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Videoconference, 10-11 June 2026

Agenda Item 3: Updated Guidance Factsheets for biodiversity (EO1)

3.1. Benthic Habitats (OE 1: Common Indicator 1 – habitat distributional range and Common Indicator 2 – condition of the habitat’s typical species and communities)

Draft updated IMAP Common Indicator 1 and 2 factsheets related to benthic habitats

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SPA/RAC
Tunis, 2026

Note by the Secretariat

1. In 2008, the Contracting Parties to the Barcelona Convention, through COP 15 Decision IG.17/6, committed to progressively applying the Ecosystem Approach (EcAp) to the management of human activities affecting the Mediterranean marine and coastal environment. This approach aims to promote sustainable development and achieve Good Environmental Status (GES) of the Mediterranean Sea and its coasts.
2. A key component of the Ecosystem Approach is the monitoring and assessment of the marine and coastal environment. To support a coherent regional implementation framework, the Contracting Parties adopted the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) through COP 19 Decision IG.22/7 in 2016. IMAP includes 23 Common Indicators, primarily focusing on state and impact indicators.
3. To support harmonized and consistent monitoring across the Mediterranean region, Guidance Factsheets were developed for each IMAP Common Indicator. These factsheets define common monitoring and assessment approaches and serve as key technical references for Contracting Parties in the development, revision, and implementation of their national monitoring programmes. Their overall objective is to strengthen the implementation of the Ecosystem Approach and support the achievement of Good Environmental Status (GES).
4. The first version of the Guidance Factsheets was reviewed by the Meeting of the Correspondence Group on Monitoring (CORMON) on Biodiversity and Non-Indigenous Species (Madrid, Spain, 28 February–1 March 2017) and by the Meeting of the SPA/RAC Focal Points (Alexandria, Egypt, 9–12 May 2017). The outcomes of these reviews were reflected in document UNEP(DEPI)/MED WG.444/6/Rev.1 presented at the 6th Meeting of the Ecosystem Approach Coordination Group (Athens, Greece, 11 September 2017).
5. Building on the experience gained through national IMAP implementation and the findings of the 2023 Mediterranean Quality Status Report (MED QSR), the Contracting Parties initiated the revision of the Ecosystem Approach (EcAp) policy and the update of IMAP, in line with the mandate provided at COP 23. This process aims to strengthen monitoring and assessment capacities, improve data quality, and ensure more robust and reliable regional assessments.
6. As outlined in the SPA/RAC work programme, the update of the Common Indicators Factsheets is scheduled to be carried out during the 2024–2025 and 2026–2027 biennia. SPA/RAC has updated the Guidance Factsheets of Common Indicators for Ecological Objectives (EO1: Biodiversity), with the support of the Biodiversity Online Working Group (OWG), with the objectives to:
 - incorporate climate change considerations into the updated Guidance Factsheets. As one of the most significant threats to biodiversity in the Mediterranean Sea, climate change requires further clarification within the Guidance Factsheets and GES definitions. Its impacts should be integrated into existing indicators and methodologies, particularly in the establishment of baseline and threshold values.
 - take into consideration the development of Monitoring and Assessment Scales, Assessment Criteria, Thresholds, and Baseline Values for IMAP Common Indicators 1 (Habitat distributional range), 2 (Condition of the habitat's typical species and communities) related to habitats (Posidonia, Coralligenous, and Maerl), 3 (Species distributional range), 4 (Population abundance), and 5 (Population demographic characteristics) related to seabirds, marine mammals, and marine turtles.
 - update the Guidance Factsheets based on the latest scientific knowledge. Advancements in marine biodiversity research, ecological monitoring, and the impacts of climate change provide valuable insights that should be integrated to ensure more accurate assessments and effective conservation measures.

7. In this context, SPA/RAC has prepared draft updated IMAP Common Indicator 1 and 2 Factsheets related to benthic habitats, with a view to supporting the Contracting Parties in updating their national IMAP monitoring programmes and facilitating data collection and assessment for the third IMAP assessment cycle.

8. This proposal was developed with the support of the Biodiversity Online Working Group (OWG) on benthic habitats. The Meeting is expected to review the document and provide guidance with a view to its submission to the SPA/RAC Focal Points Meeting (scheduled for May 2027) and the EcAp Coordination Group Meeting (scheduled for September 2027).

1. Common elements for CI-1 and CI-2

1.1 Framework for assessment of benthic habitats under Ecological Objective 1

2. EO 1 has the following objective for benthic habitats: *Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats are in line with prevailing physiographic, hydrographic, geographic and climatic conditions.*

3. This objective is to be assessed through two Common Indicators: CI-1 on *Habitat distributional range* and CI-2 on the *Condition of a habitat's typical species and communities*.

4. Assessments of progress towards the EO 1 objective, via the periodic Mediterranean Quality Status Reports (MedQSRs), need to determine the extent to which good environmental status (GES) has been achieved in relation to specified habitat types. Further, because habitat status may vary across the Mediterranean Sea region due, in particular, to variation in anthropogenic pressures across the region, it is important to assess habitat status for specific areas (assessment areas) and from this identify management actions which may be needed in those areas where the habitat is assessed as being in poor status (i.e. below GES)¹.

5. The monitoring and assessment processes for CI-1 and CI-2 under EO 1 should therefore be structured around this combination of habitat type and assessment area, with the possibility to aggregate results up to the regional level for presentation in the MedQSR.

6. For EO 1 benthic habitats, there is a strong dependency on using the data derived from the monitoring programmes of Contracting Parties to enable the preparation of robust, data-driven status assessments. This necessitates using harmonised methods to collect data of known quality and submission of these data into the IMAP Info System (Section 1.4) from where it can be readily aggregated for assessment purposes.

1.2 Habitats to be assessed under EO 1

7. Monitoring and assessment for EO 1, and consequently these updated GFS, is focused at present on three habitat types:

- a. *Posidonia oceanica* meadows
- b. Rhodolith beds (formerly known as Maërl beds²)
- c. Coralligenous habitat

8. These three habitat types have received particular attention within the process to implement EO 1, with the following available for them:

- a. monitoring guidelines, providing an overview of approaches to monitoring and details for a variety of monitoring techniques to address CI-1 and CI-2 (UNEP/MAP, 2021b; UNEP/MAP SPA/RAC, 2019a);
- b. data standards (B1, B2, B3) for submission of data into the IMAP Info System (UNEP/MAP, 2019) (see Section 1.4);

¹ In cases where the habitat is assessed as being in poor status due to the adverse effects of non-indigenous species and there are currently no known measures to remove them (e.g. the brown alga *Rugulopteryx okamurae* on rocky habitats in Spain (Díaz et al., 2024)), the habitat can be considered as 'heavily modified'. This term, used under the EU Water Framework Directive, implies that GES may never be reached; however, measures can be directed towards achieving the best status possible under such circumstances.

² The term Maërl was commonly used in the IMAP prior to the development of assessment methodologies, assessment criteria and thresholds (UNEP/MAP, 2025a). Following this latter work, the OWG and CORMON advised that the habitat should, more correctly, be referred to as Rhodolith beds (Basso et al., 2016).

- c. [status assessments for the MedQSRs in 2017³ and 2023⁴ \(UNEP/MAP, 2017a; UNEP/MAP, 2023a; 2023b\);](#)
- d. [assessment methodologies, assessment criteria and thresholds \(UNEP/MAP, 2025a; UNEP/MAP SPA/RAC, 2025a\).](#)

9. [Each habitat type exhibits a broad ecological character across its Mediterranean-wide distribution, which varies according to the substrate, depth and other environmental factors in which the habitat is found. This wide variation is reflected in the definition of multiple sub-types under codes MB and MC in the Barcelona Convention habitat typology⁵ \(UNEP/MAP SPA/RAC, 2019b; Montefalcone et al. 2021\):](#)

- a. [Posidonia oceanica meadow \(B3\)](#)
 - i. [Posidonia oceanica meadow \(MB2.54 with 7 sub-types⁶\)](#)
- b. [Rhodolith beds \(B2\)](#)
 - i. [MB3.511 Association with maërl or rhodoliths⁷](#)
 - ii. [MB3.521 Association with maërl or rhodoliths](#)
 - iii. [MC3.52 Coastal detritic bottoms with rhodoliths \(with 9 sub-types\)](#)
- c. [Coralligenous habitat \(B1\)](#)
 - i. [MB1.55 Coralligenous \(enclave of circalittoral\)](#)
 - ii. [MC1.51 Coralligenous cliffs \(with 17 sub-types\)](#)
 - iii. [MC1.52a Coralligenous outcrops \(with 9 sub-types\)](#)
 - iv. [MC1.52b Coralligenous outcrops covered by sediment \(see MC1.52a for examples of facies\)](#)
 - v. [MC1.52c Deep banks \(with 3 sub-types\)](#)
 - vi. [MC2.51 Coralligenous platforms \(with 12 sub-types\)](#)

10. [The BC/EUNIS habitat typologies demonstrate the broad range in ecological character exhibited by each habitat in the Mediterranean Sea region. When reviewing the state of implementation of IMAP monitoring and assessment for these three habitat types, Garrabou and Kipson \(2023\) developed the following general definitions:](#)

- a. [Posidonia oceanica meadow: This biogenic habitat is created by the ecosystem engineer species, the endemic seagrass Posidonia oceanica. It is the only Mediterranean seagrass able to build a “matte”, a monumental construction resulting from horizontal and vertical growth of rhizomes with entangled roots and entrapped sediment \(Boudouresque et al. 2006\). Posidonia meadows occur between the sea surface and 40 m depth, depending on the water transparency, and can be commonly found on different types of substrate, from sandy bottoms to rocks. P. oceanica beds are considered the Mediterranean biodiversity hotspots providing crucial ecosystem services such as primary production, oxygen release, sediment retention and hydrodynamics attenuation as well as carbon fixation and sequestration. Moreover, they serve as nurseries for numerous marine species, including the ones of commercial interest \(Vassallo et al. 2013 and references therein\). Rare sexual reproduction and slow horizontal growth of rhizome edges prevent rapid recolonization of degraded or new forming beds. Pressures to this habitat include the impacts of boat](#)

³ <https://www.unep.org/unepmap/resources/quality-status-report-mediterranean-med-qsr-2017>.

⁴ <https://medqsr2023.info-rac.org/>.

⁵ The Barcelona Convention typology is incorporated into EUNIS, the European habitat classification system (<https://eunis.eea.europa.eu/habitats.jsp>), which has a similar structure and coding system. Differences between the two classifications were identified in UNEP/MAP (2025a).

⁶ Sub-types for a) *Posidonia* on artificial substrata and b) *Posidonia* association with *Zostera noltii* are not specifically defined in the Barcelona Convention or EUNIS habitat classifications.

⁷ MB3.511 and MB3.521 have the same habitat names but are listed under separate higher types (MB3.51 Infralittoral coarse sediment mixed by wave and MB3.52 Infralittoral coarse sediment under the influence of bottom currents).

anchoring, trawling, coastal development, turbidity, invasive species, eutrophication and pollution. Moreover, climate change poses an additional threat to this habitat through the impact of marine heatwaves, sea level rise and increased frequency of the extreme weather events (Gubbay *et al.* 2016).

- b. Rhodolith beds: ‘Rhodolith beds’ are sedimentary bottoms characterised by any morphology and species of unattached non-geniculate calcareous red algae (incompletely-coated grains excluded) with >10% of live cover. The name “maërl” refers to those rhodolith beds that are composed of non-nucleated, unattached growths of branching, twig-like coralline algae (Basso *et al.* 2016). Rhodolith beds occur in coarse clean sediments of gravels, clean sands and coastal detritic areas under the influence of bottom currents, which occur either on the open coast or in tide-swept channels of marine inlets (the latter often stony). In the Mediterranean, they may be found between 20-150 m depth and are characterised by different dominant species, probably in relation to biogeography and local environmental conditions. Rhodolith beds are known to be hot-spots of biodiversity, hosting a highly diverse invertebrate community. Moreover, they are amongst the Mediterranean communities with the highest amounts and production rates of carbonates, and they provide nursery grounds for commercial fish and shellfish species. Commercial dredging, trawling fisheries, chemical pollution by organic matter and excess nutrients are the major threats identified for these habitats. Rhodolith-forming algae are likely to be also affected by the ongoing global warming and ocean acidification (Gubbay *et al.* 2016).
- c. Coralligenous habitat: Coralligenous habitats are hard bottoms of biogenic origin dwelling in dim light conditions, mainly in the circalittoral zone between 20-200 m depth. The coralligenous is produced by the accumulation of calcareous encrusting algae and other macroinvertebrates that consolidate the biogenic structures while the physical and biological erosion causes the partial destruction of the “coralligenous buildings”. The result of these two opposite processes is always a very complex structure providing contrasted environmental conditions in terms of light, water movement, sedimentation rate and other. This complex habitat allows the development of several kinds of communities including those dominated by living algae (on the upper part of the concretions), suspension feeders (upper and lower part of the concretions, wall cavities, and overhangs of the build-up), borers (inside the concretions), and even soft-bottom fauna (in the sediment deposited in cavities and holes), finally a rich fish community and mobile invertebrates (Ballesteros 2006). In fact, the coralligenous habitats, with more than 1600 species, are considered one of the Mediterranean biodiversity hot spots. These habitats provide commercial fishing grounds for fish and Decapoda species, sources of bioactive compounds for the medical and industrial uses and areas for the development of recreational diving activities. Commercial trawling fisheries, climate change, invasive species, chemical pollution by organic matter and excess nutrients are the major threats identified for these habitats (Gubbay *et al.* 2016).

11. For IMAP implementation, the distribution and extent of each habitat needs to be mapped, particularly at chosen monitoring sites, which necessitates some further refinement of the habitat definitions to enable their delineation from surrounding habitat types:

- a. *Posidonia oceanica* meadows: to be developed, as necessary.
- b. Rhodolith beds:
 - i. rhodolith beds are formed by free-living calcareous red algae, mainly belonging to the orders Corallinales and Hapalidiales, although they may also include other red algae, specifically Peyssonneliales, such as *Peyssonnelia rosa-marina*, and Sporolithales (Basso *et al.*, 2017, Table 11.2);

- ii. rhodolith beds are those areas of the sea floor with >10% cover of live rhodoliths over a minimum surface of 500 m² on 1:10000 scale⁸ (Basso et al., 2016);
 - iii. scales of at least 1:1000 should be used for monitoring selected rhodolith beds, in order to detect significant changes over time. This definition is essential for the monitoring programme, as higher or lower rhodolith coverage or biomass can determine the distribution and ecology of the habitat and may even have regulatory or legal implications (Basso et al., 2016).
 - c. Coralligenous habitat: to be developed, as necessary.
12. It is important to better understand how the broad ecological character of each habitat type potentially affects the monitoring and assessment process, including aggregation of data for region-wide status assessments, by:
- a. Describing the characteristics of each habitat at the sites selected for monitoring, including both the biological community characteristics (main species; algal coverage and biomass, where relevant) and the abiotic habitat characteristics (substrate, depth range, wave and tidal current exposure, salinity and other key parameters⁹); the habitat type, facies or subtype¹⁰, and depth should be systematically reported with monitoring data;
 - b. Assessing the degree of variance in habitat characteristics across the region and the validity of aggregating data from different sites within assessment areas and across the region;
 - c. Monitoring a single subtype within the same depth zone within each assessment area and monitoring a limited number of subtypes and depth zones across the region.
13. Assessments for EO 1 for the MedQSR are expected to focus on the higher-level habitat types (i.e. *Posidonia*, Rhodoliths and Coralligenous), unless it becomes clear during further implementation that assessment of subtypes would be more appropriate.
14. Further habitat types are being considered for inclusion within the IMAP for EO 1 (UNEP/MAP SPA/RAC, 2023; Garrabou & Kipson, 2023) and should be added to these GFS when monitoring and assessment elements for them are sufficiently well developed.

1.3 Assessment areas for EO 1

15. UNEP/MAP (2025a) agreed to use the assessment areas, which are subdivisions of each Mediterranean subregion, shown in Figure 1. This set of assessment areas was developed for use under EO 6, but the rationale for defining assessment areas at this scale is equally applicable to the specific habitat types addressed under EO 1.
16. This set of assessment areas aims to reflect biogeographic variation in the characteristics of each habitat, particularly driven by changes in sea temperature and salinity across the region¹¹, as well

⁸ Note that, when mapping all habitats in an area, use of this definition gives ‘priority’ to rhodolith habitat over the habitat that comprises the remaining 90% of the seabed in the ‘rhodolith bed’ and thus may not follow the methodological approaches used to delineating other habitat types in the area.

⁹ For rhodolith beds, other important abiotic characteristic such as geomorphological (e.g. slope, backscatter and rugosity) and sedimentological variables (e.g. organic matter content, percentage of gravel, sand and mud) should also be considered (Frank et al., 2026).

¹⁰ New sub-types may be needed to adequately describe habitat variations in less-well studied parts of the Mediterranean, e.g., the fields of *Eunicella singularis* colonies extending from 15-30m depth at La Galite, Tunisia (Sabri Jaziri, pers. comm. via OWG, May 2026).

¹¹ Environmental gradients within certain assessment areas (e.g. Alboran Sea, MWE-1 and MWE-2) may affect habitat characteristics and need to be taken into account when selecting representative monitoring sites.

as providing suitable scales for management of pressures affecting the habitats. Further details about the rationale for these assessment areas is provided in UNEP/MAP (2025b, Section 9 and Annex 2).

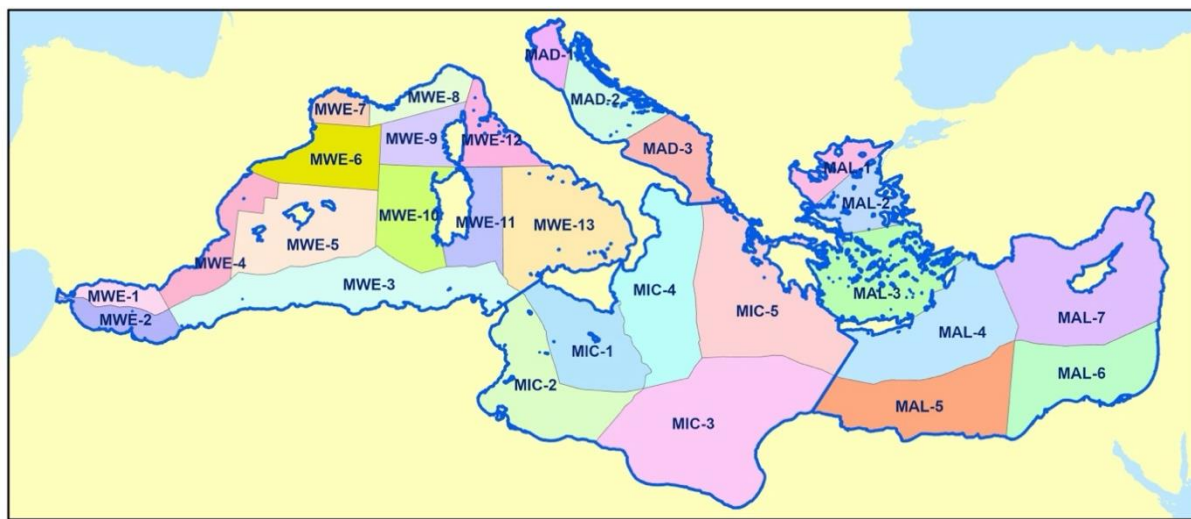


Figure 1. Assessment areas (subdivisions) for application in assessments of EO 1 and EO 6. Subdivisions are numbered within each subregion (blue lines) with codes: MWE-Western Mediterranean Sea; MAD-Adriatic Sea; MIC-Ionian Sea and the Central Mediterranean Sea; MAL-Aegean-Levantine Sea (UNEP/MAP, 2025a, 2025b). This map is for assessment purposes only and shall not be considered as an official map representing marine borders. This map shall be used without prejudice to the agreements made between countries under international law in respect of their marine borders¹².

17. Furthermore, use of these assessment areas under both EO 1 and EO 6 offers coherence and consistency of approach between the two EOs that address the seabed, harmonisation of assessment methods, easier reuse of common data (such as on pressures) and facilitates a common presentation of assessment results, understandable for policy and management purposes.

1.4 Data submission to the IMAP Info System

18. Contracting Parties are to periodically submit their monitoring data for CI-1 and CI-2 into the IMAP Info System (UNEP/MAP, 2019).

19. A data standard has been developed for each habitat type (B1, B2, B3); these are available as Excel spreadsheets for download from <http://imapinfosystem.info-rac.org/app/#/standard>.

20. UNEP/MAP (2025a) provides an analysis of the use of each data standard and recommends these standards be reviewed and updated, preferably into a single data standard that will accommodate any habitat type. Further modification of the data standards is needed to accommodate the methodologies agreed in UNEP/MAP (2025a) and presented here. The information reported by Contracting Parties needs to relate to collated national data (e.g. distributional records), data collected at monitoring sites for CI-1 and CI-2, and the data calculated for each indicator, which may be aggregated to assessment area level. It is important to develop a format¹³ for national reporting that will enable aggregation of results for each indicator per habitat type and assessment area.

¹² In cases where the boundaries of certain subdivisions are based on national marine borders and these borders are modified, such as through new agreements with neighbouring countries, the subdivision boundaries should be updated.

¹³ The reporting format for MSFD Article 8 assessments includes relevant elements (European Commission, 2023. *MSFD guidance: reporting on the 2024 update of Articles 8, 9 and 10. (MSFD Guidance Document 20; version 20240514)*. Brussels. <https://cdr.eionet.europa.eu/help/msfd/MSFD%202024>. See, in particular, the worked examples in GD20 Annex III for Descriptor 6 on sea-floor integrity.

21. Updating of the data standards for benthic habitats should be done in conjunction with finalising these GFS so that the two products are fully harmonised. It is recommended that a single data standard is developed to accommodate all three habitat types (and further habitat types when added to the IMAP). Furthermore, the standard should accommodate ‘mapping’ data (e.g. from published literature), ‘monitoring’ data (from field surveys) and ‘assessment’ data (from indicator analyses) to enable reporting for CI-1 and CI-2 and ready aggregation of results up to assessment area and regional scales. Mandatory fields, reflecting the minimum requirements for CI-1 and CI-2, should be distinguished from optional fields. A draft standard should be developed prior to discussion with the OWG and Info/RAC.

22. Data should be submitted to the IMAP Info System on a regular basis within each data collection period for a MedQSR¹⁴. The data submission process includes validation checks to ensure conformity to the data standard.

23. It is expected that the data held in the IMAP Info System will be periodically harvested for analysis, particularly to assess the status of each habitat type for MedQSRs.

1.5 Using CI-1 and CI-2 in combination to assess habitat status under EO 1

24. When used together, CI-1 and CI-2 aim to assess key aspects of benthic habitat status, i.e. the distribution and extent of the habitat (how much has been lost) and its condition (how much is in a good state).

25. The outcomes of assessments for the two Common Indicators for benthic habitats need to be used in combination to provide a status assessment for each habitat in each assessment area. These assessments should indicate whether the habitat is in a good or poor state (within the assessment area), with both indicators needing to pass for the habitat to be considered in good status at a monitoring site. In cases where one indicator is unlikely to (ever) pass (such as permanent loss exceeding the threshold, or impacts from non-indigenous species which cannot be addressed through management actions), use of the term ‘good ecological potential’ (as used under the Water Framework Directive for heavily modified water bodies) may be a way to express status when GES is not achievable.

26. Habitats assessed as being in a poor state may consequently need management actions to help the habitat to recover towards a good state. These actions are likely to particularly relate to reducing those anthropogenic pressures which are adversely affecting the habitat and, where appropriate, to any conservation actions which promote recovery/restoration of the habitat.

1.6 State/impact monitoring in the context of pressures

27. CI-1 and CI-2 are focused on monitoring the state of the habitats, which will likely reveal that the habitat (at each monitoring site) changes over time, because the species composition varies over time and the abundance and distribution of its key species will also vary with time. This variation in state over time may be related to:

- a. natural variation in the ecosystem (e.g. normal processes of recruitment, growth and mortality of species within communities), and/or
- b. changes in state due to the effects of anthropogenic pressures (deterioration) or management actions which reduce or remove those pressures (recovery).

28. To help understand changes in state apparent in the monitoring data, it is valuable to collect contextual data on the distribution and intensity/frequency/duration of relevant anthropogenic activities and their pressures, both at monitoring sites and more broadly across each country. This should use a standardised grid and methods which provide some degree of quantification, even if simply as the

¹⁴ A regular data submission date (DDMM) each year should be established for EO 1 habitats, preferably linked to a common submission date for all IMAP indicators. Note that monitoring for EO 1 habitats will have a different periodicity and so a regular data submission process is likely to include data for only some habitats and sites each year.

presence of activities/pressures in a grid cell. Although there will be multiple activities and pressures affecting each country, the collection of suitable data could be prioritised towards those activities and pressures most affecting each habitat.

29. Data on human activities causing habitat loss are usually produced by projects requiring licensing procedures and Environmental Impact Assessments (e.g. wind farm constructions, sediment extraction, port developments, offshore aquaculture). Therefore, relevant data should be available to Contracting Parties. A range of activity data regarding habitat damage caused by other activities (e.g. fishing) is also available from various sources (e.g. VMS or log-book data for larger fishing vessels that undertake bottom trawling).

30. The collection of data on human activities and related pressures is relevant for all EOs and should be undertaken as part of the overall IMAP implementation process. Such data also have wider relevance for marine spatial planning and for other management purposes and policies.

31. If management actions are introduced to reduce or eliminate particular pressures on the habitat/area being monitored, it is advisable also to collect information which can demonstrate the effectiveness of such actions.

32. There may be cases where management actions taken will prevent or reduce future inputs of a pressure (e.g. further installations which cause habitat loss; new introductions of non-indigenous species) but it is not considered socially/economically acceptable (e.g. existing installations) or feasible (e.g. non-indigenous species) to reduce the existing pressure.

1.7 Implementation steps for CI-1 and CI-2

33. Despite adoption of Guidance Factsheets for CI-1 and CI-2 in 2017 and of data standards for the three habitat types in 2019, the state of implementation of monitoring programmes for these three habitats varies markedly across Contracting Parties (Garrabou & Kipson, 2023; UNEP/MAP, 2025a). In large part, this reflects the differing levels of resources and expertise available to each country.

34. To acknowledge that some countries may need to build their capacity for EO 1 monitoring over time (whilst others are already well advanced), the following initial steps are suggested:

- a. National: Review the available data on the distribution and extent of each habitat and, where possible, document any habitat losses and add any additional records available in grey literature and unpublished sources (e.g. research data). Identify likely gaps in knowledge (areas with no data), which may be extensive for some countries.
- b. National: Review the distribution and extent of main human activities and pressures likely to affect the three habitat types, compiling the information systematically to allow a grid-based mapping) (Section 1.6);
- c. National: Review the location of current monitoring sites, in relation to the known distribution of the habitat and the known distribution/intensity of main pressures, to assess if current monitoring sites are in optimal locations to reflect a gradient from reference state to highly pressured sites within each assessment area;
- d. National: Characterise each habitat at current monitoring sites and identify which sub-types of the BC/EUNIS typology are present (or describe possible new sub-types), and prepare lists of typical species; adjust sites monitored to those representing a single sub-type/depth zone for each habitat (Section 1.2);
- e. Assessment area: Where assessment areas straddle two or more countries, liaise with these countries to agree on locations for monitoring and sub-types/depth zones to be monitored;
- f. Regional: Update the data standards for EO 1 habitats in collaboration with the OWG and INFO/RAC, to clarify the data required for CI-1 and CI-2 from the mapping, monitoring and assessment perspectives; adjust current monitoring to reflect these data needs (Section 1.4);

- g. National: Prepare and submit currently available data for EO 1 habitats to test data submission process, including complying with validation rules (Section 1.4);
- h. National: Commence (or continue) monitoring at each site at the defined time intervals (and undertake other aspects of CI-1 such as modelling and mapping); submit data annually as it becomes available;
- i. Regional: Mid-way through the current data collection phase (2027/2028) for the MedQSR 2031, harvest the available data from the IMAP Info System and evaluate it in relation to processing needs for the next QSR (i.e. test their use for a regional assessment of CI-1 and CI-2); make recommendations to CPs on any adjustments needed to the data being submitted and to the GFS.

35. The steps described above at national level may need continued support from SPA/RAC including expert guidance to ensure consistent application of the GFS. Some national steps (e.g. collation of existing data on habitat distribution and human activities/pressures, modelling) may be more effectively achieved if done as single projects across multiple countries.

1.36. Common Indicator 1: Habitat extent and distributional range (EO 1)

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>		
Relevant GES definition	Related operational objective	Proposed target(s)	
The extent of loss of each habitat type, resulting from anthropogenic pressures, does not exceed a specified proportion of the natural extent of the habitat in the assessment area.	Each benthic habitat type maintains its natural extent, with limited loss due to anthropogenic pressures.	<p>State</p> <p>Extent of loss per habitat type does not exceed [X%] of each habitat's natural extent.</p>	<p>Pressure</p> <p>Human causes of habitat loss are at levels compatible with the state target.</p>
<p>The Common indicator name, GES definition, operational objective and targets above were part of the IMAP that was adopted by Contracting Parties in 2016. These should behave been updated to better reflect the current understanding of the Common Indicator, and to help operationalise the indicator (such as by providing specific values for targets). The way in which these elements are expressed for EO 6 may be is of relevance. See sections below on targets. The CORMON is requested to consider and agree on the updated wording for these elements shown above.</p>			
Rationale for indicator selection			
<p>Maintenance of a habitat's distribution and extent are key aspects which help ensure the long-term viability of a habitat. Loss of distributional range or loss in habitat extent may threaten the long-term viability of the habitat.</p> <p>Maintenance of distributional range helps ensure the variation in biological character of the habitat's communities is maintained; this variation in community character reflects the habitat's presence in different biogeographic regions, reflecting differing temperature and salinity regimes across the Mediterranean Sea region.</p> <p>Maintenance of the habitat's natural extent helps ensure its biodiversity, as reductions in extent can limit the area available for recruitment of its typical species. In general, large extents of a habitat tend to support a higher biodiversity of species, with small extents often being less rich in species.</p> <p>Change in distributional range and habitat extent can occur for the following reasons:</p> <ol style="list-style-type: none"> a. Changes in distributional range typically reflect loss of the characteristic biological community in areas at the limit of the habitat's distribution (i.e. the typical community is no longer present in an area). Such change is most likely caused by large-scale changes in oceanographic characteristics, such as sea temperature changes, that lead to one or more of the habitat's structural species disappearing. b. Loss of habitat extent, in contrast, is typically based on a change in seabed substrate such that the new substrate no longer supports species and communities considered typical of the original habitat (i.e. the original habitat is lost). Habitat loss is a widespread consequence of placing infrastructures on the coast (e.g. coastal defences, ports) and in the sea (e.g. oil platforms, offshore wind turbines). Such losses are distinct (e.g. a change from natural seabed to concrete) and immediate, and therefore readily measured; c. EO 1 habitats are defined by their biological communities (at EUNIS and Barcelona Convention typology levels 5-6), such that local losses in these communities can be classified as habitat loss. This is particularly relevant for habitats defined by a single structural species, such as <i>Posidonia</i> meadows and Rhodolith beds. This type of loss may be caused by physical disturbance (e.g. anchoring or trawling) or chronic pollution; d. Long-term disturbance of the seabed by use of bottom-contacting fishing gears may lead to changes in sediment type which are sufficient to be classed as habitat loss (European Commission, 2022). Such habitat loss is more difficult to detect, as it is a gradual change over time, but can occur over very large areas if there is persistent fishing. 			

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>
<p>Change in distributional range is less common than change in habitat extent, with each aspect linked to different causes. The CORMON Biodiversity and Fisheries Meeting (Ankara, 26-27 July 2014) recommended that loss of habitat extent is typically more important/at higher risk, with loss of distributional range only secondarily at risk (UNEP/MED WG.592/03).</p> <p>For practical implementation purposes, this GFS focuses on assessment of loss in habitat extent rather than loss of distributional range, given that loss in extent is the most common attribute and is inherently easier to assess.</p> <p>CI-1 assessments need a baseline which establishes the habitat's distributional range within the Mediterranean Sea region. Should monitoring at the limits of this distributional range suggest there is habitat loss due to wider oceanographic changes, it may be necessary to reflect this aspect in assessments of CI-1.</p> <p>It is possible that a habitat may recover some of its original extent, for example when reductions in anthropogenic pressures lead to habitat recovery or active restoration measures are put in place.</p>	
<p>Policy context (other than IMAP)</p>	
<p>CI-1 'Habitat distributional range' is similar to criteria used for assessing habitat status under several EU Directives and other Regional Sea Conventions:</p> <ol style="list-style-type: none"> EU Habitats Directive – 'Range' and 'Area covered by habitat type within range' (Reporting format Art. 17 https://cdr.eionet.europa.eu/help/habitats_art17) EU Marine Strategy Framework Directive - criterion D6C4 on the extent of loss for benthic habitats (Commission Decision (EU) 2017/848 https://eur-lex.europa.eu/eli/dec/2017/848/oj/eng) (European Commission, 2017) Oslo-Paris (OSPAR) Convention – 'Geographical range and distribution'; 'Extent' of habitat (Agreement 2019-05 https://www.ospar.org/work-areas/bdc/species-habitats) Helsinki Convention – 'Reduction in geographic distribution' (IUCN (2024) guidelines https://helcom.fi/baltic-sea-trends/biodiversity/2024-red-list-of-biotopes-habitats-and-biotope-complexes/) <p>CI-1 under EO 1 can also be considered equivalent to CI-37 'Extent of physical loss of natural habitat' for assessment of broad habitat types (BHT) under EO 6 on sea-floor integrity.</p>	
<p>Indicator definition</p>	
<p>This area-based indicator is defined as the proportion of a habitat's natural extent that has been permanently lost due to anthropogenic pressures.</p>	
<p>Indicator target (state)</p>	
<p>The current-original state target focuses ds on distributional range and is expressed as a trend: 'The ratio Natural/Observed distributional range tends to 1'. A value of 1 can be equated to the GES definition: 'The habitat is present in all its natural distributional range'.</p> <p>A state target focused on habitat loss is needed. This should indicate the maximum amount of habitat loss that is considered acceptable (for the habitat to be in GES), expressed as a percentage of the baseline value, as is included for CI-37 under EO 6. The CI-37 target is expressed as the 'Extent of physical loss per habitat type does not exceed [X%] of each habitat's natural extent'; value X has not yet been agreed by Contracting</p>	

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>
<p>Parties. This formulation for CI-37 would also be suitable for CI-1, excepting the loss need not only be ‘physical’ because EO 1 habitats are defined at the community level¹⁵.</p> <p>The OWG discussed in March 2026 the revised state target: ‘Extent of loss per habitat type does not exceed [X%] of each habitat’s natural extent’ and a possible value for X%, taking into account similar values used elsewhere:</p> <ol style="list-style-type: none"> Under the EU Marine Strategy Framework Directive, the extent of loss of each broad habitat type should not exceed 2% of the habitat’s natural extent (European Commission, 2024); Under the EU Habitats Directive, a habitat is in ‘Unfavourable – bad’ state if its extent is more than 10% below its ‘favourable reference area’¹⁶; Under the OSPAR Convention, a habitat may be listed as threatened if there is a high probability of decline that is linked directly or indirectly to human activity and that will reduce the extent of the habitat by 15% or more (OSPAR Agreement 2019-03). <p>The OWG considered there were not yet enough data on the current extent of habitat loss to make an informed judgement on a suitable value for X%, although views were expressed that the value should be more in the region of 10-15% (from HD and OSPAR) than 2% (from MSFD), given the similarity in habitat types being addressed under EO 1 with HD and OSPAR compared with MSFD’s Broad Habitat Types.</p> <p>It was noted that limitations in the accuracy of mapping methods to detect change in habitat extent would make use of a low threshold value (e.g. 2%) for EO 1 very challenging. Value X% is related to total loss of habitat extent (against a baseline value) rather than a % loss per assessment period (which can lead to cumulative losses over multiple assessment cycles).</p>	
Indicator target (pressure)	
<p>The <u>current-original</u> pressure target <u>was</u> expressed as a trend: ‘Decrease in the main human causes of the habitat decline’.</p> <p>To be operational <u>theis</u> pressure target needs to be linked to a measurable state target (i.e. the limit of X% for habitat loss), such that reduction in anthropogenic pressures is only needed when the amount of habitat loss has exceeded the X% value.</p> <p>A key consideration for this indicator is that habitat loss is often associated with the placement of infrastructures which are invariably considered to be permanent. As such, management action tends to be focused on limiting further habitat loss (through restrictions on new infrastructures) rather than reversing existing loss by removing established infrastructures.</p> <p>The CORMON are invited to agree on a revised wording for the pressure target: ‘Human causes of habitat loss are at levels compatible with the state target’.</p>	
Establishing a baseline for habitat distribution	
<p>Baselines for distribution and extent are needed for each habitat type, both to provide a basis for assessing CI-1 and as a means to select appropriate sites for monitoring CI-2.</p> <p>Maps of the current known distribution and extent of each habitat in the region are available:</p>	

¹⁵ EO 6 broad habitat types are defined at EUNIS level 2 based on their substrate type and biological depth zone. Consequently ‘loss’ of an EO 6 habitat is defined as a physical change in substrate type. EO 1 habitats are defined at EUNIS levels 5-6, based on their biological characteristics. For EO 1, loss could therefore be assessed at the community level, with the underlying substrate not changing.

¹⁶ Reporting format referred to in Article 17 of Directive 92/43/EEC (Habitats Directive) (EEA, 2022; https://cdr.eionet.europa.eu/help/habitats_art17). HD also considers if loss exceeds 1% per year and significant loss in distribution pattern: these criteria are less useful in the present context.

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>
	<p>a. <i>Posidonia oceanica</i> meadows (Gerovasileiou et al., 2026);</p> <p>b. Rhodolith beds (Basso et al, 2017; Gerovasileiou et al., 2026¹⁷);</p> <p>c. Coralligenous habitat (Gerovasileiou et al., 2026)</p> <p>Countries should review the data available for their country in these reports to:</p> <p>a. Confirm the data are complete, adding further distributional records from local unpublished sources¹⁸, if available and according to agreed data formats;</p> <p>a. Identify records where the habitat is known to have been lost (e.g. through placement of infrastructure or a physically damaging activity, such as trawling or anchoring);</p> <p>b. Identify sections of the coastline (which may be significant in some countries) where data are likely to be sparse or absent but potentially may host the relevant habitats;</p> <p>c. Undertaking new habitat mapping, either at national level or in more targeted areas considered suitable for each habitat type¹⁹. The IMAP habitat monitoring guidelines (UNEP/MAP, 2021b) describe a range of suitable methods for habitat mapping²⁰;</p> <p>d. Supplementing the data on known distribution of each habitat with further development of habitat suitability models, based on key physical, hydrographic and geomorphological parameters²¹ (e.g. Agnesi et al., 2020 and Frank et al., 2026 for Rhodolith beds). Such modelling may more effectively be undertaken at regional or subregional scales.</p> <p>Maps of the distribution and extent of each habitat should be prepared, distinguishing known records from predicted locations and known losses. Positional data should be held at the finest possible resolution. To accommodate uncertainties in the location and extent of the habitat, which is particularly an issue for historic records, the approaches of Thurston et al. (2024) can be used.</p> <p>National data on habitat distribution and extent should be compiled via the IMAP Info System to enable region-wide maps to be prepared for each habitat type.</p>
Selecting sites for monitoring CI-1 and CI-2	

¹⁷ Data for rhodolith beds are combined with those for Coralligenous habitats for presentation in the maps of this publication.

¹⁸ Collation of data should involve examination of scientific archives and data from relevant academic, government, NGO, and industry stakeholders. This information can include historical charts of relevant seabed features and fishing grounds.

¹⁹ High resolution seabed habitat maps are lacking for much of the Mediterranean Sea region, although several countries have national mapping programmes in place. New habitat mapping programmes should preferably be targeted at mapping all habitats in an area, rather than only the three habitat types specified here, as this will also serve to support implementation of EO 6 and a range of other management purposes (e.g. marine spatial planning). The resources available for new habitat mapping varies between countries and will largely guide the approach which is feasible in each country (e.g. mapping only at monitoring sites versus broader mapping campaigns).

²⁰ For rhodolith beds, determine the most appropriate methodologies for estimating their bathymetric and spatial distribution. This should address, for example, the use of submarine images vs. dredges samples, algal coverage vs. algal biomass, research surveys vs. habitat modelling, the modelling methods applied and map scale. All these aspects are essential to harmonise and standardise the monitoring of rhodolith beds across the Mediterranean. For Coralligenous habitat, appropriate ways to represent vertical habitat extent on maps are needed.

²¹ The distribution of Rhodolith beds may also be influenced by fishing impacts (Farriols et al., 2022; Farriols et al., 2025).

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>
<p>The habitat distribution maps and suitability models should be used to inform implementation of CI-1 and CI-2 (e.g. selection of monitoring sites, links to distribution of pressures; interpretation of monitoring data; management actions linked to specific pressures).</p> <p>For monitoring for CI-1 and CI-2, a minimum of five sites²² should be selected for each habitat type, geographically spread across each assessment area. Sites should include reference sites subject to little or no anthropogenic pressure (such as marine protected areas) and sites subject to a range of anthropogenic pressures and differing intensities of pressure (i.e. significant physical activities, such as dredging and trawling, which have the potential to damage the marine habitats), representing as far as possible the range of conditions affecting habitat status in each assessment area.</p> <p>In cases where the assessment area is shared across several countries, monitoring sites should be selected in coordination with neighbouring countries, aiming to select sites with the same habitat sub-type and depth zone (to ensure comparability of data) and to represent a range of relevant pressures and pressure intensities.</p> <p>Countries who are already monitoring more than the minimum number of sites are encouraged to continue monitoring the additional sites, as this will strengthen the monitoring data set, both nationally and across the region.</p>	
<p>Establishing a baseline for habitat extent</p>	
<p>Where feasible, a baseline for the national extent of each habitat type should be established, distinguished per assessment area if several occur in the national waters, and be expressed in km².</p> <p>The national extent of known losses of habitat should also be estimated, acknowledging that the lack of suitably accurate historic data is likely to underestimate such losses. The extent of loss should be expressed in km² and as a percentage of the total extent of the habitat per assessment area.</p> <p>Despite the uncertainties in establishing national extents and losses, this information will provide valuable contextual information for interpretation of accurate data collected at the monitoring sites.</p> <p>Given the inherent difficulties and uncertainties in establishing a national baseline for habitat extent and loss, a more pragmatic approach should be followed to establish an accurate baseline for assessing CI-1 by monitoring at selected sites (reference sites and sites subject to anthropogenic pressures), as this offers a more achievable approach than for all countries to cover their entire marine waters:</p> <ol style="list-style-type: none"> a. Establish a ‘current’ baseline²³ through mapping the extent of the habitat at each monitoring site, using fine-scale mapping techniques (UNEP/MAP, 2021b) and taking into account documented losses in extent (e.g. from known activities and infrastructure developments²⁴) at these sites; b. Monitor the extent of the habitat against the established baseline at these sites over time, using the same survey methods as for the baseline, to provide an evaluation of changes in extent since the baseline period, including possible increases in extent due to recovery or restoration of the habitat; c. Monitoring change in habitat extent should be undertaken at least once, and preferably twice, within the six-year period for collecting data for each MedQSR. 	

²² This minimum number of sites reflects the more limited capacities of some countries to undertake monitoring for EO 1. Ideally more sites should be included in the monitoring programme to reflect the degree of habitat homogeneity across the assessment area (e.g. species composition), as well as the type and intensity gradients of anthropogenic pressures. Monitoring of CI-1 and CI-2 according to sampling regime defined in Section 0 should occur within each of these five sites.

²³ Ideally this should be the same year for all countries and use the start of a MedQSR assessment period.

²⁴ The footprint of infrastructure on the seabed and evidence of seabed damage from activities causing physical disturbance, e.g. bottom fishing, dredging, anchoring and mooring chains.

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>
<p>Changes in habitat extent at monitoring sites (provided they are representative of relevant pressures across the assessment area) can provide a proxy assessment of habitat loss and gain at national level and per assessment area for CI-1 assessment purposes. Monitoring changes at specified (monitoring) sites should be supplemented by knowledge of changes in habitat extent across the country, assessment area and region, using information from the wider mapping (see above) and from ongoing monitoring of pressures (particularly habitat losses due to new infrastructure development).</p>	
Temporal scope	
<p>The time of sampling should be synchronised within assessment areas so as to standardise the influence on results of seasonal, inter-annual or climate-related changes.</p> <p>Intervals of 3-6 years are probably appropriate when non-invasive surveys (e.g. side-scan sonar, video) or models (to be validated by optimised sampling) are used for mapping, but could be adapted to relate to temporal variation in anthropogenic pressures and implementation of management measures.</p> <p>Monitoring should be undertaken between May and September across all sites (more relevant for CI-2).</p>	
Indicator analysis methods	
<p>Methodology for indicator calculation</p> <ol style="list-style-type: none"> a. compare the baseline value (start of IMAP monitoring programme) with the updated value (the end of the assessment period) to determine the change in habitat extent (either loss or gain), measured in km² and as % (based on mapping data at specified resolution as this can significantly affect hoe extent and loss values are derived); b. both baseline and updated values for extent will be most accurate if based on direct measurement of habitat extent at the monitoring site. It is possible to estimate habitat loss from any infrastructures that have been newly installed since the baseline survey, but this may only give a partial answer as loss of <i>Posidonia</i> meadows and Rhodolith beds can occur for other reasons; c. this more focused approach to assess CI-1 (i.e. at specific monitoring sites) leads to an assessment of the extent of habitat loss in relation to a specified baseline year and against an agreed threshold value (see section on state targets), allowing an assessment of GES for CI-1 at each site; d. where there is a difference in habitat extent from the updated measurement or estimate, the possible cause should be reported (e.g. loss due to new infrastructure, gain due to habitat restoration, change in survey methodology); e. an overall value for change in extent of the habitat can be calculated for each assessment area, based on the values across the monitoring sites. It is useful to evaluate this ‘measured’ change against values/estimates for the habitat at a national level. f. determined if the target has been met for the assessment area (value is below X%) or not met (value exceeds X%). g. If the target has not been met, identify the causal pressure(s) and associated activities and consider the need for management actions to prevent further loss and help restore the habitat. <p>Overall assessment of CI-1 should take into account known losses in habitat extent (such as from published literature) across the wider assessment area/country/region.</p> <p>Indicator units</p> <p>The parameter/metric for the assessment of this indicator is the surface area of lost habitat (in km²) for each habitat type, expressed as a percentage change (+/-) from the baseline value.</p>	
Habitat-specific aspects	
<i>Posidonia oceanica</i> meadows	

Indicator title		<i>Common Indicator 1: Habitat extent and distributional range</i>	
<p>Assessment of the vertical distribution of the habitat (upper and lower depth limits) is closely linked to habitat extent but is likely to be influenced by pressures mostly relating to water quality. This parameter is relatively easy to monitor and is already monitored by several Contracting Parties.</p> <p>Additional parameters to be monitored:</p> <ol style="list-style-type: none"> Upper and lower depth limit of meadow (to nearest 0.1m) at monitored sites; Change in vertical distribution of habitat (+ or – m) at monitored sites. 			
<p>Rhodolith beds</p> <p>Presence of <i>Laminaria rodriguezzi</i>, a species often associated with rhodolith beds and included in Annex II of Barcelona Convention (endangered or threatened species).</p>			
<p>Coralligenous habitat</p> <p>Monitoring of shallow and deep habitat is important as they can be subject to different pressures.</p>			
Summary of parameters, metrics and indices for CI-1			
Habitat	Minimum protocol	Optimal protocol	
B3 <i>Posidonia</i>	Habitat extent (km ²) Habitat loss and gain (m ²) Lower depth limit of meadow (to nearest 0.1m) at monitored sites Extent (km ²) and proportion (%) of habitat loss across all monitored sites Change in vertical distribution of habitat (+ or – m) at monitored sites	Extent of habitat loss at assessment area/national level Upper depth limit of meadow (to nearest 0.1m) at monitored sites	
B2 Rhodolith beds	Analysis of existing knowledge (scientific and grey literature) on the presence of maërl/rhodolith beds Habitat extent (km ²) Habitat loss and gain (m ²) Extent (km ²) and proportion (%) of habitat loss across all monitored sites	Extent of habitat loss at assessment area/national level	
B1 Coralligenous	Habitat extent (km ²) Habitat loss and gain (m ²) Extent (km ²) and proportion (%) of habitat loss across all monitored sites	Extent of habitat loss at assessment area/national level	
All sites	Parameters related to water quality (sea temperature, salinity, turbidity, transparency)		
Confidence in data and knowledge gaps			
<p>Data confidence and uncertainties</p> <p>Confidence and uncertainties in the data should be systematically reported:</p> <ol style="list-style-type: none"> Accuracy of the habitat mapping data (from new survey, from literature sources); Accuracy of human activity data used as a proxy for habitat loss (e.g. infrastructure developments); Changes in methodology that may introduce uncertainty in values (e.g. new mapping techniques suggest habitat extent is larger than baseline). 			

Indicator title	<i>Common Indicator 1: Habitat extent and distributional range</i>	
Knowledge gaps in the Mediterranean		
Information sources on the distribution of habitats and associated pressures are substantially greater for the northern and western coasts of the Mediterranean Sea compared with southern and eastern coasts.		
Climate change considerations		
For EO 1, the main issue is the possibility for change in distributional range or habitat extent due to climate change effects, such as sea temperature changes, on the habitat-forming species (e.g. <i>Posidonia</i> and rhodolith-forming species). This could potentially lead to habitat loss in an area or establishment of the habitat in another area. Refer to section on- Rationale for Indicator Selection Section A4.1 for more details.		
Useful documents, data and links		
Guidance documents and protocols		
RAC/SPA Protocol for the <i>Posidonia</i> meadows monitoring networks (Pergent, 2007)		
RAC/SPA Protocol for the monitoring of coralligenous community (Garrabou et al, 2014)		
Data sources		
EMODnet Seabed Habitats (EUSeaMap): https://emodnet.ec.europa.eu/en/seabed-habitats		
EMODnet Human Activities: http://www.emodnet.eu/human-activities		
Several European projects have produced updated habitat lists and catalogues with habitat map resources (e.g. CoCoNet, NETMED, MAREA-Mediseh, MERCES).		
Contacts and version date		
Key contacts within UNEP for further information		
Version No.	Date	Author
V.1	20/07/2016	SPA/RAC
V.2	14/04/2017	SPA/RAC
V.3	11/05/2026	SPA/RAC

2.37. Common Indicator 2: Condition of the habitat’s typical species and communities (EO 1)

Indicator Title	<i>Common indicator 2: Condition of the habitat’s typical species and communities</i>	
Relevant GES definition	Related Operational Objective	Proposed Target(s)
<p>The extent of adverse effects from anthropogenic pressures on the condition of each habitat type, including alteration to its biotic and abiotic structure and its functions (e.g., its typical species composition, absence of particularly sensitive or fragile species or species providing a key function, size and structure of species, carbon sequestration capacity), does not exceed a specified proportion of the habitat type in the assessment area.</p>	<p>Each benthic habitat type maintains its natural structure, functions and biodiversity.</p>	<p>State: Extent of adverse effects from anthropogenic pressures does not exceed [Y%] of each habitat’s natural extent.</p>
<p>The GES definition, Operational objective and Proposed targets above were part of the IMAP that was adopted by Contracting Parties in 2016. These should have been updated to better reflect the current understanding of the Common Indicator, and to help operationalise the indicator (such as by providing specific values for targets). The way in which these elements are expressed for EO 6 may be of relevance. See sections below on targets. The CORMON is requested to consider and agree on updated wording for these elements as shown above.</p>		
Rationale for indicator selection		
<p>Benthic habitats are defined by their abiotic (e.g. substrate) and biotic (species and communities) characteristics. Under natural conditions (often termed ‘reference state’ in which the habitat is not influenced by anthropogenic pressures) the abiotic characteristics play a strong role in determining the biotic characteristics of the habitat, often referred to as its ‘typical species and communities’. Anthropogenic pressures alter the biological character of a habitat and may also affect certain abiotic characteristics, such as substrate type and structure. Increasing pressures will change the habitat from its reference state towards one considered to be ‘adversely effected’ or ‘impacted’. The degree of change in habitat characteristics can be measured through use of indicators or metrics. Use of a ‘quality’ threshold value enables a distinction to be made between a habitat considered to be in a good state from one classified as in a poor state. Because the typical species and communities of a habitat are sensitive to different pressures, they generally offer the best way to assess the state of the habitat at monitoring sites (TG Seabed, 2021).</p> <p>To assess habitat quality across larger areas (at national level, across an assessment area, and at regional level), accounting for variation in anthropogenic pressures on the habitat requires extrapolation from site-based monitoring data to these larger scales. This may be done by relating state monitoring data to the distribution and intensity of pressures.</p> <p>The status of a habitat varies across different areas and the region, because the anthropogenic pressures, or their intensity, varies geographically. A habitat may be considered in good state in one area but in a poor state in another area. Overall assessment of habitat status needs to accommodate this variation by setting an ‘extent’ threshold for habitat quality, i.e. the proportion of the habitat that needs to be in a good state (i.e. above the quality threshold) for the habitat to be considered in good status for CI-2.</p>		
Policy context (other than IMAP)		

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
<p>Typical species and communities are used for assessment of habitat status under EU Directives (Habitats Directive - HD, Water Framework Directive - WFD, Marine Strategy Framework Directive - MSFD) and other Regional Sea Conventions (e.g. Oslo-Paris Convention, Helsinki Convention).</p> <p>CI-2 can be considered equivalent to criterion D6C5 on the condition of the habitat for benthic habitats under the EU Marine Strategy Framework Directive (Commission Decision (EU) 2017/848 https://eur-lex.europa.eu/eli/dec/2017/848/oj/eng) and to the IMAP CI-38 on 'Extent of adverse effects on benthic habitat' for EO 6 on sea-floor integrity.</p> <p>In cases where the habitats are broadly defined (e.g. some listed habitats in the Habitats Directive, some OSPAR habitats, water body types under the WFD, and broad habitat types under the MSFD), there can be a very wide range of biological character for a given habitat type. Practical assessment of typical species and communities in such cases is best focused on more specific habitat types (i.e. at EUNIS levels 5-6) within the broader habitat that is 'listed' under the policy.</p> <p>Implementation of these policies provides valuable experience, methodologies and data for assessing habitats under EO 1. Soft-sediment benthic invertebrates and seagrasses are traditionally used in the Mediterranean Sea for environmental quality assessment, and several indices have already been widely applied by Mediterranean Contracting Parties, Member States of the EU and compared in the framework of the WFD Mediterranean Geographical Intercalibration Group (MED GIG), while two indices have also been based on macroalgae and compared in the framework of MED GIG. Recent European projects (e.g. DEVOTES, PERSEUS, IRIS-SES) have focused on MSFD indicators and monitoring aspects for various habitats.</p>	
Indicator definition	
<p>This indicator is a state condition indicator, which compares reference conditions for a habitat type to their current state at monitoring stations to assess the degree of change from reference state and whether the habitat's state is above or below specified threshold values (i.e. in a good or poor state). Specific indices or metrics are used for each habitat type, focused on 'typical species' (often those structuring the habitat) and/or at the whole community level (based on composition and abundance of its species). The sampling methods and strategies, and the appropriate minimum size threshold for species to be included, are based on the index used.</p> <p>The indicator assesses the state of the habitat at the monitoring site at the time of sampling. Additional information is needed (on pressures) to understand possible causes for changes in state at the monitoring site, and to assess the state of the habitat across wider areas.</p> <p>To assess the state/condition of a habitat (i.e., its typical species composition and their relative abundance, absence for particularly sensitive or fragile species or species providing a key function, size structure of species), lists of typical and/or characteristic species (or groups of species) need to be defined per assessment area. These lists need to be associated with specified subtypes of the habitat to allow for the consistent assessment of state/condition (see Section 1.2).</p> <p>Typical species composition includes both macrozoobenthos and macrophytes, depending on the type of habitat²⁵ (i.e. macrophytes do not occur in aphotic habitats). Long-lived species and species with high structuring or functional value for the community should preferably be included; however, the typical species list may also contain small, short-lived species if they characteristically occur in the habitat under natural conditions.</p>	
Indicator target (state)	

²⁵ In the case of rhodoliths, in addition to (or instead of) species composition, the composition of morpho-types (e.g. branched, pralines and box-work) should also be considered.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
<p>The current-original target 'No human induced significant deviation of population abundance and density from reference conditions' is a state target which allows for some change/deterioration in the quality of the habitat compared to reference state provided it is not 'significant'. The general target of this indicator is to reach a ratio of typical and/or characteristic species close to reference conditions for each habitat.</p> <p>A second state target, for recovering habitats, was is focused on improving the habitat quality over greater extents of the habitat: 'The species composition shows a positive trend towards reference condition over an increasing proportion of the habitat (for recovering habitats)'.</p> <p>To operationalise these targets, it is necessary to define 'significant' by setting a 'quality' threshold value (or values for each index/metric used) and to define what proportion of the habitat needs to be in a good state (an 'extent' threshold value), as it is often not feasible to recover the entire habitat²⁶ to a good state.</p> <p>The OWG and CORMON isare are invited to agree on the revised state target: 'Extent of adverse effects from anthropogenic pressures per habitat type does not exceed [Y%] of each habitat's natural extent' and on a value for Y%.</p> <p>The setting of an extent threshold needs to consider the amount of habitat already lost, based on assessment of CI-1. Under the MSFD, the maximum extent of a broad habitat type that can be adversely affected is set at 25% (European Commission, 2024), meaning that 75% of the habitat should be above the quality threshold. This value is measured in relation to the natural extent of the habitat and includes any loss in habitat extent.</p> <p>The following considerations need to be taken into account when setting an extent threshold for EO 1 habitats:</p> <ol style="list-style-type: none"> The habitats included under EO 1 are considered to be threatened and may already have lost significant extents of habitat and/or be degraded in some areas; It may not be feasible to recover habitats defined by single structural species (e.g. <i>Posidonia</i> and Rhodolith beds) in all areas where they have already been lost. It may be more appropriate to set the threshold in relation to the baseline extent established under CI-1 (Section 0), rather than the historic natural extent, because it may not be feasible to determine the latter. <p>Quality threshold values, which distinguish when the habitat is in a good state from when it is considered to be adversely affected (negatively impacted), are defined for the indices/metrics used for each habitat type (Section Parameters to be monitored A5.8 and A5.10). The values for these indices/metrics may need to be regionally adapted in view of the natural variability in species composition across the region.</p> <p>The OWG considered there is not yet enough data on the condition of each habitat and the extent of adverse effects, based on established baseline values and using the agreed indices, to agree on a value for Y%. Implementation of the monitoring and analysis of the data using the agreed indices and metrics should provide a better basis for deciding on value Y%.</p>	
Selecting sites for monitoring CI-2	
Refer to Section A4.7: 'Selecting sites for monitoring' in GFS for CI-1.	
Expertise and equipment needs	

²⁶ In cases where a very high proportion of a habitat has already been lost, the remaining habitat becomes increasingly valuable and subject to more intensive measures to protect it from further loss or deterioration. In such cases it may be desirable to have all the remaining habitat in a good state, protected from anthropogenic pressures and further decline.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
<p>Qualified personnel, in particular experienced taxonomists, are required for both field and laboratory work to guarantee quality in sampling accuracy, consistency of data over time, meaningful data analyses and interpretation of the results.</p> <p>The following resources are usually required for this indicator:</p> <ol style="list-style-type: none"> a. Research vessels suitable for work in infralittoral and circalittoral depth zones; b. Scuba diving sampling for infralittoral survey c. Adequate equipment (box core samplers, grabs, dredges, underwater camera systems, ROVs, etc.) for sample collection; d. Laboratory infrastructure to analyse samples (e.g. microscopes, weighing scales); e. Qualified personnel for data processing, analysis and interpretation; f. Good taxonomy skills are essential for the adequate assessment of this indicator (particularly relevant when assessing species composition in species-rich habitats such as Rhodolith beds and Coralligenous habitat). 	
<p>Establishing a baseline for habitat condition</p>	
<p>The characteristics of each habitat under reference conditions need be established, using the same parameters as the ongoing monitoring (i.e. those to be used in the indices/metrics for the indicator).</p> <p>These characteristics can be derived from monitoring sites (Section Establishing a baseline for habitat condition) (Section A5.6) which are as free from anthropogenic pressures as possible. If such conditions are not available, historic data on reference state may be suitable.</p> <p>The baseline state should be established for specified sub-types of each habitat type to be applicable to the sub-type(s) that will be monitored for CI-2 purposes. Preferably, the baseline should be established for each assessment area to reflect biogeographic variation in habitat characteristics across the Mediterranean Sea region.</p> <p>To account for natural variability in species composition over time the list of typical and/or characteristic species used for the baseline should be updated every 6 years.</p>	
<p>Temporal scope</p>	
<p>Refer to Section A4.9 on Temporal scope in GFS for CI-1.</p> <p>Within the 6-year data collection period for a MedQSR, there should be at least one, and preferably two monitoring events for CI-2 (habitat condition) at each site, giving two datasets for comparison (and also allowing comparison with previously collected monitoring data in countries where monitoring is already underway). These two events should ideally be 3 years apart (such as years 2 and 5, or years 3 and 6, taking account of the time needed to process the samples and submit data into the IMAP Info System ahead of its use for MedQSR analysis).</p> <p>Monitoring should be undertaken between May and September across all sites.</p>	
<p>Parameters to be monitored</p>	
<p>The parameters to be monitored for each habitat type at each site are set out below. This includes a minimum set of parameters to be monitored by all Contracting Parties and additional parameters that will provide enhanced data for assessing CI-2. These parameters are directly linked to the indices and metrics to be used for CI-2 assessment (Section A5.8 Parameters to be monitored).</p>	

Indicator Title		<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
Detailed descriptions of relevant monitoring methods for the three habitat types are given in UNEP/MAP (2021b).		
Habitat	Minimum protocol	Optimal protocol
B3 <i>Posidonia</i>	<p>For PREI (Gobert et al., 2009):</p> <p>Leaf surface</p> <p>Leaf biomass</p> <p>Shoot density</p> <p>Lower limit depth and type</p> <p>Leaf epiphytes biomass</p> <p>For BiPO (Lopez y Royo et al., 2010) (same parameters as PREI but without sampling living material):</p> <p>Leaf surface</p> <p>Shoot density</p> <p>Lower limit depth and type</p> <p>For functional assessment:</p> <p>Sea urchin density</p>	<p>For EBQI (Personnic et al., 2014):</p> <p>Growth rate of vertical rhizomes</p> <p>Meadow cover</p> <p>Biomass density and species diversity in all compartments:</p> <ul style="list-style-type: none"> • Filter- and suspension feeder density • Sea urchin <i>Paracentrotus lividus</i> density • Related fish assemblage biomass (distinguishing piscivores, carnivores of invertebrates, planktivores) <p><i>Pinna</i> spp. density (not only <i>Pinna nobilis</i> now that <i>P. rudis</i> occurrence is increasing)</p>
B2 Rhodolith beds	<p>Rhodolith coverage (sampling methods to be defined, e.g. submarine imaging only or also sample collection).</p> <p>Rhodolith/maërl (% cover live and dead)</p> <p>Rhodolith/maërl density (standardised biomass per unit area)</p>	<p>Index to be defined (including metrics for abundance and diversity indices)</p> <p>Species composition: abundance and diversity (filter-feeders, carnivores, detritivores, etc.) including echinoderms</p> <p>Particulate organic matter cover</p> <p>Detritic litter cover</p> <p>Rhodolith size and shape (size measured as the longest axis, and roundness, which can be used as a proxy for rhodolith sphericity).</p>
B1 Coralligenous	<p>For MACS (Enrichetti et al., 2019):</p> <p>Extent of hard bottom (% rock and biogenic)</p> <p>Species richness of conspicuous megabenthic sessile and sedentary species</p> <p>Structuring species: count, height (cm) and density (no. of colonies/individuals m⁻²)</p> <p>% sediment cover</p> <p>% of colonies with epibiosis, necrosis and entangled in lost fishing gears for all structuring anthozoans (or invasive NIS, such as <i>Rugulopteryx okamurae</i>)</p> <p>Marine litter (density m⁻²)</p>	<p>For EBQI (Ruitton et al, 2014; Astruch et al., 2025) and other indices (Di Camillo et al., 2023):</p> <p>Typical species composition</p> <p>Condition of key species/groups:</p> <ul style="list-style-type: none"> • Filter- and suspension feeders (cover and diversity) • Detritivores abundance • Related fish assemblage biomass (distinguishing piscivores, carnivores of invertebrates, planktivores)

Indicator Title		<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
		<ul style="list-style-type: none"> • Sensitivity level
All sites	Parameters related to water quality ²⁷ (sea temperature ²⁸ , salinity, turbidity, transparency)	
<p>Several indexes (e.g. EBQI) have been developed and applied in the western Mediterranean Sea and remain to be tested in the eastern Mediterranean. Testing is needed for their applicability in eastern areas with a need for intercalibration of results across the region.</p>		
Replicate sampling		
<p>A minimum number of replicates per monitoring site should be taken:</p> <p><i>Posidonia</i> by scuba diving: for PREI and BiPo methods, 10 replicates (20 cm x 20 cm quadrats) in three areas per site (total of 30 replicates covering 1.2 m² per site). For enhanced assessments using the EBQI method, use quadrats of 40 cm x 40 cm to give a total sample area of 4.8 m². Sample at 15 m depth (or mid depth of the meadow if the meadow depth limit is shallower than 15 m).</p> <p>Rhodolith beds by ROV: 10 replicates (100 cm x 100 cm quadrats²⁹) in three areas per site (total of 30 replicates covering 30 m² per site).</p> <p>Rhodolith beds by scuba diving: to be added (to estimate density of flora and fauna, species richness and/or biodiversity indices, size and shape of rhodoliths).</p> <p>Coralligenous by scuba diving: 10 replicates (50 cm x 50 cm quadrats) in three areas per site (total of 30 replicates covering 7.5 m² per site).</p> <p>Coralligenous by ROV: 10 replicates (100 cm x 100 cm quadrats) in three areas per site (total of 30 replicates covering 30 m² per site).</p>		
Indicator analysis methods		
Indices/metrics for assessment of CI-2		
<ol style="list-style-type: none"> <i>Posidonia</i> meadows – PREI (Gobert et al., 2009), or BiPO (Lopez y Royo et al., 2010) where there is no sampling of live material, and sea urchin density (for functional assessment). EBQI (Personnic et al., 2014) should be used for optimal assessments. Rhodolith beds – to be determined Coralligenous habitat - MACS (Enrichetti et al., 2019). EBQI (Ruitton et al, 2014; Astruch et al., 2025) and other indices (Di Camillo et al., 2023) should be used for optimal assessments. <p>Refer to Section A5.10 on for parameters to be monitored associated with each of these indices.</p>		
Indicator units		
Refer to individual indices above.		
Data analysis and assessment outputs		

²⁷ Recording of oxygen and aragonite levels may be relevant for monitoring the biodiversity of Coralligenous habitat.

²⁸ Use of seabed data loggers to monitor changes in temperature over the year is needed to make links between heat wave events (climate change) and the state of the biological communities (e.g. flowering events for *Posidonia*, mass mortality events for Coralligenous, also for Rhodolith beds). Temperature data recording should be linked to related IMAP monitoring of temperature (PAP/RAC).

²⁹ ROV technique used should be capable of imaging this size of quadrat on seabed.

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
Statistical analysis and basis for aggregation	
<p>Refer to the detailed methodologies referenced in Section A5.10Indicator analysis methods for how the monitoring data are to be analysed, and for interpretation of the results to determine the condition of the habitat at each monitoring site.</p> <p>The habitat is in a good state when the values are in the High and Good categories (see, for example, Table 3 in Lopez y Roya et al. 2010).</p>	
Expected assessments outputs	
<p>Assessments outputs for this indicator include:</p> <ol style="list-style-type: none"> a. a list of typical and/or characteristic species per habitat for each assessment area, recorded following a well-described methodology and/or values of the appropriate benthic biotic indices for the considered habitats; b. comparison with baseline/past data to indicate trends in the habitat conditions/state. <p>Development of the data standard is needed to fully define the outputs required at each site, at national level and per assessment area.</p>	
Confidence in data and knowledge gaps	
Data Confidence and uncertainties	
<p>For setting a baseline for habitat condition per habitat type, the use of current state might be inappropriate if reference sites with little or no anthropogenic pressures are not available in all/most assessment areas, and the available data reflect already degraded habitat. In such cases, the use of past state may be more appropriate for the definition of a reference state, provided the available data are of sufficient quality to allow comparison with the current monitoring data.</p>	
Known gaps and uncertainties in the Mediterranean	
<p>Information about the typical and/or characteristic species of some habitats and their past state/conditions is often unavailable, especially for southern and eastern coasts of the Mediterranean. The limited data availability may restrict the number of habitats that can be assessed with sufficient statistical confidence at present. Although benthic biotic indices are conceptually applicable in all sub-regions, adjustments might be required in order to cover biogeographic heterogeneity.</p>	
Climate change considerations	
<p>Monitoring of biological community change over time, at 3-6 year intervals, is likely to reveal changes in biological composition at monitoring sites, some of which may be due to natural dynamics of the habitat, some to changes in the levels of pressures (increases or reductions) and potentially some due to climate change effects.</p> <p>For the EO 1, specific aspects of the habitats are useful to monitor as they may indicate climate change effects:</p> <ol style="list-style-type: none"> a. <i>Posidonia</i> meadows – the timing of flowering events (linked to data on sea temperature and the intensity and duration of heat waves); other parameters, such as carbohydrate reserves and demographics should also be considered. b. Coralligenous habitat – species composition and abundance, including mortality of some species, as the habitat is susceptible to the effects of ocean heat waves. Thermocline anomalies with links to mass mortality events. 	
Useful documents, data and links	
Policy documents	

Indicator Title	<i>Common indicator 2: Condition of the habitat's typical species and communities</i>
<p>UNEP/DEPI/MED WG. 342/3</p> <p>http://www.unepmap.org/index.php</p> <p>http://195.97.36.231/dbases/MEETING_DOCUMENTS/09WG342_3_eng.pdf</p> <p>EU Water Framework Directive (MED GIG)</p> <p>http://ec.europa.eu/environment/water/water-framework/index_en.html</p> <p>http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/10473/1/3010_08-volumecoast.pdf</p>	
<p>Guidance documents and protocols</p> <ul style="list-style-type: none"> • Lepidochronology and phenology protocols for <i>Posidonia oceanica</i> (Pergent G., 2007) • ISO 16665: 2014 Guidelines for quantitative sampling and sample processing of marine soft-bottom macrofauna (http://www.iso.org/iso/catalogue_detail.htm?csnumber=54846) These guidelines provide standard methodology for collection and processing of subtidal soft-bottom macrofaunal samples in marine waters, in particular: <ul style="list-style-type: none"> ○ the development of the sampling programme; ○ the requirements for sampling equipment; ○ sampling and sample treatment in the field; ○ sorting and species identification; ○ storage of collected and processed material. • ISO 19493: 2007 Guidance for marine biological surveys of supralittoral, eulittoral and sublittoral hard substrate for environmental impact assessment and monitoring in coastal areas (http://www.iso.org/iso/cataloguedetail.htm?csnumber=39107): It covers: <ul style="list-style-type: none"> ○ the development of the sampling programme, ○ survey methods, ○ species identification, ○ storage of data and collected material • Guidelines for the assessment of environmental impact on seagrass beds (Pergent-Martini & Le Revallec, 2007) • Guidelines for the assessment of environmental impact on coralligenous and maërl assemblages (UNEP/MAP, 2021a) 	
<p>Scientific references</p> <ul style="list-style-type: none"> • Pérès JM, Picard J (1964) Nouveau manuel de Bionomie benthique de la Mer Méditerranée. Recueil des Travaux de la Stations Marine d'Endoume, 47: 3-137. • Templado, J., Ballesteros, E., Galparsoro, I., Borja, A., Serrano, A., Marín, L., Brito, A., 2012. Inventario español de Hábitats y Especies Marinos. Guía Interpretativa: Inventario Español de Hábitats Marinos. Ministerio de Agricultura, Alimentación y Medio Ambiente. 229 pp. • UNEP/MAP-RAC/SPA, 2015b. Handbook for interpreting types of marine habitat for the selection of sites to be included in the national inventories of natural sites of conservation interest. Bellan-Santini, D., Bellan, G., Bitar, G., Harmelin J-G., Pergent, G. Ed. RAC/SPA, Tunis. 168 pp. + Annexes (Orig. pub. 2002). 	
<p>Scientific literature</p>	

Indicator Title		<i>Common indicator 2: Condition of the habitat's typical species and communities</i>	
<p>The monitoring techniques depend on the species and related habitat to monitor. Non-destructive optical methods are recommended for the monitoring of large benthic species such as epibenthic species on hard substrates, while endobenthic species can be monitored using standardised grabs, drill sampling or corers.</p> <ul style="list-style-type: none"> • UNEP/MAP-RAC/SPA, 2015a. Guidelines for Standardization of Mapping and Monitoring Methods of Marine Magnoliophyta in the Mediterranean. Pergent-Martini, C., Ed., RAC/SPA publ., Tunis: 48 p. + Annexes. • UNEP-MAP-RAC/SPA, 2015c. Standard methods for inventorying and monitoring coralligenous and rhodoliths assemblages. Pergent, G., Agnesi, S., Antonioli, P.A., Babbini, L., Belbacha, S., Ben Mustapha, K., Bianchi, C.N, Bitar, G., Cocito, S., Deter, J., Garrabou, J., Harmelin, J-G., Hollon, F., Mo, G., Montefalcone, M., Morri, C., Parravicini, V., Peirano, A., Ramos-Espla, A., Relini, G., Sartoretto, S., Semroud, R., Tunesi, L., Verlaque, M. Ed. RAC/SPA, Tunis. 20 pp. + Annex. 			
Contacts and version Date			
Key contacts within UNEP for further information			
Version No.	Date	Author	
V.1	20/07/2016	SPA/RAC	
V.2	14/04/2017	SPA/RAC	
V.3	11/05/2026	SPA/RAC	

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39. List of abbreviations and acronyms

[BC](#) [Barcelona Convention](#)

[BHT](#) [Broad Habitat Type\(s\) \(as defined and used in MSFD\)](#)

[CI](#) [Common Indicator \(of IMAP\)](#)

[CORMON](#) [Correspondence Group on Monitoring \(of EcAp process\)](#)

[CP](#) [Contracting Party \(to BC\)](#)

[D6C1-C5](#) [MSFD Descriptor 6 “Sea-floor integrity” Criteria 1 to 5](#)

[EcAp](#) [Ecosystem Approach \[process\] \(of UNEP/MAP\)](#)

[EcAp CG](#) [Ecosystem Approach Coordination Group \(of EcAp process\)](#)

[EMODnet](#) [European Marine Observation and Data Network \(of EC\)](#)

[EO](#) [Ecological Objective \(of IMAP\)](#)

[EU](#) [European Union](#)

[EUNIS](#) [European Nature Information System \(habitat classification/typology of EEA\)](#)

[GEP](#) [Good Ecological Potential \(of WFD\)](#)

[GES](#) [Good Environmental Status \(of IMAP, of MSFD\)](#)

[GFS](#) [Guidance Factsheet \(of IMAP\)](#)

[HD](#) [Habitats Directive \(92/43/EEC\)](#)

[HELCOM](#) [Helsinki Convention](#)

[IMAP](#) [Integrated Monitoring and Assessment Programme \(of UNEP/MAP\)](#)

[MED GIG](#) [Mediterranean Geographical Intercalibration Group \(of WFD\)](#)

[MedQSR](#) [Mediterranean Quality Status Report \(of UNEP/MAP\)](#)

[MSFD](#) [Marine Strategy Framework Directive \(2008/56/EC\)](#)

<u>NGO</u>	<u>Non-Governmental Organisation</u>
<u>OSPAR</u>	<u>Oslo-Paris Convention</u>
<u>OWG</u>	<u>Online Working Group (benthic habitats OWG of the CORMON)</u>
<u>OSR</u>	<u>Quality Status Report</u>
<u>ROV</u>	<u>Remotely-operated vehicle</u>
<u>SPA/RAC</u>	<u>Specially Protected Areas Regional Activity Centre (of UNEP/MAP)</u>
<u>TG Seabed</u>	<u>Technical Group on seabed habitats and sea-floor integrity (of MSFD Common Implementation Strategy)</u>
<u>UNEP/MAP</u>	<u>United Nations Environment Programme/Mediterranean Action Plan</u>
<u>VMS</u>	<u>Vessel Monitoring System (of fishing vessels)</u>
<u>WFD</u>	<u>Water Framework Directive (2000/60/EC)</u>