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quietMED2

DELIVERABLE 7.2

Specific guidance addressed to competent authorities from Member States to better implement the new GES decision

Deliverable: D7.2. Specific guidance addressed to competent authorities from MS to better implement the new GES decision

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10	Specially Protected Areas Regional Activity Centre	SPA/RAC	Tunisia
11	International Council for the Exploration of the Sea	ICES	Denmark

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Abstract

This document is the Deliverable “D7.2. Specific guidance addressed to competent authorities from MS to better implement the new GES decision (SG)” of the QUIETMED2 project funded by the DG Environment of the European Commission within the call “DG ENV/MSFD 2018 call”. This call funds projects to support the implementation of the second cycle of the Marine Strategy Framework Directive (2008/56/EC) (hereinafter referred to as MSFD), in particular to implement the new GES Decision (Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU) and Programmes of Measures according to Article 13 of the MSFD. The QUIETMED2 project aims to support Member States Competent Authorities in the Assessment of the extent to which GES on Descriptor 11-Underwater noise has been achieved in the Mediterranean Region by providing practical outcomes to implement the new GES Decision through: : i) Develop a joint proposal for candidate species as impulsive noise indicator/s in the Mediterranean Region for the D11C1 Criteria, through the assessment of existing knowledge, guidelines and legal instruments for cetacean protection ii) a common methodology for Competent Authorities to establish thresholds values, together with associated lists of elements and integration rules, iii) a data and information tool to support the implementation of the monitoring programmes on impulsive noise based on the current ACCOBAMS joint register which will be demonstrated on iv) an operational pilot of the tool and v) several activities to boost current regional cooperation efforts of Barcelona Convention developing new Mediterranean Region cooperation measures.

This document addresses the issue related to the update the GES definition (Art.9) of each Member State for the second cycle of implementation integrated with the outcomes of the project 's First training session with the Competent Authorities (CA), held in Barcelona during the 7th and 8th December 2019 in the context of the World Marine Mammal Conference 2019 (WMM19).

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List of Abbreviations

CTN	Centro Tecnológico Naval y del Mar
ACCOBAMS	Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
DFMR	Department of Fisheries and Marine Research
IZVRS	Inštitut za vode Republike Slovenije/Institute for water of the Republic of Slovenia
HCMR	Hellenic Centre for Marine Research
IOF	Institute of Oceanography and Fisheries
UM	University of Malta -The Conservation Biology Research Group
POLIMI-DICA	Politecnico di Milano-Department of Civil and Environmental Engineering
GSNEW	General Secretariat for Natural Environment and Water-Hellenic Ministry of Environment and Energy
SPA/RAC	Specially Protected Areas Regional Activity Centre
ICES	International Council for the Exploration of the Sea
MSFD	Marine Strategy Framework Directive
MSCG	Marine Strategy Coordination Group
GES	Good Environmental Status
MS	Member States
MED	Mediterranean Sea Region
CA	Competent Authority
NR	National representative
SO	Specific Objective
PP	Project's Partners
CY	Cyprus
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
MT	Malta
SI	Slovenia
BE	Belgium
DE	Germany
DK	Denmark
IE	Ireland
NL	Netherlands
PT	Portugal
SE	Sweden
UK	United Kingdom
BG	Bulgaria
RO	Romania
EE	Estonia
FI	Finland
LT	Lithuania
LV	Latvia

1 Introduction

The QUIETMED2 Project is funded by DG Environment of the European Commission within the call “DG ENV/MSFD Second Cycle/2018”. This call funds the next phase of MSFD implementation, in particular, to implement the new GES Decision (Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU) and Programmes of Measures according Article 13 of the MSFD.

The QUIETMED2 project aims to enhance cooperation among Member States (MS) in the Mediterranean Sea Region (MED) to implement the Second Cycle of the Marine Directive and in particular to assist them in the preparation of their MSFD reports through the following specific objectives:

- 💧 Develop a joint proposal for candidate species as impulsive noise indicator/s in the Mediterranean Region for the D11C1 Criteria, through the assessment of existing knowledge, guidelines and legal instruments for cetacean protection.
- 💧 Make a joint proposal of a methodology to establish threshold values, list of elements and integration rules to implement the GES decision in reference to D11 in the Mediterranean Region.
- 💧 Build an efficient data and information tool to support the implementation of the D11C1 Criteria and the update of the monitoring programmes of Impulsive Noise according the new GES Decision.
- 💧 Perform an operational pilot of an impulsive noise impact monitoring programme implemented with the updated Joint register to demonstrate its feasibility.
- 💧 Promote Mediterranean Region Coordination by i) boosting current regional cooperation efforts of Barcelona Convention and others and ii) developing new cooperation measures.
- 💧 Enhance collaboration among a wide network of stakeholders through the dissemination of the project results, knowledge shares and networking.

To achieve its objectives, the project is divided in 3 work packages around 3 priorities and 10 activities whose relationships are shown in Figure 1.

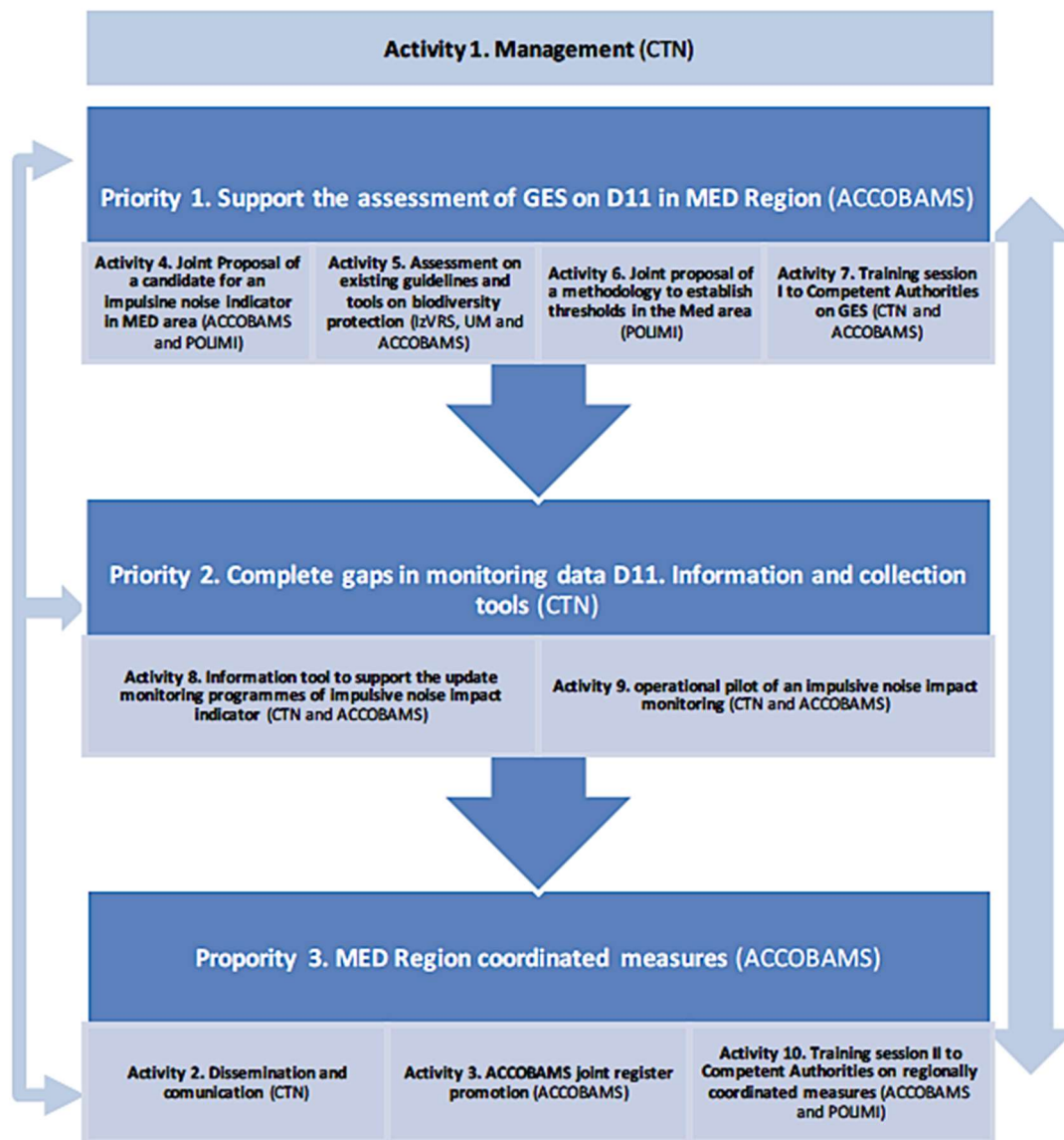


Figure 1. Work Plan Structure

The project is developed by a consortium made up of 11 entities coordinated by CTN and it has a duration of 24 months starting on February 2019.

Activity 7 of QUIETMED2 Project has the following specific objectives:

- 💧 Raise awareness for the issue of underwater noise and to the GES assessment (Art 9 of MSFD);
- 💧 Provide technical support to competent authorities from MS to better implement the new GES Decision;
- 💧 Boost cooperation among MS to support project execution and the development of methodologies to better implement the new GES Decision;
- 💧 Review/update GES definition of each MS, review of each MS perspectives on new GES implementation;
- 💧 Organization, elaboration of materials, preparation and development of Training session I and workshop on cooperation on MSFD implementation of D11 during the “2019 World Marine Mammal Conference”.

This document addresses the issue related to the review/update of each MS's GES definition and perspectives on the new GES implementation integrated with the outcomes of the training session I with the for Competent Authorities (CA).

Furthermore, suggestions and recommendations on the improvement of the implementation of the new GES decision are here reported.

2 Background

The Marine Strategy Framework Directive (2008/56/EC) (MSFD) establishes a framework for the development of marine strategies designed to achieve the Good Environmental Status (GES) in the marine environment, using 11 Descriptors. The MSFD requires that the Member States (MS) of the European Union (EU) achieve and maintain GES in European waters by the year 2020 (European Commission, 2008). Since its establishment, the 2008 Directive has been amended (European Commission, 2017).

The Commission has established specific methodological standards, criteria and indicators for each of the 11 Descriptors of GES in order to ensure that human pressures and impacts are maintained at levels which do not deteriorate the marine environment and are in line with the achievement of GES, while enabling the sustainable use of marine goods and services by present and future generations as mentioned above. This also ensures consistency among the Member States in fulfilling their obligations under the MSFD.

In September 2010, the EU adopted the Commission Decision 2010/477/EU on criteria and methodological standards on good environmental status of marine waters. This Commission Decision establishes a set of criteria and indicators for each of the 11 Descriptors of Annex I of the MSFD which assesses the extent to which they achieve GES in marine waters.

The MSFD 2010 Decision (Decision 2010/477/EU), applied during the GES Initial Assessment phase (1^o Cycle Assessment 2012-2018), has been revised (Commission Decision 2017/848/EU). This new Commission Decision *lays down criteria and methodological standards on GES and establish specifications and standardised methods for monitoring and assessment*. This constitute the reference document to be used during the second assessment phase (2018-2024).

The new Commission Decision 2017 for each GES Descriptor categorize primary and secondary criteria. Particularly, MS shall use primary criteria and associated methodological standards, specifications and standardised methods listed in the relevant Annex, to ensure consistency across the Union.

In 2012, for the first time, MS reported on the state of the environment in their marine waters, on what they consider as being a "Good Environmental Status" and on the objectives and targets they have set themselves to reach GES by 2020. The result showed that more efforts were urgently needed if the EU was to reach its 2020 goal. In 2018 MS had the obligation to revise their initial report.

The operational implementation cycle of the Directive is adaptive and is reviewed every six years (Figure 2).

The first cycle required for all the descriptors:

- 1) the initial assessment of marine environment (Art.8);
- 2) the determination of the GES (Art. 9);
- 3) establishing environmental targets and associated indicators (Art.10);
- 4) the establishment and implementation of coordinated monitoring programmes (Art.11);
- 5) development of programmes of measures (Art.13).

Regarding Descriptor 11 *“Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment”*, a detailed review and comparison of the national implementations, based upon the in-depth assessment of national reports on good environmental status, environmental targets and monitoring programme, has been produced during QUIETMED project (Deliverable 2.1-2.3).



Figure 2 The implementation cycle description of the EU MSFD.

This document presents a comparison and an assessment of the GES definition regarding D11 (Art.9), for each MS, between the first and the second cycle of implementation, considering the new Commission Decision (EU) 2017/848.

The main aim of this document is to compare the results from the initial assessment done in QUIETMED with the updated definitions after the first cycle of the MSFD in order to identify difficulties for moving forward with the GES definitions for D11 considering the new Commission Decision.

3 Summary of the results of the initial assessment done in QUIETMED regarding GES Definitions (Art. 9)

One of the objectives of the QUIETMED Project was to provide a detailed status of the national approaches, compare approaches of the implementation of the first cycle and identify convergence and divergence points, taken into account the assessment work carried out by Milieu Ltd (Milieu Ltd 2014, “Article 12 Technical Assessment of the MSFD 2012 obligations for the Mediterranean Sea”) and JRC (Palialexis et al. 2014, “In-Depth Assessment of the EU Member States’ Submissions for the Marine Strategy Framework Directive under articles 8, 9 and 10”).

QUIETMED project developed a review of different aspects of the GES definitions by Nations and Regions. In particular, during the QUIETMED project, the level of adequacy to the Directive requirements, the level of elaborations and the level of integrations of the definitions have been analyzed for every single national definition.

3.1. Analysis of level of adequacy of the definitions to the Directive requirements

The definitions have been categorized based on the level of adequacy to the Directive requirements as: Adequacy achieved (green), partially achieved (yellow), unachieved (red), not assessed (grey) (See Table 1 as reported from Deliverable 2.1 /QUIETMED project).

Table 1. Overview of the 2012 in-depth assessment for Descriptor 11 for all MS (from Deliverable 2.1 /QUIETMED project).

Focusing on the Mediterranean Region (see Figure 3) the situation is comparable, showing a quite high heterogeneity in the level of adequacy to the Directive requirements.

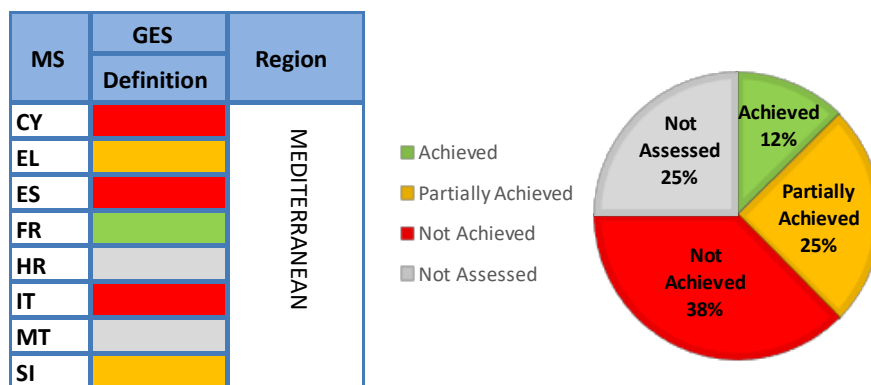


Figure 3. Overview of the 2012 in-depth assessment for Descriptor 11 in the MED Region.

3.2. Analysis of the level of elaboration of the definitions

The GES definitions has been categorized with regards to their level of elaboration in Pressure- Risk- or Response-based (see Figure 4 reported from Deliverable 2.1/QUIETMED project) as follows:

- 💧 **“Pressure-based”**: definitions directly inspired by the wording of the MSFD directive and the 2010 decision.
- 💧 **“Risk-based”**: definitions based on the identification of risks either at generic level or expressed as specific issues (e.g. communication masking).
- 💧 **“Response-based”**: definitions which include the regulation of noise generating activities.

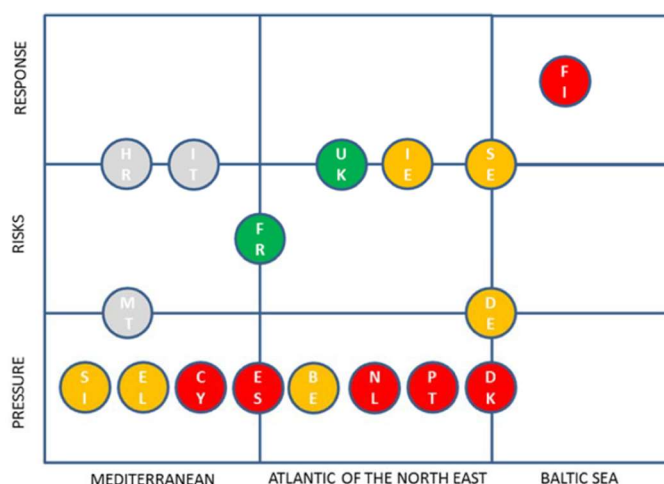


Figure 4 Overview of GES national definition depending of their level of elaboration

The QUIETMED analysis on the level of elaboration confirms disparities among MS approaches in GES definition that varies from pressure-based to risk-based and response-based. On the one hand, this disparity is due to the wide scope of definitions which extend from pressure-based to risk-based and response-based definitions. On the other hand, it is due to the lack of scientific knowledge which has led MS to stick to the pressure indicators even for more

elaborated definitions, which generally makes it quite unrealistic to prove the achievement of the GES at risk or response level. The results highlighted by the QUIETMED Project reflect quite well the level of regional coherency (European Commission, 2014, p. 67), which assessed as moderate in the Mediterranean and as low in the North-East Atlantic and in the Baltic sea. Focusing on the Mediterranean Region (see Figure 5), most of the MS adopted a pressure-based GES definition. Only one MS (France) adopted a risk-based GES definition. Two MS (Italy and Croatia) adopted a GES definition laying between risk-based and response-based.

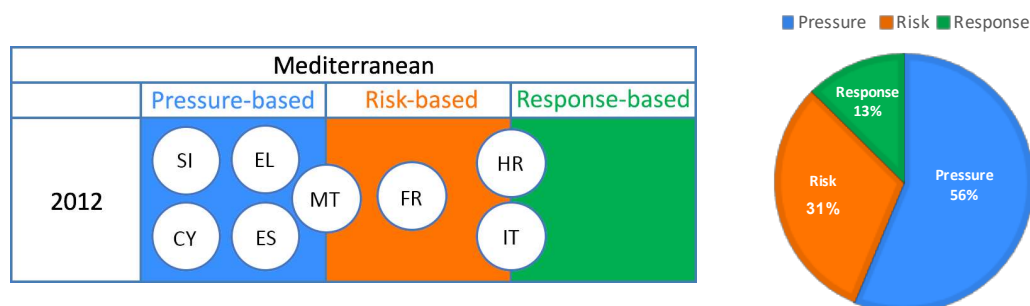


Figure 5 Overview of GES national definition in the MED Region, depending of their level of elaboration.

3.3. Analysis of level of integration of the definitions

The analysis of the level of integration of the different national definitions (in term of granularity) vs. conceptual framework has been done for the descriptor, criteria and indicator level. The results have been presented in relation to their level of elaboration (pressure-risk-response) (see Figure 6 reported from Deliverable 2.1/QUIETMED project).

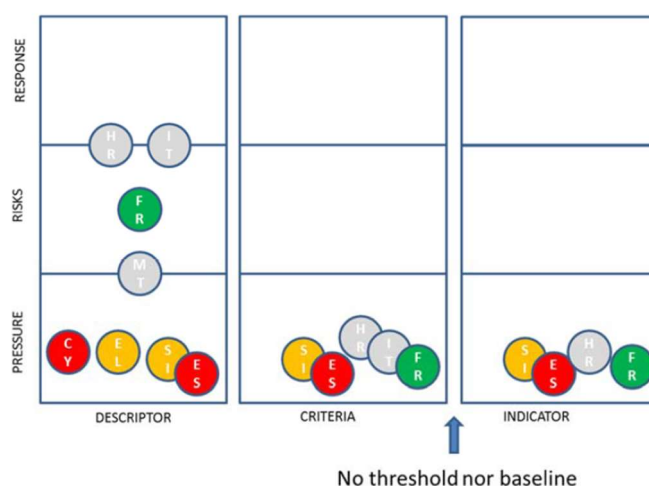


Figure 6. Level of granularity of national definition vs. conceptual level of definition.

It can be seen that MS, even those who have opted for a risk or response based definition, rely only on the decision pressure criteria and indicators to assess their GES. Malta acknowledges a gap of knowledge and does not define formally indicators. None of the MS

has defined thresholds nor even baseline levels. Baselines or thresholds were almost inexistent. None of the countries defined the level of integration at risk or response level.

4 Updated definitions after the first cycle of the MSFD

In order to compare the results from the initial assessment with the updated definitions after the first cycle of the MSFD considering the new Commission Decision, and due to the lack of official technical assessments from the EC in the moment of the writing of this report, a questionnaire was developed and distributed to QUIETMED2 Project's partners in order to collect information about the updated GES definition (Art.9) for the Mediterranean Region (see ANNEX I).

All the information regarding the updated GES definition (Art.9) about D11 were made available to Project's partners through the EIONET web site (Repository (under Obligation menu/ [Marine Strategy] MSFD - Articles 8, 9 and 10 - Text reports http://cdr.eionet.europa.eu/ReportekEngine/searchdataflow?dataflow_uris=http%3A%2F%2Fodr.eionet.europa.eu%2Fobligations%2F761&years%3Aint%3Aignore_empty=&partofyear=&reportingdate_start%3Adate%3Aignore_empty=&reportingdate_end%3Adate%3Aignore_empty=&country=&release_status=released&sort_on=reportingdate&sort_order=&batch_size=200).

The objective was to compare the definitions collected during initial assessment done in QUIETMED project with the updated definitions, and to identify difficulties for moving forward with the updated GES definitions for D11 considering the new Commission Decision 2017/848/EU (See ANNEX II).

The results of the questionnaire are presented in the following section (Section 4.1).

4.1 Analysis of the Questionnaire

To update GES definitions after the first cycle (2012-2018) of the MSFD and facilitate the analysis of the updated definitions, a short Questionnaire (7 questions) was developed (see ANNEX I) and sent to Project's partners. Feedbacks have been provided by all QUIETMED2 Project's Partners (PP).

Preliminary results of the Questionnaire's investigation have been presented and discussed during the Training workshop for Competent Authorities during the World Marine Mammal Conference 2019 ([WMMC'19](#)).

The subsequent modification occurred in 2020 have been integrated and analysed. The results are reported below.

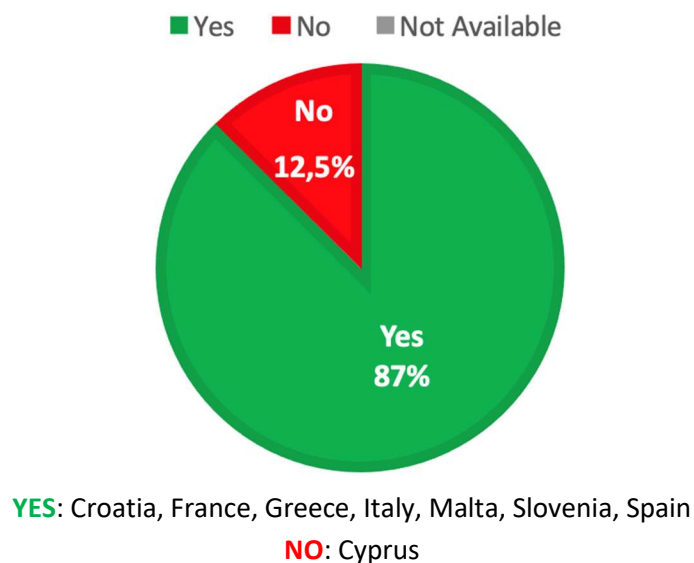


Figure 7 Workshop organized during the WMMC19



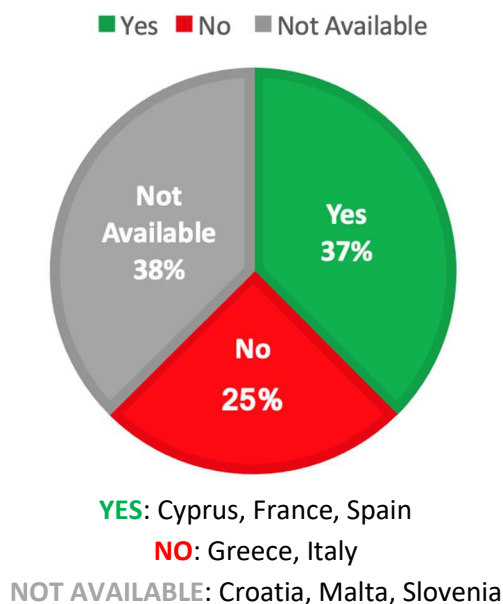
Figure 8 Participants at the workshop in Barcelona at the WMMC19.

1. Do you have updated National Definition of GES at D11 considering the new Commission Decision 2017/848/EU?



87% of PP's (Croatia, France, Greece, Italy, Malta, Slovenia, Spain) declared that they have an updated National Definition of GES, accordingly with new Commission Decision 2017/848/EU.

1.1. Did your country run into some difficulty to update the definition?

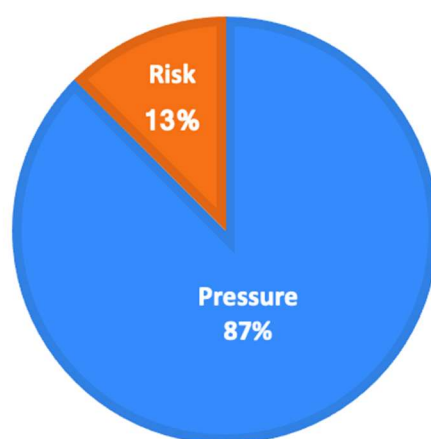


37% of PP's (Cyprus, France, Spain) declared that they have run into some difficulty to update the GES definition.

2. At which level is defined the GES? (According to new Commission Decision 2017/848/EU)

- “**Pressure-based**”: definitions directly inspired by the wording of the MSFD directive and the 2010 decision.
- “**Risk-based**”: definitions based on the identification of risks either at generic level either expressed as specific issues (e.g. communication masking)
- “**Response-based**”: definitions which include the regulation of noise generating activities

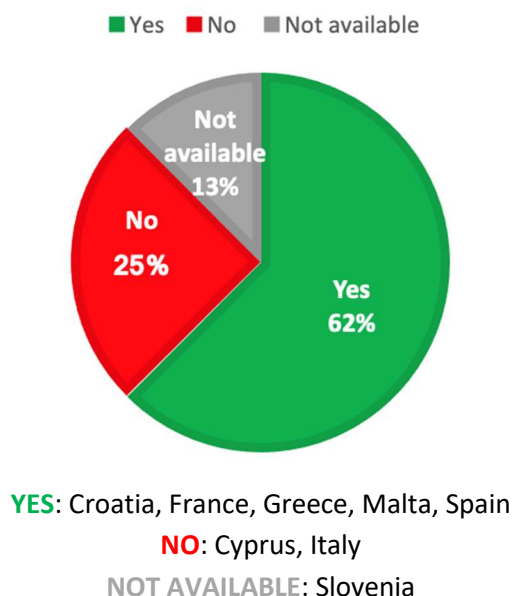
■ Pressure ■ Risk ■ Response ■ Not available



Mediterranean				
	Pressure-based	Risk-based	Response-based	Not available
2018	<div>IT</div> <div>EL</div> <div>CY</div> <div>ES</div> <div>HR</div> <div>SI</div> <div>MT</div>	<div>FR</div>		

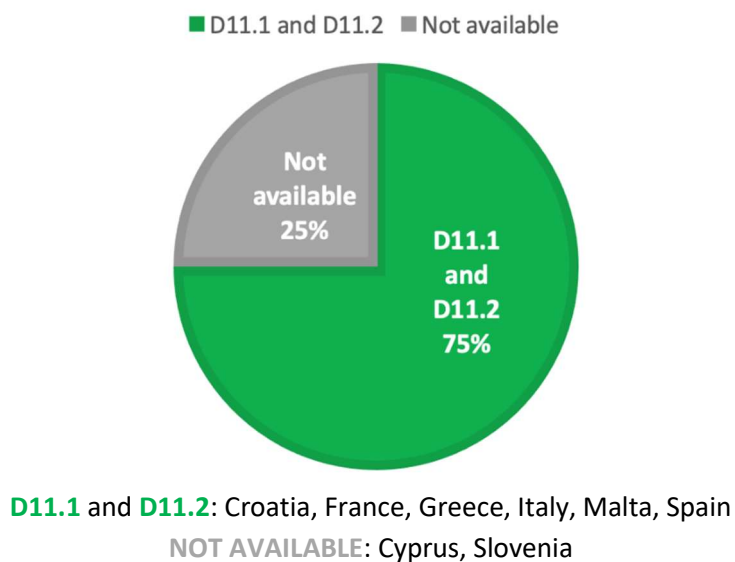
87% of PP’s GES definitions are pressure-based (Croatia, Cyprus, Greece, Italy, Malta, Slovenia, Spain). Only one PP GES definition (France) is risk-based. The text of the definitions is reported in Annex II.

3. Do you have GES National Definition at Criteria level?



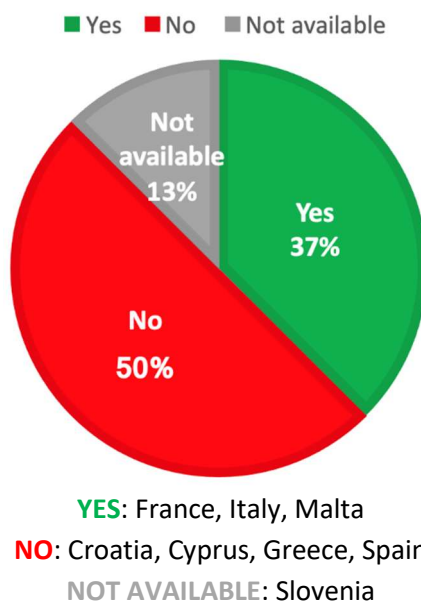
62% of PP's GES definition are at Criteria level (Croatia, France, Greece, Malta, Spain). Most of countries declare that their definition is aligned with the COMM DEC 2017/848/EC.

4. Which are the Criteria considered at national level?



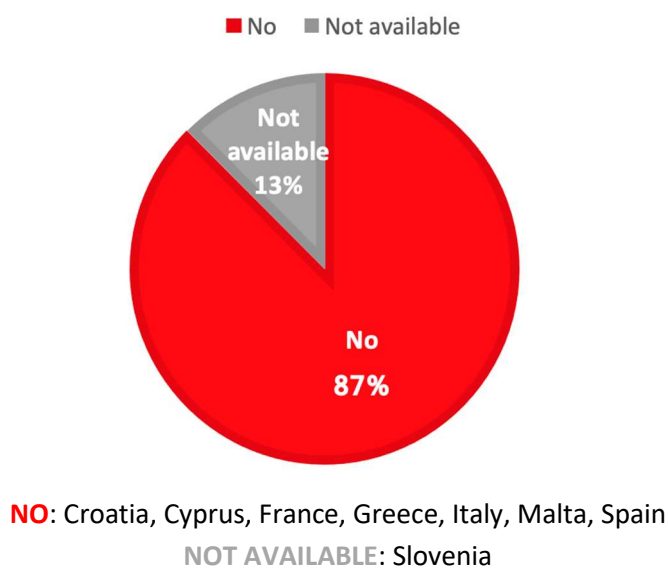
75% of PP's (Croatia, France, Greece, Italy, Malta, Spain) consider both criteria (D11.1 and D11.2) at national level.

5. Did you include Methodological standards (Scale of assessment and Use of criteria) in your legislation? (According to new Commission Decision 2017/848/EU). If Yes, for which Criteria?



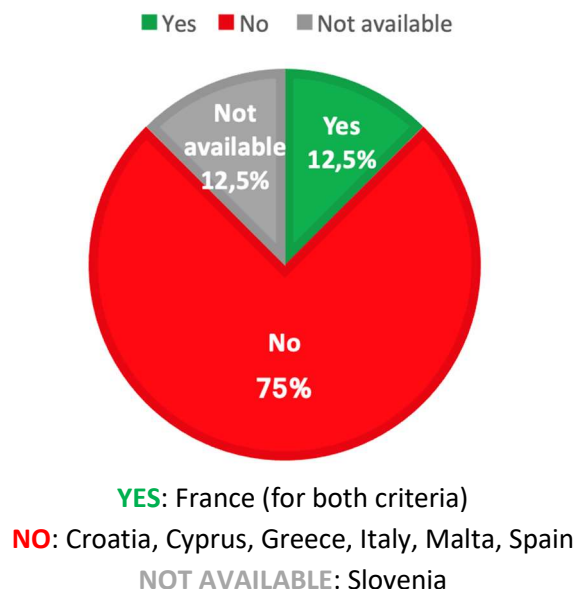
Only 37% of PP's (France, Italy and Malta) declared that they have included the Methodological standards (Scale of assessment and Use of criteria) in their legislation according to new Commission Decision 2017/848/EU, for both criteria (D11.1 and D11.2) since they have enforced the TG Guidelines.

6. Did you include "Specification and standardised methods for monitoring and assessment" according to new Commission Decision 2017/848/EU in your legislation?



None of PP's declared that it has included Specification and standardised methods for monitoring and assessment in their legislation.

7. Did you include “Units of measurement for the criteria” according to new Commission Decision 2017/848/EU in your legislation?



Only one PP (France) declared that it has included Units of measurement for both criteria (D11.1 and D11.2), according to new Commission Decision 2017/848/EU, in its legislation. (i.e. France D11C1: For each reporting cell, number of pulse block days has to be below a temporal threshold. At the region scale, the number of cells where the temporal threshold is exceeding has to be below a spatial threshold. Threshold values are not defined yet. See Annex II for further details).

Generally, regarding the level of GES definition, the comparison before and after the new Commission Decision 2017/848/EU, highlights a different status of the definitions among MS, with most of the countries still involved in the implementation phase.

As can be observed in the Fig. 9, only France is adopting a risk-based definition while most of the countries are still relating to a pressure-based definition.

Mediterranean				
	Pressure-based	Risk-based	Response-based	Not available
2012	<div>SI</div> <div>EL</div> <div>MT</div> <div>CY</div> <div>ES</div>	<div>FR</div>	<div>HR</div> <div>IT</div>	
2018	<div>IT</div> <div>EL</div> <div>CY</div> <div>ES</div> <div>HR</div> <div>SI</div> <div>MT</div>	<div>FR</div>		

Figure 9 Comparison of GES definitions in the first cycle (above) and the second cycle of the MSFD (down).

5 Difficulties for moving forward with the GES definitions for D11 considering the new Commission Decision

Some countries have run into some difficulties to update the GES definition. The main difficulties reported are:

- 💧 The lack of definition for threshold values makes difficult to specifically implement the GES definition at risk level.
- 💧 The insufficient level of knowledge or lack of data availability about the effects of increased ambient noise levels on marine species, makes difficult to decide the type of approach for target setting and description of GES and to standardize the approach with the other Mediterranean EU MS (MED CAM, 2014b);
- 💧 Information about the effects of noise on marine specie different than marine mammals are very limited. GES definition can be better developed if progress in the knowledge about the impact of noise on the marine environment will be available.

6 Suggestions and recommendations on how to better implement the new GES Decision

Main recommendations are related to:

- 💧 Improving the national GES definitions towards the risk-based approach, as requested by the new Commission Decision 2017/848 (point 6). Accordingly, the threshold values setting should be defined at risk level;
- 💧 Improving the coherency and consistency of approaches in order to define a common understanding framework addressed to CA of MS to better implement the new - GES decision;
- 💧 Promoting a common approach at Mediterranean level to update GES, which account for sub-regional particularities (scales, species or other specific ecosystems).
- 💧 Implementing the knowledge about the effect of impulsive noise on the marine environment in order to better define the target.

ANNEX I. QUESTIONNAIRE ON GES DEFINITIONS

General information

First Name:

Surname:

Country:

Project Partner:

Position:

E-mail:

QUESTIONNAIRE

1. Considering the New COMM. DEC.2017/848/EU, do you have an updated National Definition of GES (Art.9) at Descriptor Level (According to MSFD 2008/56/EC Annex I – D11)

☐ Yes

☐ No

If Yes, write here below the GES National Definition for the D11.

Did your country run into some difficulty to update the definition?

☐ Yes

☐ No

If Yes, please, report here which are difficulties encountered.

2. At which level is defined the GES? (According New COMM. DEC.2017/848/EU)

(Please consider the following definitions form QUIETMED Deliverable 2-1:
 “Pressure-based”: definitions directly inspired by the wording of the MSFD directive
 and the 2017 decision. Risks-based”: definitions based on the identification of risks
 either at generic level either expressed as specific issues (e.g. communication
 masking) “Response-based”: definitions which include the regulation of noise
 generating activities

- ☐ Pressure-based definition
- ☐ Risk-based definition
- ☐ Response- based definition

3. Do you have GES National Definition at Criteria level?

- ☐ Yes
- ☐ No

4. Which are the Criteria considered at national level? (According to New
 COMM.DEC.2017/848/EU)

- ☐ **D11.1 – Primary.** The spatial distribution, temporal extent, and levels of anthropogenic impulsive sound sources do not exceed levels that adversely affect populations of marine animals.
- ☐ **D11.2 – Primary.** The spatial distribution, temporal extent and levels of anthropogenic continuous low-frequency sound do not exceed levels that adversely affect populations of marine animals.
- ☐ Both
- ☐ Other (Please, specify below which are the other Criteria considered)

Please, describe here how is define GES at criteria level (According to New COMM.DEC.2017/848/EU).

5. Did you include Methodological standards (Scale of assessment and Use of criteria) in your legislation? (According to New COMM.DEC. 2017/848/EU)

☐ Yes

☐ No

If Yes, for which Criteria?

☐ D11C1 - the duration per calendar year of impulsive sound sources, their distribution within the year and spatially within the assessment area, and whether the threshold values set have been achieved.

☐ D11C2 - the annual average of the sound level, or other suitable temporal metric agreed at regional or sub-regional level, per unit area and its spatial distribution within the assessment area, and the extent (% , km²) of the assessment area over which the threshold values set have been achieved.

☐ Both

☐ None of these

Please, report here below how the Methodological standards are included.

6. Did you include “Specification and standardised methods for monitoring and assessment” according to New COMM.DEC. 2017 in your legislation?

☐ Yes

☐ No

If Yes, for which Criteria?

☐ D11C1

- ☐ D11C2
- ☐ Both
- ☐ None of these

Please, describe here below how the Specification and standardised methods are included.

7. Did you include “Units of measurement for the criteria” according to New COMM.DEC. 2017 in your legislation?

- ☐ Yes
- ☐ No

If Yes, for which Criteria?

- ☐ D11C1
- ☐ D11C2
- ☐ Both
- ☐ None of these

Describe here below how.

ANNEX II. COMPARISON BETWEEN 2012 AND 2018 GES NATIONAL DEFINITION

MEDITERRANEAN SEA REGION		
MS	GES National definition 2012 (referred to the Comm. Dec. 2010/477/EU) Reported in QUIETMED D2.1	GES National definition 2018 (referred to the Comm. Dec. 2017/848/EU)
CY	The marine environment of Cyprus is considered to be in good environmental status by the year 2020 if the introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.	<u>From Questionnaire filled by Cyprus:</u> «Revision of Reports prepared in 2012 for the implementation of Articles 8, 9 and 10 of the MSFD (2008/56/EC)» do not any revision on Noise.
EL	<p>(2012 paper version) An ecosystem is in Good Environmental Status when:</p> <ul style="list-style-type: none"> - There is adequate management of human activities that introduce noise into the marine environment to not induce significant long-term impacts on species populations and the main functional groups - The activities introducing low frequency sound do not pose a significant risk to marine organisms and the main functional groups <p>(Updated) Energy introduced into the marine environment, including noise, is kept at levels that do not have adverse effects on marine organisms</p>	<p><u>From Questionnaire filled by Greece:</u> GES is achieved when introduction of underwater noise is at levels that do not adversely affect the marine environment. More specifically, the spatial distribution, temporal extent, and levels of anthropogenic impulsive sound sources and anthropogenic continuous low-frequency sound should not exceed levels that adversely affect populations of marine animals. GES is defined directly by the wording of the MSFD and the COMM.DEC.2017/848/EU.</p> <p><u>From</u> <u>GR PAPER REPORT 31 12 2018:</u> Anthropogenic Pulse in Water - Criterion D11C1 The relevant criterion adopted by the Greek legislation is Criterion 11.1 "Distribution in time and space of high intensity, low and medium frequency pulses" and the corresponding Environmental Indicator GR11.1.1 "Proportion of days and their distribution within the calendar year, areas of specified surface area and their spatial distribution, where anthropogenic sound sources exceed levels expected to have a significant impact on marine animals." Anthropogenic Continuous Low Frequency Sound in Water - Criterion D11C2 The environmental indicator corresponding to Criterion 11.2 "Continuous Low Frequency Sound", as described in the relevant Greek Ministerial Decree 2016, is GR11.2.1: "Trends in Environmental Noise Levels within the Third Octave Band of 63 and 125 Hz (Central Frequency) in dB re 1µPa RMS (average noise level in those octave zones over one year), based on measurements from observation stations and / or using models where appropriate."</p>

ES	<p>The impulsive noise of high, medium and low frequency and continuous low frequency noise introduced in the marine environment by human activities have no adverse effects on the marine ecosystems.</p> <p>Criterion 11.1: Distribution in time and place of high, loud and mid frequency impulsive sounds</p> <p>Indicator 11.1.1 Proportion of days and their distribution within a calendar year over areas of a determined surface, as well as their spatial distribution, in which anthropogenic sound sources exceed levels that are likely to entail significant impact on marine animals measured as Sound Exposure Level (in dB re 1µPa².s) or as peak sound pressure (in dB re 1µPapeak) at one metre, measured over the frequency band 10 Hz to 10 kHz.</p> <p>Criterion 11.2: Continuous low frequency sound</p> <p>Indicator 11.2.1 Trends in the ambient noise level within the 1/3 octave bands 65 and 125 Hz (centre frequency) (re 1µPa RMS; average noise level in these octave bands over a year) measured by observation stations and/or with the use of models if appropriate.</p>	<p><u>From Questionnaire filled by Spain:</u></p> <p>The Ministry points that due to the lack of data and because the thresholds values have not yet been established, the GES definition for descriptor 11 is currently aligned with the definition established by Com Dec 2017/848 for the criteria of this descriptor.</p> <p>The descriptor 11 is considered in GES when: Spatial distribution, temporal extent and levels of impulsive sound sources and continuous low frequency, of anthropogenic origin, do not exceed levels that adversely affect populations of marine animal.</p> <p>The GES national definition includes both criteria (D11C1 and D11C2). However, there is no specific definition for each criterion.</p>
FR	<p>Good environmental status is achieved when the following conditions are cumulatively met:</p> <ul style="list-style-type: none"> - The detection and communication capabilities of whales are not affected by anthropogenic noise disturbance -Visits to ecologically functional areas by species sensitive to noise disturbance is preserved - Direct or indirect incidental mortality due to anthropogenic noise disturbance is marginal <p>Criterion 11.1: Temporal and spatial distribution of high-frequency impulsive sounds, low frequency and medium frequency</p> <p>Indicator 11.1.1 Proportion, distribution on a calendar year, in areas of a given surface, and spatial distribution of days when anthropogenic sound sources exceed levels that can have a significant impact on marine</p>	<p><u>From Questionnaire filled by French:</u></p> <p>GES is achieved if risks of disturbance of the population, abnormal direct or indirect mortality and masking of the communication remains at levels that are not harmful.</p> <p>D11C1</p> <p>For each reporting cell, number of pulse block days has to be below a temporal threshold. At the region scale, the number of cells where the temporal threshold is exceed has to be below a spatial threshold.</p> <p>For now temporal and spatial thresholds are defined regarding level categories proposed by TG Noise:</p> <p>risk of disturbance for all level categories;</p> <p>risk of indirect death for high and very high level categories.</p> <p>Threshold values are not defined yet.</p>

	<p>animals, measured as the form of noise exposure levels (in dB re 1µPa_{2.s}) or levels of peak acoustic pressure (in dB re 1µPa_{peak}) at one meter on the frequency band 10 Hz to 10 kHz.</p> <p>The indicator consists of the proportion, distribution on a calendar year, and spatial distribution of days when distribution of noise emitted by pulsed sources in the frequency range 10 Hz to 10 kHz at a level beyond the upper thresholds recognized noise by species, as identified on the basis of statements of work or activity reports.</p> <p>Criterion 11.2: The continuous low frequency</p> <p>Indicator 11.2.1 Trends in the ambient noise level in octave bands 63 and 125 Hz (center frequency) [re 1µPa RMS, average noise level in these octave bands over a year], measured by stations observation and / or by means of models, where appropriate. The trend indicator is the average annual low frequency noise in two bands normalized frequencies (called third octave band 63 and 125 Hertz), expressed in dB, measured on observation stations and / or evaluated using models generated by maritime coastal and deep-sea shipping, nautical activities using noise emitters, e.g. oil and gas exploration, and sea construction sites or works generating noise.</p>	<p>D11C2</p> <p>At the region scale, a spatial percentage (i.e. the median) of the trend in continuous noise has to be below a threshold value. This value has to be defined. The trend is related to a loss of communication range for baleen whales.</p> <p>Methodological is written in the proposal by the ministry with the help of the scientists. TG noise level categories are added as well.</p> <p>The text of Units of measurement for the criteria is mostly inspired by TG Noise monitoring guidance.</p>
HR	<p>Initial characteristics of good environmental status for Descriptor 11 (Underwater noise)</p> <p>Both, loud, low and mid frequency impulsive sounds and continuous low frequency sounds introduced into the marine environment through human activities do not have adverse effects on marine ecosystems:</p> <p>Human activities introducing loud, low and mid frequency impulsive sounds into the marine environment are managed to the extent that no significant long term adverse effects are incurred at the population level or specifically to vulnerable/threatened species and key functional groups. Continuous low frequency sound inputs do not pose a significant long term adverse effects at the population level or specifically to vulnerable/threatened species and key functional groups.</p>	<p><u>From Croatia's MSFD – Articles 8, 9 and 10 – Text report (Reported 11 December 2019)</u></p> <p>The GES definition for descriptor 11 is currently aligned with the definition established by Commission Decision 2017/848/EU for the criteria of this descriptor. It includes both criteria (D11C1 and D11C2). The D11C1 is considered in GES when spatial distribution, temporal extent and levels of anthropogenic impulsive sound sources do not exceed levels that have a negative impact on populations of marine animals. The D11C2 is considered in GES when spatial distribution, temporal extent and levels of anthropogenic continuous low frequency sound do not exceed levels that have a negative impact on populations of marine animals.</p>

	<p>Indicator 11.1.: Proportion of days and their distribution within a calendar year over areas of a determined surface, as well as their spatial distribution, in which anthropogenic sound sources exceed levels that are likely to entail significant impact on marine animals measured as Sound Exposure Level (in dB re 1µPa².s) or as peak sound pressure level (in dB re 1µPa peak) at one metre, measured over the frequency band 10 Hz to 10 kHz</p> <p>Indicator 11.2.: Trends in the ambient noise level within the 1/3 octave bands 63 and 125 Hz (centre frequency) (re 1µPa RMS; average noise level in these octave bands over a year) measured by observation stations and/or with the use of models if appropriate.</p>	
IT	<p>G 11.1 The levels of impulsive sounds of high intensity at low and medium frequency, introduced in the marine environment through human activities, are such that do not cause long-term adverse effects on marine ecosystems, and human activities that introduce these sounds are regulated and managed so that they have no significant impact in the long term on marine species at the population level.</p> <p>G 11.2 The levels of continuous sounds at low frequency introduced in the marine environment through human activities are such that do not cause long-term adverse effects on marine ecosystems and are such that do not present a risk of any perceptual or behavioural impacts on marine species at the population level.</p>	<p>From Questionnaire filled by Italy:</p> <p>G 11.1 The levels impulsive sounds of high intensity at low and medium frequency, introduced in the marine environment through human activities, are such that do not cause long-term negative effects on marine ecosystems, and the human activities that introduce these sounds are regulated and managed so that there are no significant long-term impacts on marine species at the population level.</p> <p>G 11.2 The levels of continuous low-frequency sounds introduced in the marine environment through human activities are such that do not cause long-term negative effects on marine ecosystems and are such do not present a risk of any behavioral or perceptual impacts on marine species at the level of population.</p> <p>Please note that there is NO agreement on GES on sound at EU level. It may as well be a totally different thing once TG Noise has discussed it.</p> <p>Regarding the Methodological standards, Italy adopts the guidance of TG Noise.</p> <p>From the document <u>"Descrittore 11 Paper Report 20 12 2018":</u> Element: Anthropogenic impulsive sounds Criterion: D11C1 - Primary. The spatial distribution, temporal extent, and levels of anthropogenic impulsive sound sources do not exceed levels that have a negative impact on populations of marine animals. Member States shall establish threshold values for these levels through cooperation at Union level, taking into account regional or sub-regional specificities. Parameter: Duration per calendar year of impulsive sound sources, their distribution during the year and their spatial distribution within the assessment area and</p>

		<p>whether the determined threshold values have been reached.</p> <p>Element: Anthropogenic low frequency continuous sounds</p> <p>Criterion: D11C2 - Primary. The spatial distribution, the temporal extent, and the levels of anthropogenic continuous low-frequency sound do not exceed levels that have a negative impact on populations of marine animals. Member States shall establish threshold values for these levels through cooperation at Union level, taking into account regional or sub-regional specificities.</p> <p>Parameter: The annual average of the sound level, or other suitable time unit defined at regional or subregional level, per unit area and its spatial distribution within the assessment area, and the extent (in% or km²) of the assessment area over which the threshold values set have been achieved.</p>
MT	<p>In the first cycle, Malta provided this definition for the GES: <i>“Adverse effects of underwater noise on key species groups are minimised to the extent possible”</i>.</p>	<p>BASED ON Environmental Resources Authority, ERA - Malta's, MSFD GES determination Update – Article 9 & Article 17, Good Environmental Status – Updates, Draft Chapter for consultation 52 pp.pdf, Malta has updated the National definition according to new Comm Dec 2017/848/EU as follows:</p> <p>D11.1 The spatial and temporal Extent of marine waters exposed to impulsive sound sources, exceeding levels that may be set at EU level, are minimised.</p> <p>D.11.2 The spatial and temporal extent, of marine waters exposed to anthropogenic continuous low- frequency sound, exceeding levels that may be set at EU level, are minimised.</p>
SI	<p>11.1 The temporal and spatial distribution of impulsive noises at high, low and medium frequencies do not have significant adverse effects on marine organisms.</p> <p>11.1.1 Continuous low frequency sound (ambient noise) does not have significant adverse effect on marine organisms.</p>	<p><u>From Slovenia:</u></p> <p>The new definition for GES for D11 is:</p> <p>The introduction of energy, including underwater noise, is at levels that do not harm the marine environment. That is, the temporal and spatial distribution and levels of underwater noise sound sources have no significant adverse effects on marine organisms.</p>