



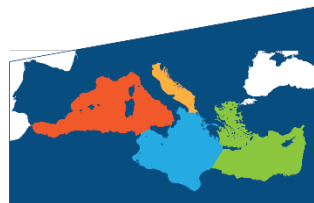
Activity 6

Implementation of the new GES Decision: Pollution

General Assembly, 12 January 2020, Rome

Activity leader: IFREMER (jean.francois.Cadiou@ifremer.fr)

Participants: AZTI, NKUA, HCMR, ISPRA, IWRS, NIB, IEO, IOF, CAs, CORILA/OGS/UNIVE, INFO/RAC, U. Salento



MEDREGION

SUPPORT MEDITERRANEAN MEMBER STATES TOWARDS
IMPLEMENTATION OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE
NEW GES DECISION AND PROGRAMMES OF MEASURES
AND CONTRIBUTE TO REGIONAL/SUBREGIONAL COOPERATION

medregion.eu

Activity 6 - Pollution

Objectives

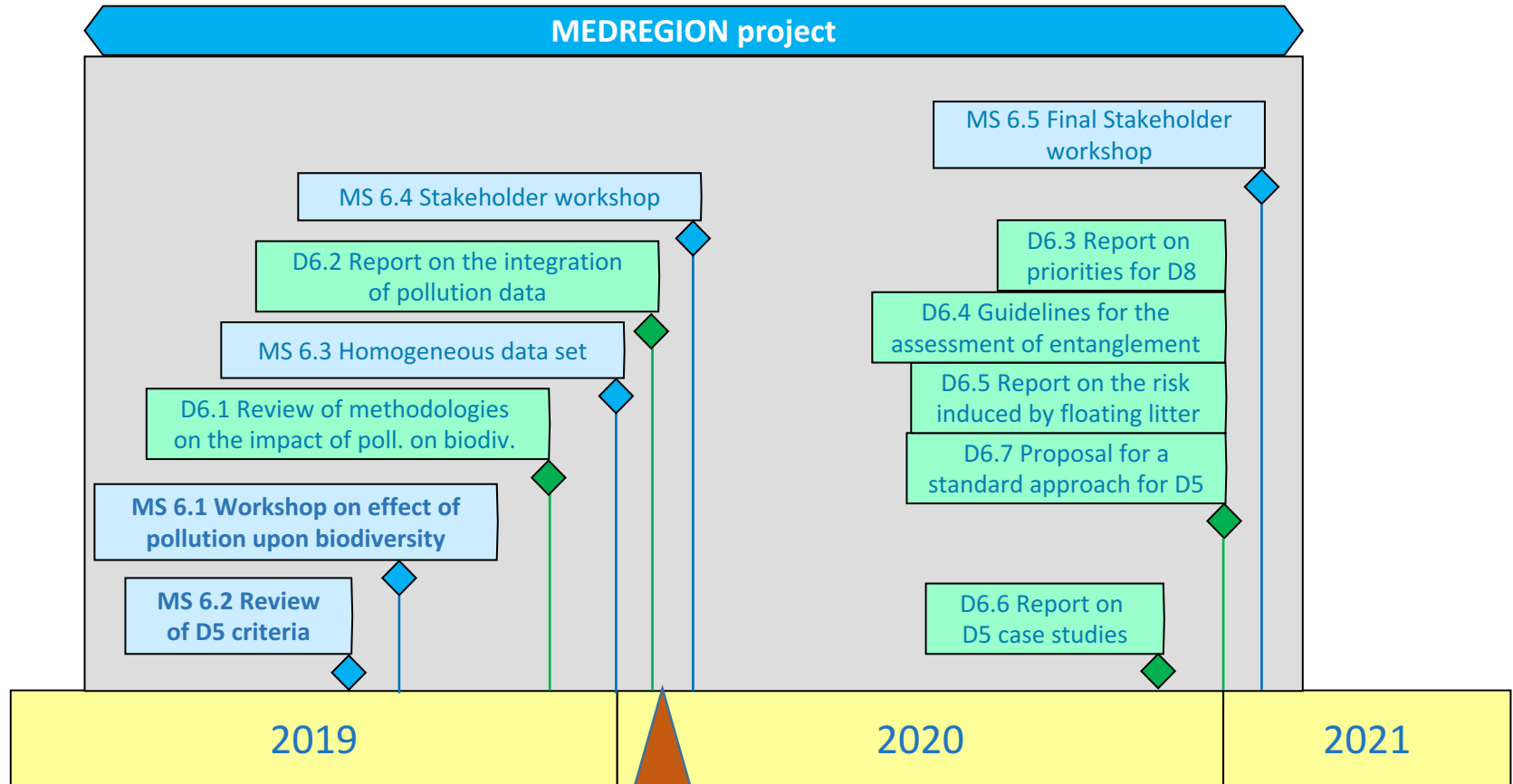
1. Perform a **gap analysis** about pollution pressures on biodiversity in the Mediterranean
2. To **integrate selected data** on GES elements, pollution pressures from different countries and to map with the results of the assessment of biodiversity done in Activity 5
3. **Test and select indicators** based upon criteria established in the Commission Decision (EU, 2017/248)
4. **Develop methodologies** to contribute to the definition of thresholds for GES, which will feed Task 3.2 for the development of the methodology for the effectiveness assessment.

GES descriptors 5, 8 and 10



Activity 6 - Pollution

Milestones and deliverables



Task 6.1 - Gap analysis on the pressures exerted by pollution upon biodiversity in the Mediterranean

Lead: IFREMER

Aim of the “**Workshop on the effect of pollution upon biodiversity**”, Friday 14 February 2020

- In the context of the MSFD, identify the main gaps in the assessment of the impact of pollution on marine biodiversity in the Mediterranean

=> **D6.1 Review of methodologies for assessing the impact of pollution on biodiversity in the Mediterranean**

- brief review the methods used to assess the impact of pollution upon biodiversity
- main bottlenecks that need to be addressed in order to implement the MSFD efficiently (and with a better coherence in the same marine sub-region)

Task 6.2 - Chemical pollution, D8

Lead HCMR

- **Share and integrate data on a subset of selected D8 assessment elements** (chemical substances, matrix...) among countries, including data sets available from EMODnet and UNEP/MAP. This will help to point weaknesses of the assessment of GES at the (sub)regional level
- **Map the results** of this integration task **with the assessment of biodiversity** made by Activity 5 on case studies and information available on pressures
- **Identify priorities** and provide recommendations in terms of
 - Priority substances
 - Target matrices to be monitored
 - Appropriate methodologies
 - Future work after the project will be proposed



Task 6.2 – Chemical Pollution, D8

Lead: HCMR

- 1. Detailed analysis of selected gaps building upon the results of previous projects and initiatives (MEDCIS, UNEP/MAP, JRC etc) => Work in progress**
 - . Will be fed by the workshop (February 14)
- 2. Collecting, integrating and sharing and integrating data on selected D8 assessment elements among countries (Work in progress)**
 - Existing data on chemical contamination, corresponding matrices examined and effects on biota based on biomarker analysis are being collected from each Mediterranean MS, from EMODnet databases and from UNEP/MAPs reports
 - The data will be integrated and shared among MSs
 - Results will be used to characterize the coherence of the assessment of GES at (sub)regional level and to identify any weak points



Task 6.2 – Chemical Pollution, D8

3. **Mapping of the results of the integration task (2) with the assessment of biodiversity made by Activity 5 on case studies and information available on pressures**
- Chemical data (D8C1) will be combined with the assessment of biodiversity (D1) in selected areas using data on biodiversity provided by Activity 5.
 - The aim is to provide useful knowledge on
 - a) the response of biodiversity to chemical pollution
 - b) the risk-based prioritization of chemical contaminants at regional scale



Task 6.2 – Chemical Pollution, D8

4. Recommendations and proposal of a road map for future work.

- **Identify priorities** and provide recommendations in terms of
 - Priority substances
 - Target matrices to be monitored
 - Appropriate methodologies
 - Future work after the project will be proposed

=> Deliverable D6.3 (M22), Report on priorities and recommendations for the assessment of GES including D8C2



Task 6.3 - Link between D1 and D10 through the pressure criteria of entanglement and floating litter

- **Coordination of the work with other projects (Indicit 2, Plastic Busters)**
- **The project will contribute to improve methods and approaches and to provide recommendations about:**
 - The most affected species
 - The prevalence of impact (to what extent?)
 - The best possible data management schemes
 - The possible data processing schemes



Task 6.3 - Link between D1 and D10 through the pressure criteria of entanglement and floating litter, *Lead: ISPRA*



Action	Current Activity
<p>Task 6.1 Gap analysis</p>	<p>Organization of the parallel session 14, February 2020 “Gap analysis on the effect of marine litter upon biodiversity”</p>
<p>1. Collection of videos, photos, and information on entanglement.</p>	<p>In synergy with INDICIT II</p> <ul style="list-style-type: none"> - sharing with all partners the “Standard Protocol to monitor Entanglement of sea turtles and biota in marine debris”, and the files with databases proposals. - Basic Protocol to fill knowledge gaps and collect non-standardized data about entanglement - Development of a standard indicator on entanglement - Table with all stakeholders to involve.



Task 6.3 - Link between D1 and D10 through the pressure criteria of entanglement and floating litter



Action	Current Activity
2. Analysis of existing data on entanglement by marine debris, focusing on benthic organisms and ghost net	State of the art of entanglement on benthic organisms that will be shown during the Workshop of the 14 th February.
3. Link between entanglement and floating litter	Publication of the paper <i>“Turtle on the trash track: loggerhead turtles exposed to floating plastic in the Mediterranean sea”</i> Arcangeli et al., 2019.

Vol. 40: 107-121, 2019 https://doi.org/10.3354/esr0080	ENDANGERED SPECIES RESEARCH Endang Species Res	Published October 30
---	---	----------------------

Contribution to the Special 'Marine pollution and endangered species'



Turtles on the trash track: loggerhead turtles exposed to floating plastic in the Mediterranean Sea

A. Arcangeli^{1,*}, F. Maffucci², F. Atzori^{3,4}, M. Azzolin⁵, I. Campana⁶, L. Carosso⁶, R. Crosti¹, F. Frau⁹, L. David⁷, N. Di-Méglio⁷, M. Rouf⁷, M. Gregoriotti⁸, V. Mazzucato⁶, G. Pellegrino⁶, A. Giacioletti⁹, M. Paraboschi⁶, A. Zampollo⁵, G. A. de Lucia¹⁰, S. Hochscheid¹¹

Acknowledgements. This study was partially funded by the MEDSEALITTER project (co-financed by the European Regional Development Fund) and the MEDREGION project. We are thankful to all ferry companies participating in the research programme, especially to Corsica-Sardinia Ferries, Grimaldi Lines, Minoan Lines, and Tirrenia, who kindly hosted the researchers on board, and to all observers who participated in data collection on board. We thank the Editor and the reviewers, whose comments allowed us to greatly improve the quality of the manuscript.

Task 6.4 – Human induced eutrophication and impacts related to Descriptor 5

Lead : CORILA-OGS

Objectives

- **Reach comparable methodological approaches to evaluate the GES using the Descriptor 5 criteria**
 - Compare the criteria set by Commission Decision EU 2017/848, the threshold and the methodological standards used by different Mediterranean countries to determine GES of marine waters
 - Test the different methodological approaches set by different countries (at national level) and also on a wider scale (sub-basin level).
 - Propose a comparable methodological approach derived from the comparison of national approaches



Task 6.4 Human induced eutrophication and impacts related to D5



2019

May

«MEDREGION QUESTIONNAIRE ON THE GES EVALUATION OF DESCRIPTOR 5»
sent to the Partners and Competent Authorities of Malta Cyprus and Montenegro

October

Data availability check in the period 2011-2017

November

Definition of sub-basins to test different methodological approaches

December

MILESTONE 6.2 Review of criteria used by EU Mediterranean countries for D5

2020

February

Collection of data through Emodnet Chemistry

Test of different methodological approaches

June

D6.6 - Results of the test of different methodological approaches for GES evaluation based on D5 criteria on case studies at sub basin scale

October

D6.7 - Proposal of a “standard” comparable approach for D5



Task 6.4 Human induced eutrophication and impacts related to D5



«MEDREGION QUESTIONNAIRE ON THE GES EVALUATION OF DESCRIPTOR 5»

Contribution from the following Institutes of the Member States:

- National Institute of Biology (**NIB**, Slovenia)
- Institute of Oceanography and Fisheries (**IOF**, Croatia)
- Italian National Institute for Environmental Protection and Research (**ISPRA**),
- Hellenic Centre for Marine Research (**HCMR**),
- French Research Institute for Exploitation of the Sea (**IFREMER**),
- Spanish - Institute of Oceanography (**IEO**)
- and also the Competent Authorities of **Malta**.



MEDREGION QUESTIONNAIRE ON THE GES EVALUATION OF DESCRIPTOR 5

Human- induced eutrophication

The aim of this questionnaire is to collect the information needed to compare the approaches for the evaluation of GES related to descriptor D5 adopted by Member States on the basis of the Commission Decision 2017/848. This information is necessary for the Task 6.4- Human induced eutrophication and impacts related to Descriptor 5 of the MEDREGION project.

1. Are there any thresholds set for the primary criteria at national level for coastal waters? YES/NO

1.1 How are coastal waters defined?

2. Are there any thresholds set for the primary criteria at national level for offshore waters? YES/NO

2.1 How are offshore waters defined?

3. Which is the spatial scale adopted for the D5 GES evaluation?

4. Regarding the criteria element "Nutrients in the water column" are there any threshold values are used at national level for the D5C1? YES/NO

4.1. If YES, for which nutrients are set the thresholds? How were they derived?

4.2 Could you provide a short description of the methodology with references both for coastal and offshore waters, including which methodological standards were used (e.g. depths, periods, data frequency, distance from shore)?

5. Regarding the criteria element "Chlorophyll a in the water column" are there any threshold values used at national level for the D5C2? YES/NO



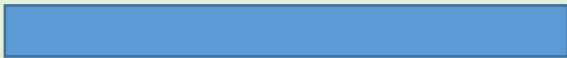




5.1 If YES, please report these thresholds and how they were derived.

5.2 Could you provide a short description of the methodology with references both for coastal and offshore waters, including which methodological standards were used (e.g. depths, periods, data frequency, distance from shore)?

Task 6.4 Human induced eutrophication and impacts related to D5



«MEDREGION QUESTIONNAIRE ON THE GES EVALUATION OF DESCRIPTOR 5»

		Number of states	
	Definitions of Coastal waters and Offshore waters		7
	Spatial scale adopted for the D5 GES evaluation		7
Primary criteria	Nutrients		5
	Chlorophyll a		7
	Dissolved oxygen		2
Secondary criteria	Harmful algal blooms		0
	Photic limit (transparency)		4
	Combined criteria/indicators		2

Task 6.4 Human induced eutrophication and impacts related to D5

MEDREGION



DATA AVAILABLE IN EMODNET CHEMISTRY (temperature, salinity, nutrients, TN, TP, dissolved oxygen, chlorophyll a)

CROATIA		SPAIN		FRANCE		ITALY (ISPRA)		SLOVENIA		GREECE	
Per Year	Datasets	Per Year	Datasets	Per Year	Datasets	Per Year	Datasets	Per Year	Datasets	Per Year	Datasets
2018	102	2018		2018		2018		2018		2018	18
2017	116	2017	0	2017	28	2017	0	2017	72	2017	90
2016	87	2016	90	2016	86	2016	0	2016	96	2016	70
2015	0	2015	154	2015	90	2015	292	2015	87	2015	56
2014	94	2014	81	2014	99	2014	366	2014	118	2014	94
2013	118	2013	111	2013	89	2013	371	2013	101	2013	56
2012	81	2012	0	2012	96	2012	262	2012	100	2012	94
2011	0	2011	114	2011	84	2011	161	2011	305	2011	14
2 years no data		NOT all data uploaded		Only offshore data Need to upload coastal		No salinity		Problems with download		No T, S coupled with the other data	

Activity 6 - Pollution

Progress/next steps

- D6.1 Review of methodologies on the impact of poll. on biodiv to be delivered in the coming weeks based on the outcomes of the workshop
- Achieve the collection and integration of the relevant data sets
- Define the scope and extent of the mapping of the pollution data with the data on biodiversity (Act. 5)



MEDREGION

SUPPORT MEDITERRANEAN MEMBER STATES TOWARDS
IMPLEMENTATION OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE
NEW GES DECISION AND PROGRAMMES OF MEASURES
AND CONTRIBUTE TO REGIONAL/SUBREGIONAL COOPERATION

project acronym: **MEDREGION**
project title: **SUPPORT MEDITERRANEAN MEMBER STATES TOWARDS
IMPLEMENTATION OF THE MARINE STRATEGY FRAMEWORK
DIRECTIVE NEW GES DECISION AND PROGRAMMES OF MEASURES
AND CONTRIBUTE TO REGIONAL/SUBREGIONAL COOPERATION**

coordinator: **Dr Kalliopi Pagou (HCMR)**

Instrument: **DG ENVIRONMENT**

Grant Agreement No: **110661/2018/794286/SUB/ENV.C2**

Start date: **1st February 2019**

Duration: **24 months**

Thank You!



The research... under grant agreement no 110661/2018/794286/SUB/ENV.C2-
MEDREGION SUPPORT MEDITERRANEAN MEMBER STATES TOWARDS IMPLEMENTATION
OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE NEW GES DECISION
AND PROGRAMMES OF MEASURES AND CONTRIBUTE TO REGIONAL/SUBREGIONAL COOPERATION

www.medregion.eu

