandum” was developed by Dr. Ruth García Llave and Dr. Jorge Walliser, from University of Cadiz (Spain), with the main aim to talk about two important IMO Conventions: Ballast Water Convention (aimed to minimizing impacts from transferring non-indigenous species) and MARPOL Convention (prevention of pollution from ships).

The topic 1 has been developed in two parts according to the agenda.

In part 1 (1 hour aprox.), all the contents were presented in a continuous and structured manner as follows:

- Concept of ballast water and use of ballast water on board ships: procedure and purpose.
- Invasive species and problems caused by ballast water in marine ecosystems: background and current situation.
- International Maritime Organization (IMO) and International Convention for the Control and Management of Ballast Water: Structure and content.
- Treatment techniques for ballast water management.
- Ballast water management facilities on board and ashore.

In part 2 (after a 10-minute break), Prof. Jorge Walliser developed International Convention for the Prevention of Pollution from Ships, with emphasis on:

- Effects of Marine Pollution from Ships: The Torrey Canyon Case.
- International Convention for the Prevention of Pollution of the Sea by Oil.
- International Maritime Organization (IMO).
- The International Convention for the Prevention of Pollution from Ships (MARPOL), as the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

MARPOL includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes.

- Annex I Regulations for the Prevention of Pollution by Oil: Covers prevention of pollution by oil from operational measures as well as from accidental discharges; the 1992 amendments to Annex I made it mandatory for new oil tankers to have double hulls and brought in a phase-in schedule for existing tankers to fit double hulls.
- Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk: Details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk; some 250 substances were evaluated and included in the list appended to the Convention; the discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with. In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land.
- Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form: Contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions, and notifications.

For this Annex, “harmful substances” are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code), or which meet the criteria in the Appendix of Annex III.

- Annex IV Prevention of Pollution by Sewage from Ships: Contains requirements to control pollution of the sea by sewage; the discharge of sewage into the sea is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; sewage which is not comminuted or disinfected has to be discharged at a distance of more than 12 nautical miles from the nearest land.
- Annex V Prevention of Pollution by Garbage from Ships: Deals with different types of garbage and specifies the distances from land and the way they may be disposed of; the most important feature of the Annex is the complete ban imposed on the disposal into the sea of all forms of plastics.

Discussion and questions:

Although there was no specific doubts or questions during the session, a few comments giving thanks for showing concrete data came up, also for the good presentation.

Main conclusion:



The topic is of great relevance for the university involved in the meeting, is multidisciplinary and of interest for future students.

2.2. Topic 2. Prevention of Marine Pollution & Compensation of Marine Pollution

Author(s) of Topic 2: Javier Moreno Andrés and Emilio Rodríguez Díaz, University of Cadiz (Spain).

Date: Friday, 11st March 2022.

Organized by: University of Cadiz, Spain.

Professor: Emilio Rodríguez Díaz, PhD.

Contents taught:

Helsinki Commission is the Baltic Marine Environment Protection Commission. It is an intergovernmental organization (IGO) and a regional sea convention in the Baltic Sea area. HELCOM is the acronym of Helsinki Commission. It has ten Contracting Parties, namely Denmark, Estonia, the European Union, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. They are the signatories to the Helsinki Convention.

HELCOM was established in 1974 to protect the marine environment of the Baltic Sea from all sources of pollution as a regional platform for environmental policy making, HELCOM seeks to protect the Baltic Sea from all sources of pollution from land, air and sea, as well as to preserve biological diversity and to promote the sustainable use of marine resources.

HELCOM could be divided in the eras:

- The first one, that it could be named “The Birth” due to the evident deterioration of the Baltic Sea. The coastal countries reorganize that The Baltic Sea cannot survive on its own and the national measures are insufficient to protect it. These circumstances brought seven coastal countries signed in 1974 the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention).
- In 1992 is the starting of the second era since political changes related to environmental protections and maritime law were developed and implemented by all the coastal countries and the European Commission. These new changes adopted were: The expansion of the Convention area; The enlargement of Area of Application; Recognition of the need to mobilize financial resources; The scope of work that HELCOM has to develop to protect the natural resources.

The “New Era” started when Estonia, Latvia, Lithuania and Poland joined the club of Baltic EU Member States. Russia is the only non-EU country among the Contracting Parties to the



Helsinki Convention. This change brought as well that The Baltic Sea is wide covered by EU-regulations.

HELCOM is an excellent tool to identify environmental problems since have data for over 25 years that permit to quantify measurable objectives to know the health of Baltic Sea. This fact permits to establish environmental priorities as: Eutrophication; Reducing hazardous substances; Improving maritime safety; Conserving nature and biodiversity.

HELCOM also ensuring Shipping Safety and Response Capacities. Baltic Sea is an area of heavy ship traffic (around 15% of the world's cargo transportation). More particularly, the Gulf of Finland has experienced an increasing of shipping due to expansion of Russian oil terminals. It is estimated that an oil-spill involving over 10000 tons would affect 35% of the Baltic Sea and 100% for the Gulf of Finland. On average, more than 60 ship accidents occur each year.

Regarding the ensuring Shipping Safety and Response Capacities (Measures), HELCOM pushed to implement AIS (Automatic Identification System) on ships; Regular exercises to respond maritime pollution incidents under HELCOM flag; Aerial surveillance flights.

The Road Ahead of HELCOM is the need and possibility of establishing pilotage in high-risk areas; designation and exchange of information on places of refuge (legal matters); to ensure adequate emergency capacity (towing, lightering and firefighting capacity).

Discussion and questions:

Although there was no specific question, the main conclusion was that the topic is of great relevance for the universities involved in the meeting. They perfectly know the situation that Albania and Montenegro have in the maritime industry and the steps that they have to do in order reduce the pollution by ships.

Main conclusion:

The topic is of great relevance for the universities involved in the meeting. Particularly:

- HELCOM as a good tool to implement on Adriatic Sea.
- The planned MEPM M.Sc. programme could be a good step to consider HELCOM as a model to "sell".
- HELCOM has experience working with EU countries a NON-EU countries.
- Adriatic Sea pollution is an important matter for the coastal countries.



2.3. Topic 3: Towards a more sustainable marine management: from sectoral planning to marine spatial planning

Author(s) of Topic 3: Javier Moreno Andrés and Javier García Sanabria, University of Cadiz (Spain).

Date: Friday, 11st March 2022.

Organized by: University of Cadiz, Spain.

Professor: Javier García Sanabria, Ph.D.

Contents taught:

The topic “Towards a more sustainable marine management: from sectoral planning to marine spatial planning” was developed by Dr. Javier García Sanabria, from University of Cadiz (Spain), with the aim to talk about marine management. The main objective was to present several aspects about marine management as it is a complex issue. The need to combine environmental and social science were also presented together with different concepts around marine management and its transboundary nature, describing it as a public policy and the urgency to start a marine management initiative.

The specific contents taught were as follows:

1) Introduction to marine-coastal management

- Marine management is a complex issue: the need of adaptive management.
- Marine management has a transboundary nature.
- Marine management is a public policy.

2) How to manage marine/coastal complexity?

- DPSIWR framework.
- Decalogue of management.
- Orders of outcomes.
- Spyglass.
- Who are marine managers? What should be the formation of a marine manager?

3) The emerging “Marine Spatial Planning”

- From UN Conventions to MSP.
- The ten steps for MSP.
- Case studies.

Discussion and questions:



There was no question and no discussion, only a few comments giving thanks for the session.

Main conclusion:

The main conclusions of the session can be summarized as:

1. Marine management is a complex issue, so there is a need of adaptive management.
2. There is a need to combine environmental and social science. Both are necessary:
 - Environmental/physical sciences are necessary to understand what is happening (the environmental impact), but also social sciences are needed to understand social/cultural impacts, and also because we manage uses and activities, not ecosystems or species.
 - Social/political sciences are necessary to act facing the identified problems.
1. Marine management is a matter of transboundary nature:
 - Ecosystem and species are frequently crossing administrative borders.
 - Impacts of marine problems can affect distant areas: the environmental conditions of other countries or municipalities, or even the human wellbeing or the economy of distant coastal societies.
 - Marine management should be connected with coastal management because of the strong connection between coastal and marine ecosystems, but also because the connection between marine activities and coastal economies. Besides, the 80% of marine pollution comes from land.
1. Marine management is a public policy: Marine spaces are most of the times of public domain. It is an issue of general interest: is about achieving good environmental conditions, avoiding conflicts between users and activities, etc.
2. It is urgent to start a marine management initiative because:
 - Impacts on marine space are frequently irreversible.
 - It is cheaper to conserve than to restore.
 - Results of management initiatives are achieved in the long term.
1. An ideal coastal-marine manager, should have knowledge and skills in three main areas:
 - Skills in strategic analysis and political processes.
 - Knowledge of how ecosystems work.
 - General culture. Training should be oriented to be able to appreciate the culture and traditions of the societies to which the manager tries to serve. This will help to make a correct definition of the problems that, in turn, are rooted in the way of thinking, and the values and behaviours of a society.

3. Overview of University of Cote D'Azur training sessions

3.1. Topic 1: Marine law and spatial planning with a focus on the Mediterranean

Author(s) of Topic 1: Juliette Gilloteaux (Université Côte d'Azur) and Frederic Villers, OFB (French Office for Biodiversity).

Date: Wednesday, 20th April, 2022.

Organized by: University Côte d'Azur.

Professor: Frederic Villers, OFB (French Office for Biodiversity).

Content taught:

This training explored the topics of Marine law with a focus on the Mediterranean. In this sense, the session addressed topics ranging from marine spatial planning in general, to focus on the Atlantic and Mediterranean region.

Prof. Villers developed the United Nations Convention on the Law of the Sea - UNCLOS Convention, as well as some important Conventions about marine pollution, Climate Change and International treaties with importance, such as Paris Agreement on Climate or the Barcelona Convention (regional activity centers).

It was also highlighted the EU Marine Strategy Framework Directive (MSFD) with focus on the French Mediterranean Sea, together with some important national laws in France.

Finally, some practical cases in France were discussed.

Discussion and questions:

Some questions and discussions were related to Posidonia beds in the Mediterranean and how is the management among the different stakeholders. Also, some questions among the increasing use of the satellite data for management pollution from ships and some experiences in that field.

Main conclusion:

The main conclusions of the session can be summarized as:

- International treaties are volunteer commitments, which are hard to control.
- European law can boost national law.
- National/local law gets more importance.
- Many stakeholders to consider for a correct project development.
- It is crucial to understand the decision-making process in each country and to take into account the perception/links of local people with the sea.



3.2. Topic 2: Management of Marine Protected Areas (MPAs) in Europe, law aspects.

Author(s) of Topic 2: Juliette Gilloteaux (Université Côte d'Azur) and Frederic Villers, OFB (French Office for Biodiversity).

Date: Wednesday, 20th April, 2022.

Organized by: University Côte d'Azur.

Professor: Frederic Villers, OFB (French Office for Biodiversity).

Content taught:

This training explored the topics of Marine Protected Areas: objectives, type and organization at international, European and national level. Some topics related to marine protected areas and some projects in force in Europe were discussed. The professor first reviews the definition of an MPA as well as their history and associated legal tools. A focus is then made on the European and French strategies, which emphasis on efficiency, limits, and perspectives of MPAs.

The objectives pursued by the MPAs with their creation were discussed. Among them, the topic of governance and management of MPAs was highlighted in order to achieve the objectives. To this end, the importance of stakeholders in participatory processes as tools for MPA management was discussed.

The topic of Marine Protected Areas in Europe was discussed through different research projects. Therefore, different examples of MPAs in the south of France and different ones were explained. The professor develops the subject of Marine National Parks and develops the subject of Natura 2000 sites. He then gave examples of sustainable activities, examples of awareness actions and then gave elements on the management of MPAs and future perspectives.

Discussion and questions:

Discussions after the presentation were directed towards the management of MPA in South of France and brought some elements regarding this management in the Balkan region.

Information was also shared regarding the status and regulations of MPA management in Albania.

Main conclusion:

The main conclusions were related about the importance of MPAs and key commitments, the importance to imply all the different stakeholders and take them into account in the consultation meetings. The assessment of plans/projects in Natura 2000 sites is necessary.



3.3. Topic 3: Environmental Impact Assessment and compensation, law aspects.

Author(s) of Topic 3: Juliette Gilloteaux (Université Côte d'Azur) and Frederic Villers, OFB (French Office for Biodiversity).

Date: Wednesday, 20th April, 2022.

Organized by: University Côte d'Azur.

Professor: Frederic Villers, OFB (French Office for Biodiversity).

Content taught:

This training explored the topics of Marine Environmental Impact Assessment in the context of the Mediterranean Sea. The speaker described the context of European law, then explains how to predict and define an impact and refer to the indicators.

He then reviewed the pressure-habitat-species relationships and the hierarchy of mitigation measures and explained how to avoid, reduce, and compensate. He then showed examples of compensatory measures in France and emphasized the importance of monitoring.

Discussion and questions:

Some discussions were related about how the species and habitats are threatened by humans. It is dramatic; thus, the EIA is highly important to avoid destruction before maritime works / activities.

Main conclusion:

The main conclusions can be summarized as follows:

- Species and habitats are threatened by humans.
- It is highly important to avoid destruction before maritime works / activities.
- It is really difficult to objectively analyze potential impacts, so Prof Villers recommends using the precautionary approach and also underlines the importance of using the DPSIR approach but also to quantify activities, pressures and sensitivity and monitor priority. Prof. Villers also highlighted that role to work with the different stakeholders to define collectively a compromise between economic and environmental stakes.



4. General conclusions

The activities developed within the framework of DEV.3.4.3. have allowed the achievement of the general objective and, therefore, have enabled the teaching staff of the universities in the project to increase their knowledge on topics related to international laws on climate change and marine pollution.

Specifically, the training and experience of the different professors has made it possible to approach the international laws from different perspectives, including some particular cases as HELCOM or Mediterranean area.

On the other hand, from the point of view of participation, a total of 28 (Session 1) and 12 participants (Session 2) were present during the sessions, being a positive participation of the different partners. This may be due to the fact that the sessions are already known and arouse the interest of more participants. Finally, it is essential to point out the involvement and active participation of the attendees, which has allowed to go deeper into those aspects that were of most concern, as well as to comment on relevant issues in each session.