



Final report on training courses

Deliverable Nr. 8.3





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Authors & Institutes Acronyms		Rana Abu Alhaija (CyI), Alan Deidun (UoM), Aldo Drago (UoM), Louisa Giannoudi (HCMR), Carlos Jimenez (CyI), Manfred Lange(CyI), Nikos Streftaris (HCMR), Evangelos Papathanassiou (HCMR)	
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EXECUTIVE SUMMARY / ABSTRACT

A total of three (3) training courses were held during the course of the PERSEUS project. The first training course was held on the Greek island of Chios, in June 2012, with the aim of promoting marine environmental policy principles in non-EU and Black Sea countries. The second training course, which revolved around the building of a human and technical capacity within the SES on the deployment of the CPR (Continuous Plankton Recorder), was staggered over different stages. This training course involved an initial training stage in Plymouth (UK) in April 2014, during which staff from the Cyprus Institute (CyI) received training on the operation of the CPR, followed by a fully-fledged training course during which CyI staff demonstrated the use of the CPR to a selection of Mediterranean and Black Sea planktologists, in Nicosia (Cyprus) in September 2015. The third training course was held in October 2015 in Malta, and revolved around the formulation of the Programme of Measures by Member States, as stipulated by the MSFD timeframe. A total of 60 MSFD practitioners, hailing from most of the SES riparian countries, availed themselves of the training opportunities provided within PERSEUS.

SCOPE

The specific objective of this deliverable is to give an overview of the three training courses held within the course of the PERSEUS project, providing details of the thematic content of the same training courses and of the skills imparted to participants as a result of such training. In this way, this deliverable might prove useful to those entrusted to design and offer future marine environmental policy training in the SES as a showcase of good training practice.

By underscoring the most significant outputs emerging from such training courses, this deliverable also aims to demonstrate how PERSEUS has contributed in a tangible manner towards a new scientific vision for the SES. This deliverable achieved this jointly with the two sister deliverables 8.2 and 8.4, contributing to the fostering of a PERSEUS community of trained MSFD practitioners who can extend the legacy of such a project beyond its lifetime by assisting their respective countries and institutes in achieving MSFD goal compliance through the PERSEUS training they have received.

The timing of the three PERSEUS training courses, as well as that of the three PERSEUS summer schools (addressed within Deliverable 8.2), was such that it was consistent with the timeframe of the MSFD cycle.

OVERALL IMPACT OF PERSEUS TRAINING COURSES

Through the three PERSEUS Training Courses, a total of 70 participants, all of whom MSFD practitioners in their own way (scientists, policy-makers, researchers), benefitted from highly-focused training, contributing to the overarching goal of PERSEUS WP8 (Training and Capacity Building) of fostering a knowledgeable community within the SES on marine environmental policy issues, through whom the PERSEUS legacy lives on beyond the lifetime of the project.



“First Training School for the Application and Promotion of EU Marine Environmental Policy Frameworks in non-EU and Black Sea countries”

Summary of training course characteristics

Duration	5 days
Venue/Location	Chios, Greece
Organisers	Hellenic Centre for Marine Research (HCMR)
Organising Steering Committee components	Nikos Streftaris, Evangelos Papathanassiou
Thematic addressed	Application of MSFD and marine environmental policy principles in non-EU and Black Sea countries
Number of regional participants attending	16

Details of training course implementation

PERSEUS organised its first training activity in June 2012. This initial training activity took place from 4-8 June 2012, in collaboration with the ‘Maria Tsakos’ Foundation, on the island of Chios, Greece, under the auspices of the General Secretariat of Research and Technology (GSRT) of Greece. GSRT was the Coordinator (until June 2012) for the Working Group on Cooperation in Science and Technology in the Black Sea Economic Cooperation (BSEC).

The course aimed to contribute to establishing common understanding and joint approaches to ensure coherence and consistency throughout the Black Sea countries, in order to facilitate the basin-wide promotion of the MSFD principles and objectives. The gap analysis and the potential application of the Directives will be the scope of the second module (Turkey, spring 2013) which can be regarded as the culmination of the whole Training. Following the experience and knowledge acquired in the first course in 2012, and more importantly the outcomes of the Gap Analysis of PERSEUS, trainees will attend the second course aiming to discuss the actual monitoring strategy, attempt an initial assessment of the ecological status in their countries and finally provide, where possible, suggestions for achieving the goals of the Directives (MSFD - GES, WFD - GECS).



The following local authorities from Chios were invited to the Training Course:

- Coast Guard Commander, Argyrakis Ioannis, AEN/P/Oinnousson
- Ganiaris Konstantinos, Regional Vice Governor of Northern Aegean, Regional Governor for Chios
- Daniel Nikolaos, Director AEN/M/Chiou,
- Dimidou Marcella, from the office of Elementary Education
- Kalogerakis Pavlos, Director of Secondary Education
- Kesiandgi Emmanuella, Advocate of Chios
- Lambrinoudis Polydoros, Mayor of Chios city
- Meimaris Menelaos, Brigadier
- Coast Guard Commander Skandalis George, Central Chios Harbour Master
- His Eminence the Bishop of Chios, Psara and Oinousses Messrs. Markos

The overall list of lecturers participating within the Chios Training Course is the following:

1. Nikolaos Zampoukas (EC DG JRC Water Resources Unit): Monitoring for the MSFD: Requirements and Options
2. Michael Angelidis (UNEP/MAP- MED POL): Ecosystem Approach for the Management of human activities in the Mediterranean
3. Gianna Casazza (ISPRA): EU's legal instrument for the protection of our seas, their historical review and key concepts on policy and science
4. Irina Makarenko (Commission on the Protection of the Black Sea Against Pollution): Environmental Policies in the Black Sea related to MSFD principles
5. Nikolaos Zampoukas: MSFD Initial Assessment: setting the baseline for GES
6. Colpan Polan Beken (TUBITAK): The implementation of WFD (and MSFD) in a non EU country
7. Gianna Casazza: MSFD: Common Understanding of determination of GES and establishment of environmental targets
8. Maria Kapari (National Centre for Environment and Sustainable Development): WFD and MSFD incorporation into the Greek legislation
9. Kalliopi Pagou (HCMR): The implementation of the WFD in the Eastern Mediterranean, state of the art on phytoplankton indicators. Further development of indicators related to eutrophication in the frame of MSFD
10. Panagiotis Panagiotidis (HCMR): Targets of the Marine Strategy Framework Directive
11. Evangelos Papathanassiou (HCMR): PERSEUS EU project and the potential to the promotion of MSFD principles
12. Claudette Spiteri (Deltares): Development of Marine & Maritime indicators in support of MSFD implementation
13. Argyro Zenetos (HCMR): MSFD Descriptor 2: The two criteria for assessing progress towards GES
14. Nomiki Simboura (HCMR): The implementation of the Water Framework Directive in Eastern Mediterranean, state of the art on benthic indicators (Phyto-benthos & benthic macroinvertebrates)



15. Panagiotis Panagiotidis (HCMR): From the Habitat Directive to the Marine Strategy Framework Directive: The ecosystem based management in the Mediterranean - Natural science aspects
16. Argyro Zenetos (HCMR): MSFD Descriptor 2: Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystem

The following Trainee presentations were delivered within the same Training Course:

1. Hasmik Grigoryan & Larisa Kharatova (Ministry of Nature Protection of the Republic of Armenia, Armenia): Republic of Armenia: State Environmental Governance
2. Konul Ahmadova (Ministry of Ecology and Natural Resources, Azerbaijan): The Caspian Sea
3. Daniela Toneva-Zheynova, (Technical University of Varna, Bulgaria): Marine Strategy and the Bulgarian Experience
4. Irine Baramidze (Batumi State Maritime Academy, Georgia): Environmental condition of the Georgia surface and coastal zone waters
5. Madona Varshanidze (Batumi State Maritime Academy, Georgia): Biodiversity of the Georgian Black Sea coastal zone
6. George Parnassas (Ministry of Environment, Greece): Implementation of WFD and MSFD in Greece: Management and Finance
7. Sissia Roussi (Ministry of Environment, Greece): Management Agency of the National Park Messolonghi-Etoliko Lagoon
8. Andra Oros (National Institute for Marine Research and Development, NIMRD, 'Grigore Antipa', Constanta, Romania): National Environmental Policy for the Marine Environment-Romania
9. Marian-Traian Gomoiu (National Institute for Marine Research and Development, NIMRD, 'Grigore Antipa', Constanta, Romania): Marine Environment Pressure in the NW Black Sea – Romanian Littoral System: Past, Present, Perspectives, Strategies and Policies
10. Ayse Gazihan Akoglu & Baris Salihoglu (Institute of Marine Science Middle East Technical University): On the EU Marine Strategy Framework Directives
11. Patricia Ramey - Balci (TUBİTAK Marmara Research Center, Environmental Institute, Turkey): WFD and Insights into the Sea of Marmara: a Benthic Perspective

Outputs of training course

Participants were requested to give a short presentation on the marine environmental pressure and state, and the environmental policies applied in their countries.

The case studies presented by participants were:

Armenia: Hasmik Grigoryan & Larisa Kharatova (Ministry of Nature Protection of the Republic of Armenia) “Republic of Armenia: State Environmental Governance”



Azerbaijan: Konul Ahmadova (Ministry of Ecology and Natural Resources) “The Caspian Sea”

Bulgaria: Daniela Toneva-Zheynova (Technical University of Varna, Bulgaria; email:d_toneva@abv.bg) “Marine Strategy and the Bulgarian Experience”

Georgia: A) Irine Baramidze (Batumi State Maritime Academy) “Environmental condition of the Georgia surface and coastal zone waters”, B) Madona Varshanidze (Batumi State Maritime Academy) “Biodiversity of the Georgian Black Sea coastal zone”

Greece: A) George Parnassas (Ministry of Environment) “Implementation of WFD and MSFD in Greece: Management and Finance” B) Sissia Roussi “Management Agency of the National Park Messolonghi-Etoliko Lagoon”

Romania: A) Andra OROS, National Institute for Marine Research and Development (NIMRD) “Grigore Antipa”, Constanta, Romania “National Environmental Policy for the Marine Environment- Romania”, B) Marian-Traian Gomoiu “Marine Environment Pressure in the NW Black Sea – Romanian Littoral System: Past, Present, Perspectives, Strategies and Policies”

Turkey: A) Ayse Gazihan Akoglu & Baris Salihoglu (Institute of Marine Science Middle East Technical University) “Application of EU Marine Environmental Policy Frameworks in Turkey”, B) Patricia Ramey – Balci (TÜBİTAK Marmara Research Center, Environmental Institute, Turkey) “WFD and Insights into the Sea of Marmara: a Benthic Perspective”

Based on the presentations a General Discussion was made during the Wrap-Up Session at the end of the Workshop. The following points were discussed:

- The first step towards collaboration was taken and the networking of people charged with responsibilities on WFD, MSFD or environmental monitoring in Black Sea countries has been achieved. The second step might be more difficult, as it requires the application/implementation of policies.
- The participants are free to contact the lecturers from the workshop and PERSEUS can really help in this direction.
- Regarding policy and policy options in relation to the MSFD, we have to choose what is best for environmental protection. The principles of MSFD have been set out and give a nice opportunity to assess, to take actions and measure these actions. The principles have to be evaluated in all countries.
- We mustn’t forget that we have tried our best, that the MSFD has just started and the problems still need solutions.
- However, it is the “duty” of the people working with environmental monitoring to think of the next step. As environmental problems have no frontiers, we have to deal with the environmental problems and produce the relevant policies! Connections/collaborations have to be made nationally, regionally, and/or internationally.
- What is important for scientists, has to be understood by stakeholders at all levels
- We have to rely on modeling whenever we have no data using evaluation of the models from past data and information.



- Scientists have to propose inter-calibration actions, while monitoring should be continuous in the Black Sea.
- Regionally, we need to agree that although different countries may be involved, a common vision has to be applied.
- Two examples for future activities were mentioned: a sediment experiment in the Marmara Sea, which could help understanding the issues related to sedimentation processes, while management plans in aquaculture have to be applied in the Mediterranean Sea.

Evaluation of Chios Course by participating stakeholders

The results of the feedback given by Course participants, which was overall very positive, are reproduced below.

1. General Evaluation	1	2	3	4	5
Aspect	(Poor) %	(Average) %	(Above average) %	(Very good) %	(Excellent) %
Scientific subjects covered				46	54
Degree of thematic 'overlap' between teachers		23	8	38	23
Difficulty		38	31	15	8
Stimulated interest in subject			15	69	15
Quality of discussion between lecturers and participants		8	8	54	31
Course venue		8	31	23	23
Theoretical aspects of the course			15	38	46
Interaction process between participants and/or instructors		8	8	54	31
Overall rating of the lectures				69	31

2. Instructors Evaluation	1	2	3	4	5
Aspect	(Poor) %	(Average) %	(Above average) %	(Very good) %	(Excellent) %
Enthusiasm for teaching				62	38
Scientific level of instructors				46	54
Teaching ability			8	62	31
Ability to stimulate interest			31	54	15
Use of visual aids			31	54	15
Encouraged questions and discussion			38	54	8
Answered questions as well			8	54	38
Overall rating of instructors				69	31

3. Self-Evaluation	1	2	3	4	5
Aspect	(Poor) %	(Average) %	(Above average) %	(Very good) %	(Excellent) %
Enthusiasm from the class			15	69	15
Ability to understand		8	8	46	38
Participation			31	62	8
Gaining new knowledge and experience			8	62	31
Group participation		8	23	46	23
Overall Self Rating			15	62	23



4. Organisation	1	2	3	4	5
Aspect	(Poor) %	(Average) %	(Above average) %	(Very good) %	(Excellent) %
Information provided before the course		8	8	38	46
Information during the course			8	62	31
Hotel Facilities				23	77
Structure of the Lectures				54	46
Overall programme				38	62
Overall organisation				31	69

5. Additional Comments	I didn't answer		
Aspect	Yes %	No %	I do not know %
Do you think that the Course should be repeated?	100		
Have you gained experience from the course?	100		
Did it help you improve your networking – make new colleagues?.	100		
Do you think the course will be useful for your career?	83		17

I didn't answer

Overall Rating	1	2	3	4	5
Aspect	(Poor) %	(Average) %	(Above average) %	(Very good) %	(Excellent) %
Overall Rating of the Course				58	42

“Continuous Plankton Recorder Implementation in the SES”

Summary of training course characteristics

Dates	28 th -30 th September 2015
Duration	3 days
Venue/Location	Nicosia, Cyprus
Organisers	Cyrus Institute (Cyl)
Organising Steering Committee components	Rana Abu Alhaija, Carlos Jimenez, Alan Deidun, Aldo Drago, Joaquin Tintore, Nikos Streftaris, Evangelis Papathanassiou
Thematic addressed	Implementation of Continuous Plankton Recorder monitoring methodologies within the SES
Number of regional participants	15



attending	
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Note: This training course was reported in detail within the report for Milestone 42.

Details of training course implementation

The training course aims to establish a native (Mediterranean) capacity in operating the Continuous Plankton Recorder (CPR). This objective is especially significant considering that, despite the CPR protocol and equipment being designed almost a century ago, with routine CPR collections in the North Sea kicking off in 1931, it has, since then, been mainly deployed in the Atlantic and Pacific Oceans. By fostering such a native CPR-handling capacity, PERSEUS seeks to address the glaring lacuna of any considerable CPR deployment within the Mediterranean by scientists, and has sown the seeds for future regular CPR-mediated plankton monitoring efforts in the same Basin and in the Black Sea.

Participants

In total, the workshop was attended by 15 participants, which included four lecturer's two invited guests and nine successful applicants from several marine research institutions in the Mediterranean and Black Sea. An application call for the participation in the workshop was published through work-package eight leader institution in April, 2015. The call was publicised through the PERSEUS network, the project website (http://www.perseus-net.eu/site/content.php?locale=1&locale_j=en&sel=398&artid=2932), the CyI website (<http://www.cyi.ac.cy/component/k2/item/1058-announcement-of-the-cpr-training-course.html>) and other relative networks to include plankton researchers from non-partner institutions. The call ended on July 20th, by which time seventeen applications were sent to Prof. Alan Deidun (WP8). The participant selection committee (C. Jimenez and R. Abu Alhaija (CyI), J. Tintore, Balearic Islands Coastal Observing and Forecasting System (SOCIB), A. Deidun (UoM), N. Streftaris and E. Papatthanassiou, Hellenic Centre for Marine Research (HCMR)) evaluated candidates regarding to the relevance of their work to the CPR survey and their potential in actively participating in a CPR regional network. A list of the workshop participants is given in the following Table.

Table of Participants (for Institution names please see list of abbreviations pg. 7)

Name	Country	Institution	Email
1 Jean Sciare	Cyprus	Cyl	j.sciare@cyi.ac.cy
2 Carlos Jimenez	Cyprus	Cyl	c.jimenez@cyi.ac.cy
3 Rana Abu Alhaija	Cyprus	Cyl	r.abualhaija@cyi.ac.cy
4 Giuseppe ARENA	Italy	UoM	pinoarena@unime.it
5 Valentina TIRELLI	Italy	OGS	vtirelli@ogs.trieste.it
6 Stefano PIRAINO	Italy	UoS	stefano.piraino@unisalento.it
7 Yianna SAMUEL-RHOADS	Cyprus	OC-UCY	rhoads.yianna@ucy.ac.cy
8 Marilena APLIKIOTI	Cyprus	DFMR	maplikioti@gmail.com
9 Veselina Vasileva MIHNEVA	Bulgaria	IFR	vmihneva@yahoo.com
10 Olja VIDJAK	Croatia	IOF	vidjak@izor.hr



11	Sami LAKKIS	Lebanon	LU	slakkis@ul.edu.lb
12	Nondas CHRISTOU	Greece	HCMR	edc@hcmr.gr
13	David JOHNS	UK	SAHFOS	djoh@sahfos.ac.uk
14	Ilias ABUALHAIJA	Cyprus	SET	i.abualhaija@gmail.com
15	George FYTTIS	Cyprus	OC-UCY	fyttis.georgios@ucy.ac.cy



MedCPR workshop participants (left to right: S. Lakkis, R. Abu Alhaija, O. Vidjak, E. Cadd, J. Skinner, C. Jimenez, V. Vesselina, M. Aplikioti, I. Abualhaija, G. Arena, S. Piraino, V. Tirelli, N. Christou, Y. Samuel-Rhoads)

Workshop Agenda

The workshop lasted three days. The structure of the agenda aimed in the building of a consortium of researchers having common knowledge of the CPR operation and potential use in the Southern European Seas (SES). All participants were invited to present their work and their respective forward outlook for the CPR network.

The three-day workshop included presentations, demonstrations of CPR methodology and hands-on training in CPR operation and sample analysis.

Dr. Jean Sciare, Director of the Energy, Environment and Water Research Centre of CyI, welcomed the participants of the workshop and opened the meeting with a brief overview of the research conducted at the CyI followed by a message to the participants to “take advantage of this unique opportunity to establish a strong network of collaborative research”.

Following this Carlos Jimenez welcomed all workshop participants and introduced the agenda (ANNEX I) which was modified in order to accommodate the vessel itinerary for the field-trip to the commercial vessel voluntarily operating the CPR on-behalf of the CyI.



Presentations by participants- September 28

[Carlos Jimenez \(Associate Researcher, CyI\)](#)

C. Jimenez gave a presentation of the general interests and running projects of the Marine Science Group operating through the EEWRC. Research presented included benthic studies, marine speleology and paleoecology and plankton ecology with emphasis on collaborative projects with local and international institutions (**Error! Reference source not found.A**).

[Giuseppe Arena \(Senior Technician, University of Messina \(UM\), Italy\)](#)

G. Arena presented an overview of the plankton research performed at the University of Messina in South Adriatic, the Atlantic Ocean and at the Italian base in Antarctica in collaboration with other Italian institutions. He also offered a brief description of instruments used by UM to sample and analyze plankton, including a device that was designed for the continuous collection of plankton but had several shortcomings and therefore its use was discontinued.

[Valentina Tirelli \(Permanent researcher, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale \(OGS\), Italy\)](#)

V. Tirelli's presentation focused on the zooplankton research performed at OGS and general results of plankton studies in the Adriatic Sea. She concluded by stressing out the importance of increased spatial and temporal sampling intensity and the importance of opportunistic plankton sampling and surveys with low operational costs such as the CPR survey.

The presentation was followed by a discussion on the possibility of operating the CPR survey within monitoring schemes guided by the Marine Strategy Framework Directive (MSFD), micro-plastic monitoring and other research questions.

[Olja Vidjak \(Research Scientist, Institute of Oceanography and Fisheries \(IOF\), Croatia\)](#)

In order to conclude the talk on Adriatic plankton, O. Vidjak followed the presentation by Valentina. Olja presented the zooplankton group of the IOF and the international (e.g. EMBOS, BALMAS and PERSEUS) and local projects and they are involved in. Olja described long term plankton monitoring systems maintained in the coast of Croatia and the need to expand the research further from the coast. Concluding she noted the logistical and operational obstacles that may arise from a basin wide CPR survey, adding that many of these issues could be resolved within a multi-institutional, multinational collaborative network.

[Yianna Samuel-Rhoads \(Research Scientist, Oceanography Centre- University of Cyprus \(OC-UCY\), Cyprus\)](#)

Yianna provided a description of the plankton related studies in the OC-UCY which include both in-situ sampling and remote sensing media. Yianna made the point that the CPR initiative could be coupled with current capabilities shared by the network such as other methods of plankton collection and sample analysis.

[Stefano Piraino \(Professor, University of Salento \(UoS\), Italy\)](#)

Stephano's group focused on the study of jelly-fish by molecular means, sample collection and public science. He indicated that the strength of the CPR is that it is a versatile tool that can be used to answer a multitude of research questions including the biogeography of jelly-fishes. New CPR routes could be designed to overlap with



oceanographic and other plankton sampling thus complimenting results and linking CPR with previous studies.

[Marilena Aplikioti \(Fisheries and Marine Research Officer, Department of Fisheries and Marine Research \(DFMR\), Cyprus\)](#)

Marilena's presentation focused on the role that governmental institutions as the DFMR may have within a CPR network where interest would heavily lay in the ability of the CPR to be implemented within a wider monitoring network for marine environmental research. CPR results could be used and incorporated to answer national obligations towards the Marine Strategy Framework Directive (MSFD) especially for countries where baseline information is largely absent like the case of Cyprus.

[Veselina Vasileva \(Associate Professor, Institute of Fish Resources \(IFR\), Bulgaria\)](#)

Vesselina compared and contrasted zooplankton research in the Mediterranean and Black Sea where a limited number of zooplankton species are found in fluctuating numbers within plankton communities. Vesselina also made the point that plankton information comes mostly from the coast and that the CPR has the potential to fill the gap in plankton monitoring systems.

[Nondas Christou \(Researcher, Hellenic Centre for Marine Research \(HCMR\), Greece\)](#)

Nondas focused his presentation on the Physical Oceanography of the Eastern Mediterranean project (POEM) which was among the first projects to sample long transects in the Eastern Mediterranean Sea for physical data and plankton. Nondas concluded that even within a system of limited CPR cruises per year (e.g. two) for a given transect (e.g. Cyprus- Greece, Cyprus- Malta) could provide valuable information to inform environmental policy-makers including in regards to climate change.

Note: The following two presentations took place on the second day

[Sami Lakkis \(Planktonologist, University of Lebanon \(UoL\), Lebanon\)](#)

Through the seminar series of the Cyl, Sami gave an extensive presentation of plankton studies in the Eastern Mediterranean with an emphasis on assemblages found by his laboratory in the Lebanese coast (**Error! Reference source not found.B**).

[Jennifer Skinner \(Plankton Analyst, Public Engagement and Education Officer, Sir Alister Hardy Foundation for Ocean Science \(SAHFOS\), United Kingdom\)](#)

The Sir Alister Hardy Foundation for Ocean Science (SAHFOS), Plymouth, UK has since its inception worked solely on the operation of the CPR survey, mainly in the Atlantic Ocean and around the British coast. Jennifer gave an overview of the past and current work at SAHFOS, the multitude of research questions answered by the CPR and how new surveys can be facilitated through SAHFOS and the Global Alliance of CPR Surveys (GACS).



Presentations in the MedCPR workshop gave a holistic overview of the challenges of operating the CPR in the Levantine Sea: A) C. Jimenez; (Photo credit: S. Piraino) B) S. Lakkis; C) R. Abu Alhaija; D) J. Skinner

CPR training

After the initial introductory presentations the workshop continued with a series of targeted presentations and demonstrations around the initiation and operational requirements for the CPR survey. The lessons stemmed from the experience of the CyI in establishing a CPR route and a CPR facility (CyCPR). This innovative for the region task, was initiated in 2012 and achieved mainly through the PERSEUS project.

CPR Method Overview, Rana Abu Alhaija

The first presentation for this section gave an introduction into CPR surveys and a brief description of CPR sampling and sample analysis as well as the equipment and resources required such as a wet laboratory and collaboration with a commercial vessel.

Initiating CPR operation for a newly formed survey, Carlos Jimenez

Next, Carlos focused on the energies that have to be taken prior to the initiation of the operation of the CPR. These will include contacting port authorities, shipping companies and resolving territorial/transboundary issues (**Error! Reference source not found.**).

CPR device: function and maintenance, Ilias Abu Alhaija, Carlos Jimenez

For this session, all participants moved to the CPR Facility at CyI (CyCPR), within the Novel Technologies Laboratory Building, where the CPR device and instruments are kept. Carlos and Ilias gave an overview of the CPR parts and their function during sampling (**Error! Reference source not found.**). Subsequent, Ilias demonstrated



how the sample can be removed from the CPR internal, how the device is maintained and the process of preparing the CPR for sampling (**Error! Reference source not found.**).



Demonstration of CPR parts (A), maintenance and preparation of CPR for sampling (B)

[Field trip to Ship of Opportunity \(SOOP\): onboard operations](#)

To acquire a full appreciation of the CPR operation, participants were transported to the port where they boarded the SOOP, PETROLINA OCEAN, voluntarily towing the CPR, on the second day of the workshop. The participants were received by the vessel's agent, Christos Diakou, the technical superintendent, Valentin Gumenyuk, and captain, Ermolaev Aleksandr. After a tour of the vessel installations, crew members aided in demonstrating how the CPR is towed by the vessel (**Error! Reference source not found.**).

[Onboard CPR operations, C. Jimenez](#)

Back at the CyI, Carlos presented the range of qualification a vessel should have in order to tow the CPR and focused on the importance of building rapport with the vessel stakeholders.

[View of Onboard operations video](#)

Following, participants viewed a video created by CyI for the training of vessel crew on CPR towing operations. The video includes footage of CPR tow in the Levantine by the PETROLINA OCEAN.



Visit to the commercial vessel voluntarily participating in the MedCPR survey. Captain Ermolaev Aleksandr giving a tour of the vessel and sharing with workshop participants his experience of the CPR survey; B) Vessel crew demonstrating CPR onboard operations; Vessel agent, Christos Diakou and J. Skinner discussing the benefits of a multinational CPR network. .

[Post-sampling data consolidation and sample analysis, J. Skinner, R. Abu Alhaija](#)

The morning session of the third and final day of the workshop was devoted to the analysis of CPR samples. Initially Jennifer and Rana gave a presentation on how time and position information from the vessel can be translated to sampling positions through diverse software solutions and algorithms. Subsequently, a detailed demonstration of CPR sample analysis took place in the Chemical Laboratory at the NTL building (**Error! Reference source not found.**). Utilizing CPR samples from the Levantine, Rana and Jennifer illustrated the process of marking CPR samples, assigning Phytoplankton Color Index and cutting samples from the long strip of mesh. Next, already cut samples were used to demonstrate the phytoplankton traverse, zooplankton traverse and zooplankton eye count methods for CPR sample on-silk analysis. The participants had the opportunity to handle samples under the microscope, view specimens as they appear on-silk after CPR sampling and identify potential operational and logistical constraints of CPR analysis in their home institutions.

[Post-analysis and quality assessment in CPR Surveys, J. Skinner](#)

Jennifer presented the steps taken after sample analysis to ensure that results are comparable among samplings and plankton analysts.



Global Alliance for CPR Surveys (GACS), R. Abu Alhaija

Rana gave the participants an overview of the global perspectives of CPR surveys, operating from several laboratories. The presentations focused on the scientific achievements of CPR surveys, and in extend the potential of a Mediterranean and Black Sea CPR survey.



Demonstration of CPR sample marking, Phytoplankton Colour Index assertion (A, B) and CPR sample analysis (C). D) Zooplankton on silk, photographed by S. Piraino during the sample analysis session

Interactive session: A CPR network in the Mediterranean and Black Sea

The workshop final session was dedicated to discussions around a common proposal for the establishment of new collaborative CPR routes in the Mediterranean and Black Sea.

At the beginning of the session Nondas gave a presentation suggesting the name CYPRIIS for a proposal to operate the CPR survey in the Mediterranean through Cyprus, with participants positively receiving the suggestion.

Subsequently, Carlos opened the discussions with a brief overview of the proceedings of the past sessions and the general goal of the workshop, to induce the initiation of a CPR network in the Mediterranean and Black Seas.

Participants deliberated on the form that a potential research project could take, funding agencies that could support it and additional collaborators that would be interested to participate.



The proposed targeted areas for sampling were the Adriatic, the Aegean, the Ionian and Black Seas. The areas are frequently crossed by commercial vessels which could complement Research Vessel contribution to the project. Both CyI and OGS have experience with the involvement of SOOPs in research. CyI, OGS, HCMR, IFR and IOF can offer the expertise of plankton analysis for Mediterranean and Black Sea specimens, while SAHFOS could provide equipment, consumables and training on CPR sample analysis. The participants, realizing the versatility of the CPR, agreed that several means can be followed for the realization of a CPR network. Examples are the initiation of a number of routes operating from Cyprus and the analysis of samples by several laboratories within the network.

The EU funding schemes Horizon 2020 and MED were identified as potential means to fund the initiative. In addition, national, bilateral or sub-regional funding schemes, such as the Black Sea Cross Border Cooperation Program and Adrion, can fuel smaller scale projects of specific routes. The Stazione Zoologica Anton Dohrn (SZN), Italy, Observatoire Océanologique de Villefranche, France, the Spanish Oceanographic Institute (IEO), Spain, the Institute of Oceanic and Israel Oceanographic and Limnological Research, State of Israel, the Institute of Oceanology -Varna, Bulgaria, the Institute of Biodiversity and Ecosystem Research-BAS, Laboratory of Marine Ecology (IBER-BAS)- Sofia, Bulgaria, the NIMRD "Grigore Antipa" - Constanta, Romania; NIRD GeoEcoMar – Romania and private shipping companies, were identified as potential additional collaborators within this proposed project.

Results from the envisioned project would be used to fill the gap in information for the state of the seas, which can be used by national policy-making bodies. CPR long-term data on water column habitats (mainly zooplankton) especially in the open sea can fill essential knowledge gaps and improve the assessment of Good Environmental Status of the marine waters, regarding the following Descriptors: D1. Biological diversity – Water Column Habitats; D2 - Non-indigenous species; D4 Food webs. In UK, SAHFOS staff have a key involvement in the development and usage of MSFD indicators at the national and OSPAR level, a model which could be duplicated by other partners. Results could be disseminated through international conferences, such as the ICES/PICES Zooplankton Production Symposium.

Further details about this training course can be gleaned from the Milestone 42 report.

Outputs of training course

The CPR workshop was well received from the participants, PERSEUS partners and stakeholders. It provided the opportunity to a wider group of interested laboratories to experience a holistic overview of the operation of the CPR survey, sample analysis, the inclusion of a commercial vessel in scientific research, the set up of a CPR facility and the potential of scientific results from the survey for the area.

A table, where willing participants could input information towards the initiation of a CPR network was circulated after the end of the workshop. The compilation of the input of the participants regarding their respective envisioned role in a Mediterranean wide CPR survey is given in (**Error! Reference source not found.**).



It is expected that, networking, ideas and collaborations forged during the workshop will lead to a better understanding of the implications of the CPR survey in the region, the consolidation of the CPR route eventually the expansion of the CPR sampling.

The main scope of the Training Course in question was the establishment of a future capacity within the SES in terms of a resident scientific community which is able and interested to conduct regular CPR-mediated monitoring in future within the two Basins. In order to gauge the potential of such a possibility taking shape, Course participants were asked about their current capacity and future willingness to conduct CPR-related monitoring within the SES. The results from such an evaluation are reproduced within the Table below.

Scientist	Institution	Country	Institution /State	Infrastructure	Present Capacity/ Future Contribution
Rana Abu Alhajja	Cyl	Cyprus	Research/Private	CyCPR facility	CPR operation; CPR sample analysis; Capacity building; CPR knowhow; commercial vessel network
Epaminondas Christou	HCMR	Greece	Research/ Public	field equipment; zooplankton lab	Plankton taxonomy; Taxonomy training; Research Vessel; Laboratory Potential sample analysis
David Johns	SAHFOS	UK	Charity	Complete CPR infrastructure and capacity	Supply of CPR(s), internal(s) and other CPR material and consumables; Workshop and sample analysis training volunteer ship programme; technical advice and how to order consumables; Console and training in its use; sample analysis and storage
Marilena Applikioti	DFMR	Cyprus	Governmental Agency/ Public	R/V; laboratories; Sampling equipment	Water sample analysis; Communication with local authorities
Olja Vidjak	IOF	Croatia	Research/ Public	R/V (routine surveys in the Adriatic); plankton lab	Plankton Historical data (Adriatic); Plankton identification; Taxonomy training; Potential for sample analysis
Vassellina Mihneva	IFR	Bulgaria	Research/ Public	Plankton net samplers; microscopes	Plankton identification; Potential operation of CPR and sample analysis
Valentina Tirelli	OGS	Italy	Research/ Public	R/V; Laboratories; Scientific and technical staff	Plankton taxonomy training; Potential for sample analysis (w/ formalin extractor); Knowledge in Adriatic marine traffic
Yianna Samuel-Rhoads	OC-UCY	Cyprus	Academic/Public	Zooscan; Plankton Nets; Plankton Lab	Potential for sample analysis

The CPR course held in Cyprus in September 2015 is a quantum leap forward in:

- (i) developing a resident expertise in the operation of the CPR;
- (ii) laying the foundations for a regular CPR monitoring transect in the Eastern Mediterranean, in a prime site for the purposes of detecting the influx of non-indigenous species in the Mediterranean and
- (iii) establishing a community within the SES with the commitment of expanding on CPR monitoring initiatives within the SES.



“Supporting Policymakers to develop Measures to maintain GES across the SES”

BACKGROUND

At the stakeholder training course organised in Malta in October 2015, the time was ripe for the PERSEUS community to showcase the policy tools developed to assist stakeholders in establishing measures to maintain the good environmental status (GES) of marine and coastal ecosystems across the Southern European Seas (SES). In fact, according to the MSFD timeframe (copy represented below), Member States are expected, by the end of 2015, to submit their Programme of Measures which will allow the achievement of GES in their waters.



Against this background, the “*PERSEUS International Stakeholder Training Course on how to develop measures to achieve the good environmental status (GES) of marine and coastal ecosystems across the Southern European Seas (SES)*” was an important event of the project which aimed to bring together policymakers and the scientific community from all the Mediterranean and Black Sea riparian countries and to strengthen their connections. The Course also aimed to develop common approaches and solutions to common problems by providing the right environment for debate and for the contrast of different ideas, and to apply the PERSEUS policy tools to issues raised by participants themselves.

This event represented a truly unique opportunity to carry out a joint training exercise for policymakers from both EU and non-EU countries. The expected result of the Course was a further contribution towards the formulation of evidence-based and adaptive policies to address marine issues relevant for these stakeholders through, for example, the application of the Adaptive Marine Policy (AMP) Toolbox developed within PERSEUS. The measures elaborated with the support of this novel PERSEUS tool can in turn allow the riparian countries of the Southern European Seas (SES) to



implement appropriate policy instruments through which to achieve long-term GES of their waters.

Summary of training course characteristics

Note: This training course was reported in detail within the report for Milestone 47.

Dates	14 th -16 th October 2015
Duration	3 days
Venue/Location	Malta
Organisers	University of Malta
Organising Steering Committee components	Alan Deidun, Aldo Drago, Nikos Streftaris, Didier Sauzade
Thematic addressed	The MSFD Programme of Measures
Number of regional stakeholders attending	18 (representing 16 different countries, including Malta)
Number of Maltese stakeholders attending	21 (representing 7 different entities)

Details of training course implementation

This third training course, which spanned over three days, was opened through a video message delivered by EU Commissioner for the Environment, Fisheries and Maritime Affairs Karmenu Vella, followed by a speech delivered by the Maltese Minister for the Environment, Sustainable Development and Climate Change Leo Brincat and the University of Malta Pro-Rector Prof. Richard Muscat. PERSEUS WP8 Leaders Prof. Aldo Drago and Prof. Alan Deidun, from the University of Malta, welcomed participants to the Malta Training Course soon after.

The first day opening speeches were followed by a series of keynote speeches, namely the following:

- Presentation of PERSEUS – Evangelos Papathanassiou, PERSEUS Coordinator (HCMR)



- Presentation on status of MSFD – Georg Hanke (Joint Research Centre)
- Presentation of the UNEP/MAP Ecosystem Approach process (EcAp) by Didier Sauzade (Plan Bleu)
- Presentation on the application of the Ecosystem Approach in the Black Sea - Irina Makarenko (Black Sea Commission)
- Towards a Good Environmental Status of the Mediterranean and Black Sea Basins - outcomes from the PERSEUS regional non-EU stakeholder workshops – Celia Vassilopoulou, PERSEUS (HCMR)
- Presentation of the PERSEUS Adaptive Policy Framework – Role of the Stakeholder Platforms – Didier Sauzade and Julien Le Tellier, PERSEUS (MAP/Plan Bleu)
- Demonstration of the PERSEUS AMP Toolbox on examples - Didier Sauzade, PERSEUS (Plan Bleu)

Participants were then shuttled to the sister island of Gozo for a short field visit in order to be exposed directly to some of the issues being raised during the first day of proceedings.

During the second day of the training course, stakeholders were split along geographical lines into two groups: (i) the Western and Central Mediterranean and (ii) the Eastern Mediterranean and the Black Sea, whose composition was as follows:

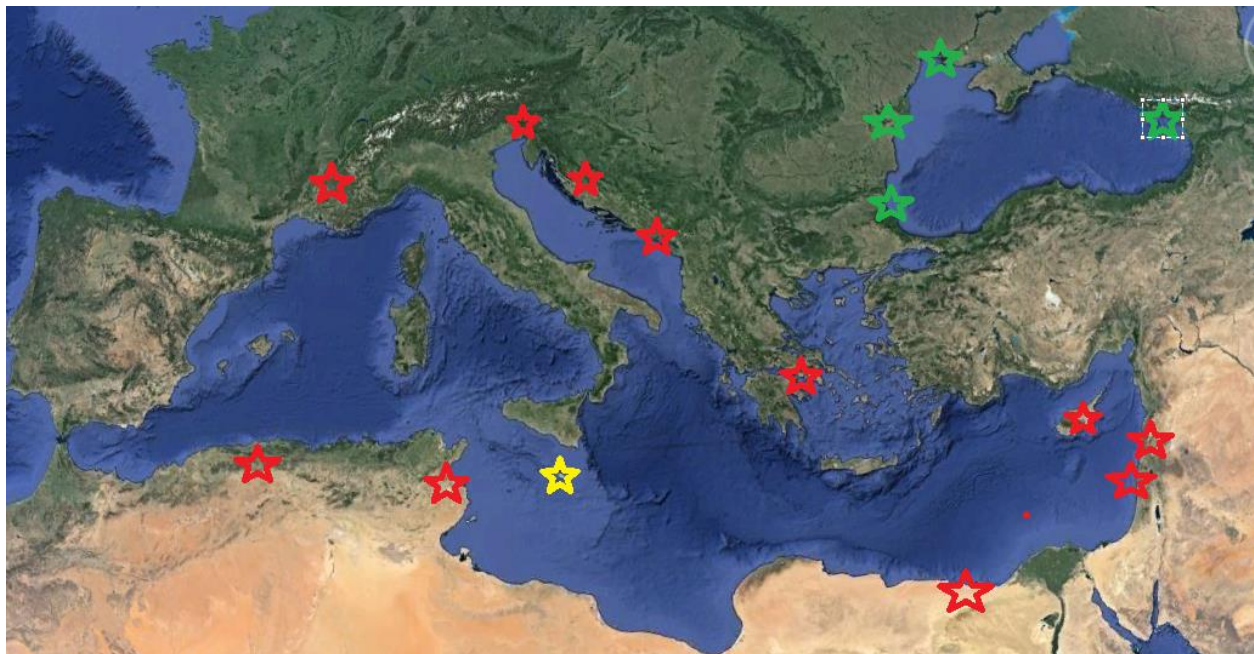
Western and Central Mediterranean stakeholder group	Eastern Mediterranean and Black Sea stakeholder group
France (Dr. Francois Galgani; Mr. Christophe le Visage)	Greece (Ms. Kalliopi Pagkou)
Algeria (M. Said Chaouki Chakour)	Egypt (Mrs. Rihab Raafat Tag)
Tunisia (Ms. Rakia Belkahia)	Israel (Dr. Dror Zurel)
Croatia (Mirta Smodlaka Tanković)	Palestinian Territories (Mr. Issam Qasem)
Malta (Ms. Miraine Rizzo; Mr. Liam Butler)	Cyprus (Dr. Antonis Petrou)



Montenegro (Mr. Pavle Djuraskovic)	Romania (Dr. Tania Zaharia)
Slovenia (Dr. Monika Peterlin)	Bulgaria (Dr Vesselina Mihneva)
	Georgia (Ms Tamar Bagratia)
	Black Sea Commission (Ms. Irina Makarenko)

Repeated attempts were made by the Malta Training Course Organising Steering Committee to secure the participation of stakeholders from all SES riparian countries, including from those countries which were not represented at the same Training Course, notably Italy, Turkey and Lebanon, to no avail (i.e. no stakeholders from these countries were available to attend the Training Course). The additional participation of stakeholders from Libya and Morocco has been secured, but failed to materialise in the eleventh hour as a result of problems with the issuing of the respective VISAS to enter Malta.

The distribution of the geographical origin/provenance of each of the stakeholders is shown in the following map:



Legend: Red markings – Mediterranean country being represented by at least one stakeholder; Green markings – Black Sea country being represented by at least one stakeholder; Yellow marking – hosting country (Malta).

In addition to the regional and Maltese stakeholders, the 3rd PERSEUS training course was also attended by members of the PERSEUS Management Group, namely Dr.



Evangelos Papathanassiou, Mr. Nikos Streftaris and Dr. Louisa Giannoudi, besides representatives from a number of PERSEUS Workpackages, including the following:

- WP5 – Dr. Celia Vassilipoulou (WP Leader), Dr. Georg Hanke, Dr. Federico Cardona
- WP6 – Dr. Didier Sauzade (WP Leader), Dr. Julien Le Tellier, Dr. Valerian Melikidze, Dr. Margaretha Breil
- WP9 – Ms. Emily Koulovaris

Each regional group availed itself of the following three key figures:

- **Chair** – facilitates discussion and answers guideline questions
- **Rapporteur** – takes notes and prepares draft presentation on group findings / results today and more formal tomorrow
- **PERSEUS support:** representatives from PERSEUS team 1) know-how in applying Adaptive Marine Policy Toolbox will be in both groups and 2) Scientific Team

In order to kick-start the interaction and discussion between the stakeholders, a set of facilitating questions and considerations were posed to the same stakeholders, namely:

KEY QUESTIONS

1. **What are the existing measures; are they adequate?**
2. **What could be new and feasible measures to achieve / maintain GES in your sub-region, how to prioritize them, how to make them robust to changes?**

Considerations:

1. Which are the main issues in your sub-region inhibiting GES?
2. What are the main issues leading to gaps between the actual/current status of marine ecosystems and GES for your marine area?
3. What are the main Pressures in each sub-region?
4. What are the Drivers leading to these Pressures?
5. What are the future projections of Drivers and Pressures?
6. How can you monitor the GES in your area?

Participating stakeholders were also briefed about the different typologies of measures which are recognised within the MSFD, namely:

Existing measures



- Category 1.a: Measures relevant for the achievement and maintenance of GES under the MSFD, that have been adopted under other policies and implemented;
- Category 1.b: Measures relevant for the achievement and maintenance of GES under the MSFD that have been adopted under other policies but that have not yet been implemented or fully implemented;

New measures

- Category 2.a: Additional measures to achieve and maintain GES which build up on existing implementation processes regarding other EU legislation and international agreements but go beyond what is already required under these;
- Category 2.b: Additional measures to achieve and maintain GES which do not build on existing EU legislation or international agreements

The applicability of a number of PERSEUS tools, most notably the Adaptive Management Policy (AMP) toolbox, was showcased with participating stakeholders within the priority issues raised by the same stakeholders.

National stakeholders invited to attend this training course had to fit the following profile:

- MSFD practitioners in their respective countries
- Contributing to marine policy-development in their respective countries
- Experienced in debating issues related to science-policy linkages

The third day of the training course was dedicated to Maltese marine and maritime sector stakeholders, who were invited to partake of the tools and deliverables developed within the PERSEUS project and which could be adopted by their entities in meeting MSFD-related obligations, with the discussions being mediated by PERSEUS WP9 Leader Emily Koulavaris. Stakeholders could also avail themselves of the synoptic presentations delivered by the Rapporteur appointed for each of the two regional groups of stakeholders and which recommended management measures to address priority marine issues in each of the two regions of the SES. The two Maltese national representatives (Ms. Miraine Rizzo, Mr. Liam Butler), hailing from the Malta Environment and Planning Authority (MEPA) who attended the full three-day extent of the course also delivered a presentation on how the Maltese Islands benefited from the outcome of the 3rd PERSEUS training course.

The Maltese stakeholders attending the third day of the training course hailed from the following local entities/institutions:

Name of Maltese stakeholder	Entity/institution being represented
Carmen Mifsud	Malta Environment and Planning Authority

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	(MEPA)
Marco Attard Portughes	Malta Environment and Planning Authority (MEPA)
Franck Lauwers	REMPEC
Camilla Galea	Malta National Aquarium
JD Farrugia	Fish4Tomorrow (an NGO)
Pamela Mason	Sharklab (an NGO)
David Mason	Sharklab (an NGO)
Danika Formosa	Sharklab (an NGO)
Gabriella Grima	Malta Environment and Planning Authority (MEPA)
Nadine Axisa	Malta Environment and Planning Authority (MEPA)
Duncan Borg	Malta Environment and Planning Authority (MEPA)
Suzanne Gauci	Malta Environment and Planning Authority (MEPA)
Rafaella Zammit	Malta Environment and Planning Authority (MEPA)
Mykel Fenech	Malta Environment and Planning Authority (MEPA)
Nikolas Cassar	Malta Environment and Planning Authority (MEPA)
Robert Vassallo	Transport Malta
Mevric Zammit	Transport Malta
Roberta Mifsud	Fisheries Department
Sarah Schembri	Fisheries Department



The full agenda/programme of this training course is included at this end of the report as Annex III.

The following photos give some snapshots of the 3rd PERSEUS training course in Malta:



Opening of the Malta Training Course. Seen here, on the panel table, are (from right to left): Dr. Pauline Dingli (Head of Geosciences Department, University of Malta), Prof. Richard Muscat (Pro-Rector, University of Malta), Hon. Leo Brincat (Maltese Minister for the Environment, Sustainable Development and Climate Change), Dr. Vangelis Papathanassiou (Coordinator, PERSEUS project), Prof. Aldo Drago (WP8 Leader) and Prof. Alan Deidun (University of Malta, WP8).



Delivering of the video message by EU Commissioner for the Environment, Fisheries and Maritime Affairs Karmenu Vella on Day 1 of the Training Course



Dr. Evangelos Papathanassiou presenting PERSEUS to Course participants



Aspect of the stakeholder discussions during Day 2 of the Malta Training Course



Aspects of the presentation by one of the regional group Rapporteurs



Ms. Emily Koulovakis leading the discussions with regional and local stakeholders, during the third day of the Course.



The group of stakeholder participants within the Malta Training Course during the field visit to the island of Gozo, during the first day of the Course.

Outputs of training course

The two regional stakeholders groups were tasked with:

- (i) identifying the major issues hindering the achievement of the GES within their marine region and
- (ii) proposing Programme of Measures expected to contribute towards the achievement of GES within their regions.

Interestingly, both regional stakeholders groups identified MARINE LITTER as the major issue within their region as potentially hindering the achievement of GES.

The major outcomes from the intra-stakeholder discussions held during the second and third day of the Malta Training Course were the following:

**Points emerging from the Western/Central Mediterranean regional group
Rapporteur presentation**

- Major Pollution Drivers – offshore platforms, shipping and fishing
- Good measurements for some drivers, like shipping, from MEDPOL, but more is needed (e.g. container ships originating from non-EU countries)
- Reducing marine litter from ships is a priority
- Monitoring measures exist for shipping but not implemented everywhere, for shipping



- Importance of education/awareness (e.g. for crews in shipping; containers for catering distributed on ferries should not be made of plastic; eco-friendly areas on ferries; plastic bottles on ferries should be taxed; greater waste separation and disposal on the ferries, such as bins, etc)
- Companies (should be targeted – incentivised through labels, local authorities, national authorities; certification schemes; include info on tickets add some chemical contaminants which are transported from one country to another (these should be banned – additional measure) – good practise for the strait between Sardinia and Corsica
- Passenger vessels – the waste they generate – is not regulated (e.g. difficult to control waste generated by passengers)
- Ferry tracks are a source of litter

Points raised from the floor

- Financial aspects are the most important ones: the environment should be on the same footing as market procedures (Portugues)
- Spending 100 million euros in reducing and recovering plastic litter is still valid since it would still save us ca. 150 million euros – we need to keep in mind the cost involved in introducing new measures
- We have to convince users of the need to raise the cost of a plastic bottle, for example, in order to avoid resistance (Nikos)
- Peer-pressure, through awareness-building, has an important role to play (Didier)
- EU mindset is that you pay for the waste you generate, and such funds will go towards clean-ups and other interventions (Mirta)
- Cote d’Azur cited as a case study by Galgani (common interest and hence people can understand where the money is going)

Points emerging from the Eastern Mediterranean/Black Sea regional group Rapporteur presentation

- Meeting was a good exercise (Tania)
- Monika queried re infrastructure being considered for recovery/fishing for litter (are you just considering boat surveys?)
- Georg elaborated re the approach followed within this group: identification of pressures, major players and existing policy tools relevant to the marine litter issue
- Suggestion to treat marine litter like oil (need an analogous authority like REMPEC) due to the international dimension of the issue/problem
- Integrate litter collection with existing activities e.g. fishing to reduce costs (Mirta)



- Transport/re-transport of marine litter across different boundaries is a real problem, as well as origin of the litter itself (e.g. when it originates in open waters) – Galgani
- We identified different types of measures – (1) already subject to enforcement; (2) pilot ones (e.g. litter vessel) and (3) long-term measures/policies e.g. REMPEC analogue; had no time to conduct a measure prioritization exercise - Margareta
- 35% of the marine litter in the sea is attributable to plastic bags – what is being done in the countries to address such an issue? Emily
- Healthy mix of top-down with bottom-up approaches, even for the AMP Toolbox (Le Visage)
- People working on EcAp are not always the same as the ones working on the MSFD (Monika)
- The sustainability of the RSC's is a big challenge, especially for the Black Sea (Irina), where they rely a lot on projects since, for example, there is a lack of data archives (unlike for northern seas, such as ICES for the North Sea and for HELCOM) – Black Sea Commission composed of just 4 members and they are rotated constantly, with legacy being lost

EXAMPLES OF GOOD PRACTISE IN TERMS OF MARINE LITTER RAISED BY BOTH REGIONAL STAKEHOLDER GROUPS

Turkey – plastic recycling boxes installed in many streets; marine litter action plans for each municipality; invited large marine litter-collecting barge (from Holland)

Use of marine litter app developed by EEA IN Romania by schoolchildren – good example of project sustainability

Development of wikis rather than fixed-term deliverables in some projects (more long-term impact) – e.g. coastal wiki by ENCORE project

EXAMPLES OF BAD PRACTISE IN TERMS OF MARINE LITTER RAISED BY BOTH REGIONAL STAKEHOLDER GROUPS

Increase in cigarette butts as a result of ban on indoor smoking

Incorporation of natural plastic components (e.g. cellulose) by industry in plastics, resulting in greater trituration and greater environmental impacts

Fishing for litter in 1998 in Basque country – since fishermen were paid, they topped up their catches by litter from home

How many times do policy-makers have a say in formulating projects before they are actually finalised and submitted? (Emily). They are to a moderate degree in Romania and Algeria (the latter said there is consultation but not participation)

PERSEUS has created the ideal teaching tool in the form of the AMP Toolbox (Valerian)

Hanke – referred participants to Marine Knowledge Gate (to date, database of 6002 projects)



Proposal for recommendation/resolution by Irina for the need of a future project to continue PERSEUS collaboration

The future is in science-policy interface; important call in this regard is Blue Growth 13 (Didier) – 17th of February 2016

Evaluation of Malta Training Course by participating stakeholders

A course evaluation sheet was distributed amongst participating stakeholders at the end of the same course. A 90% response rate was registered, such that the results obtained are considered to be representative of the entire stakeholder group participating within the Malta Training Course. The overall feedback received from the same stakeholders was generally very positive, as the results below indicate:

	Very good	Good	Adequate	Poor	Very poor	No opinion
1. General organisation						
Preliminary support	47.4%	42.1%	10.5%	0	0	0
Overall organisation	63.2%	31.6%	0	0	0	0
On-site organisation	52.6%	36.9%	10.5%	0	0	0
Amount of information provided about the training course	31.6%	67.9%	10.5%	0	0	0
2. Logistic aspects						
Travel arrangements incl. visa issues and local transfers	62.5%	12.5%	6.25%	0	0	5.0%
Seminar venue: conference room facilities and equipment	44.4%	38.9%	11.1%	0	0	5.6%
Quality of the hotel (incl. location, accommodation and food)	33.3%	38.9%	11.1%	0	0	16.7%
3. Course content						
Selection of topics and seminar objectives	21.1%	88.9%	0	0	0	0
Relevance of the content / topics for your work	47.4%	52.6%	0	0	0	0
Clarification of objectives for each item on the agenda / Agenda structure	21.1%	57.8%	21.1%	0	0	0
Clarity of conclusions reached after discussions on each session	15.7%	63.2%	21.1%	0	0	0
Division of time between presentations and discussions	36.8%	52.6%	10.6%	0	0	0
Quality of the documentation	36.8%	36.8%	26.3%	0	0	0
Usefulness of APM Toolbox for your work	47.4%	31.6%	5.3%	0	0	15.7%
4. Overall evaluation of the course						
	40.09%	46.59%	10.31%	0.00%	0.00%	3.07%



5. What was the most interesting part (e.g. a presentation, discussion topic, field trip) of the course for you?

Most participants referred to the 2nd day training and to the frank discussion between different stakeholders conducted on the 3rd day or to the presentation on the AMP Toolbox

6. Do you think the course was useful for your work? If so, please give an example of how you can use what you learned / gained from the course.

7. Please give an example of a specific issue where you could apply the AMP Toolbox in your work.

Marine litter; measures not included in the BS SAP; fisheries; industrial processes at sea; stakeholder engagement; University lecturing (as a case study for students);

8. Did the course help improve your networking?

(100%) Yes

(0%) No

() I do not know

9. What would you have done differently in the training course?

- Test beforehand the online performance of the AMP Toolbox (majority of respondents referred to this point)
- Invite more non-EU countries from the SES
- Consider more carefully the period when course was being held
- Provide more translation services for non-English speaker
- Include a presentation on the overall MSFD process
- Presentations should have been shorter
- Training goals should have been clearer
- Ensure a better attendance by policy people

Follow the media coverage of the training course in Malta through the following URLs:

<https://www.um.edu.mt/newspoint/news/features/2015/10/gescourse>

and

<http://www.timesofmalta.com/articles/view/20151025/environment/regional-training-course-for-coastal-stakeholders.589578>



ANNEXES

List of Annexes

Annex I – Full programme/agenda for Training Course 1 (Introduction of EU marine environmental policy to non-EU and Black Sea countries)

Annex II – Full programme/agenda for Training Course 2 (CPR Implementation)

Annex III – Full programme/agenda for Training Course

Annex I – Full programme/agenda for Training Course 1 (Introduction of EU marine environmental policy to non-EU and Black Sea countries)

	Monday 4/6/2012		Tuesday 5/6/2012	Wednesday 6/6/2012	Thursday 7/6/2012	Friday 8/6/2012
8.30-9.30	Registration					
9.30-10.00	Official Opening	9.00-10.00	Casazza (8)	Excursion to Kardamyla and Oinoussai island kindly offered by the “Maria Tsakos foundation”	Vassilopoulou	Case studies by participants and discussion
10.00-11.00	Papathanassiou	10.00-11.00	Zampoukas (9)		Spiteri	
11.00-11.30	COFFEE	11.00-11.30	COFFEE		COFFEE	COFFEE
11.30-12.30	Casazza (2)	11.30-12.30	Zampoukas (10)		Simboura	Case studies by participants and discussion
12.30-13.30	Angellidis	12.30-13.30	Panayotidis (11)		Simboura	
13.30-15.00	LUNCH	13.30-15.00	LUNCH		LUNCH	LUNCH
15.00-16.00	Makarenko	15.00-16.00	Panayotidis (12)		Simboura	Case studies by participants and discussion
16.00-16.30	COFFEE	16.00-16.30	COFFEE		COFFEE	COFFEE
16.30-17.30	Kapari	16.30-17.30	Zenetos		Pagou	Case studies by participants and discussion
17.30-18.30	Colpan Beken	17.30-18.30	Zenetos		Pagou	Papathanassiou (Wrap up & Formal Closure)

Annex II – Full programme/agenda for Training Course 2 (CPR Implementation)

Sunday 27th September 2015

Arrival of participants

All day

Icebreaker/Welcome Reception

21:00 – 23:00

Baroque Lounge, The Cleopatra Hotel

Monday 28th September 2015

08:30 Bus pick-up from Cleopatra Hotel to Cyl

09:00 – 09:30

Welcome

Jean Sciare, Director of the Energy, Environment and Water



Research Center (EEWRC)

- 09:30 – 10:00 **Presentation of the Marine Science research at CyI**
Carlos Jimenez
- 10:00 – 10:45 **Presentations by participants on their back-ground, how CPR approach is important for them and how they intend to use CPR in their institution**
Giuseppe Arena, Valentina Tirelli, Yianna Samuel-Rhoads
- 10:45 – 11:00 **Coffee break**
- 11:00- 12:15 **Continuation of Presentations by participants**
Stefano Piraino, Marilena Aplikioti, Veselina Vasileva, Olja Vidjak, Nondas Christou
- 12:15-13:00 **Implementation of the survey- planning stage: infrastructure, equipment and method overview**
Rana Abu Alhaija
- 13:00 – 14:00 **Lunch**
- 14:00 – 14:45 **Implementation of the survey - pre-sampling: port authorities, shipping companies and their importance for the survey, territorial/transboundary issues**
Carlos Jimenez
Cy CPR Facility
- 14:45– 15:00 **Introduction to the laboratory**
Carlos Jimenez & Rana Abu Alhaija



15:00 – 17:00 **Implementation of the survey-pre and post sampling:
Demonstration on the maintenance, service and preparation
of the CPR and internal**
Carlos Jimenez & Ilias Abu Alhajja

17:15 Bus pick-up from Cyl to Cleopatra Hotel

Tuesday 29th September 2015 (morning/noon program subjected to change)

08:30 Bus pick-up from Cleopatra Hotel to Port

09:00 – 12:30 **Transport of the CPR to the vessel; contact with vessel
stakeholders**

12:30 Return to Cyl

13:00 – 14:00 **Lunch**

14:00 – 14:30 **Implementation of the survey - sampling stage: CPR on-board
operations; vessel minimum qualifications and towing the
CPR**
Carlos Jimenez

14:30– 15:00 **Viewing of the on-board operations video**

15:15 – 16:00 **Presentation of SAHFOS**
Jennifer Skinner



1st Floor Conference Room

16:00 – 17:00 **Public Seminar ‘Marine Zooplankton of Lebanon: Biology, Biodiversity, Biogeography’**

Sami Lakkis

17:15 Bus pick-up from Cyl to Cleopatra Hotel

20:00 **Workshop Dinner at Mezostrati Taverna**

Wednesday 30th September 2015

08:30 Bus pick-up from Cleopatra Hotel to Cyl

Cy CPR Facility

9:00 – 9:30 **Implementation of the survey- post sampling: Determination of sample location, Sample standardisation CONSOLE/EXCEL/MATLAB**

Rana Abu Alhaija & Jennifer Skinner

09:30 – 10:30 **Implementation of the survey- Sample Analysis: Demonstration of Phytoplankton Colour index, Phytoplankton transect, Zooplankton transect and Zooplankton eye count analysis methods**

Rana Abu Alhaija & Jennifer Skinner

10:30 – 10:45 **Coffee break**



- 10:45 – 12:00 Continuation of **Demonstration of CPR sample analysis methods**
Rana Abu Alhaija & Jennifer Skinner
- 1st Floor Conference Room**
- 12:00 – 12:30 **Post Analysis Procedures- Large scale surveys: Data/ sample storage, Console- Check blocks- QA/QC**
Jennifer Skinner
- 12:30 – 13:00 **A world of CPR: The Global Alliance for CPR Surveys (GACS)**
Rana Abu Alhaija
- 13:00 – 14:00 **Lunch**
- 14:00 – 17:00 **Interactive Questions session- Special considerations of participants. Analyse the case of each participant & Initiation of a common proposal for a CPR network in the Mediterranean and Black Sea**
- 17:15 Bus pick-up from Cyl to Cleopatra Hotel

Annex III – Full programme/agenda for Training Course

AGENDA

Day 1 (14th October): Plenary presentations & Field visit



Chairs: E. Papathanassiou (PERSEUS) & A. Drago/A. Deidun (University of Malta, local organizing committee)

08:30 – Registration of course participants

09:00 – Video message by Karmenu Vella, EU Commissioner for Maritime Affairs; Welcome by Hon. Leo Brincat MP - Minister for the Environment, Sustainable Development and Climate Change and by Richard Muscat, University of Malta Pro-Rector.

09:30 - Introduction of the Training Course - Aldo Drago and Alan Deidun, PERSEUS (University of Malta, local organizing committee)

09:45 - Presentation of PERSEUS – Evangelos Papathanassiou, PERSEUS Coordinator (HCMR)

10:05 - Presentation on status of MSFD – Georg Hanke (Joint Research Centre)

10:30 - Presentation of the UNEP/MAP Ecosystem Approach process (EcAp) by Didier Sauzade (Plan Bleu)

11:00– Coffee break

11:20 – Presentation on the application of the Ecosystem Approach in the Black Sea - Irina Makarenko (Black Sea Commission)

11:40 - Towards a Good Environmental Status of the Mediterranean and Black Sea Basins - outcomes from the PERSEUS regional non-EU stakeholder workshops – Celia Vassilopoulou, PERSEUS (HCMR)

12:00 - Presentation of the PERSEUS Adaptive Policy Framework – Role of the Stakeholder Platforms – Didier Sauzade and Julien Le Tellier, PERSEUS (MAP/Plan Bleu)

12:20 - Demonstration of the PERSEUS AMP Toolbox on examples - Didier Sauzade, PERSEUS (Plan Bleu)

12:45 - Introduction to the background (competing economic activities, geographical setting, etc) for the fieldtrip - Alan Deidun, PERSEUS (U. of Malta)

13:00 - Lunch break



Afternoon: Field visit

14:00 – Departure (on foot) to Gozo ferry

14:30 – Boarding Gozo Ferry

15:00-18:00: Gozo field visit

18:00 – Boarding return ferry from Gozo

Day 2 (15th October): Training course

Start of proceedings: 09:00

End of proceedings: 19:00

Coffee breaks: 11:00, 16:30

Lunch: 13:30 – 15:00

Morning session (09:00-13:30)

Discussion within Regional groups on how elaborate programme of measures to reach the Good Environmental Status (GES) in each PERSEUS ecological sub region (W.Med, Central, E. Med and Black Sea)

- Invited policy-makers will be divided into 4 geographical groups corresponding to the sub regions
- Each group will have a moderator, a rapporteur and a scientific support team
- Moderators: PERSEUS scientists
- Rapporteur: one stakeholder to be chosen from each group to act as rapporteur
- Chairs: one to be chosen from and for each group

The discussion should be divided into structured modules (same for all regions). In each session the group will have to answer specific question (s) and proceed to the next module. The aim of the training is to elaborate possible measures at various scales in each sub-region, using the AMP Toolbox, with the support of the scientific team.

The questions:



The questions shown below follow the Driver, Pressure, State, Impact, Response approach (DPSIR) and have to be answered by each group. Other questions & answers from the groups are welcome.

- Which are the main issues in your sub region inhibiting GES (and for which few/no measures have been formulated)?
- What are the main issues leading to gaps between the actual/current status of marine ecosystems and GES for your marine area?
- What are the main Pressures in each sub-region?
- What are the Drivers leading to these Pressures?
- What are the future projections of Drivers and Pressures?
- How can you monitor the GES in your area?
- What are the existing measures; are they adequate?
- What could be new and feasible measures to achieve / maintain GES in your sub region, how to prioritize them, how to make them robust to changes?

Afternoon session (15:00-17:00)

- Presentation of the results of the sub region work groups by sub region rapporteurs,
- General discussion
- Wrap up and the way ahead (S. Didier & E. Koulouvaris)

Rapporteur After session (17:00-19:00)

Preparation of presentations for the next day by rapporteur appointed for each sub-region and with input from the entire sub-region group of policy makers.

Note:

A hands-on, participatory approach will be adopted, within which participating policy makers will be encouraged to contribute actively to the ongoing discussions. This will allow making comparisons among the regions and harmonization/streamlining of measures being proposed.

The major output of the workshop will be a synoptic report on each of the 4 sub-regions addressing all the questions tackled in the morning session.

- Workshop dinner (departure from hotel at 19:30)

3rd Day (16th October): Dialogue with stakeholders

Chairs: Aldo Drago, Alan Deidun (University of Malta, local organizing committee)

PERSEUS Deliverable 8.3



08:30 - Introduction for the Maltese stakeholders on the scope of the meeting – Aldo Drago and Alan Deidun, PERSEUS (University of Malta, local organizing committee)

09:00 - Presentation of the outcomes of the 2nd day – Group Rapporteurs

10:00 - Lessons learnt – the case of Malta (Presentation of the 2nd day outcomes specific to Malta (Maltese participant to the course)

10:30 – Coffee break

11:00 - Discussion on the issues/measures with stakeholders (E. Koulouvaris moderator)

12:30 - Closure of works

