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Agenda Item 3: 2023 Med QSR structure and outline content template, and status of Common Indicators and Ecological Objectives

2023 Med QSR structure and outline content template, and status of Common Indicators and Ecological Objectives

Note by the Secretariat

The 2023 MED QSR Roadmap and Needs Assessment was endorsed by COP 21 (Naples, Italy, December 2019) with Decision IG.24/4. It defines the vision for the successful delivery of the 2023 MED QSR, and outlines key IMAP-related processes, milestones and outputs to be undertaken, with their timelines.

In the biennium 2020/2021 the Secretariat developed an Operational Plan (UNEP/MED WG.514/Inf.7) with concrete activities per each Milestone/Output of the Roadmap, supported by the UNEP/MAP Programme of Work 2020-2021, the Programme of Work 2022-2023, and externally funded projects (namely, the EU-funded EcAp MED III, IMAP MPA, Marine Litter Med II projects and the GEF-funded MedProgramme).

The present document uses as its starting point the methodology, structure, and content of the QSR as approved by the 8th EcAp Coordination Group (WG.514/12 Meeting Report Annex II, 9 September 2021). It provides detailed information on the structure and contents of the 2023 Med QSR. Also attached is the 2023 MED QSR Roadmap with updated progress against each Milestone.

1. 2023 Med QSR structure and outline content template, and status of Common Indicators and Ecological Objectives

1. The template (Table 1) builds the methodology, structure, and content of the QSR approved by the 8th EcAp Coordination Group (WG.514/12 Meeting Report Annex II, 9 September 2021). It was prepared intersessionally by the EcAp Task Force. Specifically, it provides the methodological context for all EOs/CIs and includes some practical example content related to pollution and litter with the aim of being replicated to other EOs, as feasible.

2. Note, Table 2 is a working document and will be adapted as needed during the process of conducting and presenting the Ecological Objective–Common Indicators assessments.

3. Table 2 provides the 2023 MED QSR Roadmap with updated progress against each Milestone. This specifically relates to the anticipated content and current status of the content for Chapter 4 of Table 1 outline.

Table 1. 2023 Med QSR Ecological Objective–Common Indicator structure and outline content template. Blue text provides guidance on the anticipated content for each section.

1. Key messages

A short paragraph with the key messages for each Ecological Objective (EO), presented as a chapeau; 3-4 sentences maximum. Provide a brief description of the EO and what the assessment outcome shows. This should be a non-technical, non-scientific description for a general or policy audience.

Current status

Chapter 1 will be completed at the end of the assessment.

2. Background information and methodology

- Introduction presenting the relationship of the present scope of QSR with 2017 MED QSR, i.e., related to Decisions of the Parties (e.g., IMAP, QSR, assessment studies) and the QSR roadmap
- Structure of 2023 MED QSR, based on priority themes
- Explain the combination of Common Indicator (CI) assessments *within* each theme
- CI assessments will indicate the interrelationship with other CIs, within the same EO or other EOs, as appropriate
- Assessment findings will highlight the feasibility of integration between CIs and EOs

Note:

Within the elaboration of the methodological approach used, summarise the most important elements of the good environmental status (GES) assessment/ alternative assessment methodologies applied for individual CIs / EOs (as specified below in more detail).

Current status

The vision for the QSR is, an integrated DPSIR-based GES assessment, developed on consolidated and quality-assured monitoring data sets, reported and processed through an effective IMAP Info System that is interoperable with national and other regional monitoring and reporting networks (COP21 Decision 24/04, Tirana)

The vision of the COP21 Decision (Tirana) is for the 2023 Med QSR to:

- (i) be more quantitative and less narrative than the 2017 Med QSR,
- (ii) have interrelated links of status, pressures, and impacts,
- (iii) where feasible to conduct integrated assessment across Ecological Objectives.

The 2023 MED QSR will be predominantly based on national monitoring data, submitted to INFO/RAC Info System. This may be supplemented by scientific data and information contributed by the scientific partners.

The structure of the QSR is based on the themes (clusters) of Biodiversity and fisheries; Pollution and marine litter; and Coast & Hydrography. Within each theme there are Ecological Objectives that have one or more Common Indicators along with four Candidate Common Indicators.

Based on the outcomes of Chapter 4, it is anticipated that there will be some integration between Common Indicators within some Ecological Objectives, and possibly between Ecological Objectives e.g., as case studies.

3. Drivers, Pressures, State, Impact, Response (DPSIR)

- Plan Bleu to contribute
- Provide the overall common DPSIR analysis for the whole IMAP, which combines all CIs and respective EOs
- Within the GES assessment elaborated per individual CI, (a) identify the DPSIR findings that are most relevant for the CI and (b) interrelate DPSIR findings with GES assessment findings (matrix for Pollution Cluster is presented below; table 6), where feasible and appropriate.
- Note where detailed elaboration of key pressures/impacts–state interrelationship according to this DPSIR is not feasible, provide a detailed explanation of the reasons in the following chapters related to GES assessment

Note:

Use the results of work undertaken so far: (i) DPSIR analysis prepared within the cross-cutting document (2017), as well as for preparation of ICZM Framework; (ii) DPSIR analysis provided for the IMAP Biodiversity cluster; (iii) using relevant findings from UNEP/MAP and external processes; (iv) joint UNEP/MAP – EEA joint report, SoED, Mid-term NAPs evaluation related to LBS Protocol and NAPs related to biodiversity, TDA preparation, etc.

Current status

This chapter will rely on the TDA socio-economic analysis outcomes and other existing information and reports and will be based on the findings of the indicator and ecological objective assessments in Chapter 4, examining the priority sectors impacting the clusters.

4. Good environmental status (GES) / alternative assessment

- Summary of GES/alternative assessment using a traffic-light system, per CI

4.1 Theme selected for GES assessment

- Introduction/ explanation of the theme, including the combination of different CIs and respective EOs
- GES assessment per CI or combination of CIs

4.2 GES Assessment for CI/ alternative assessment for CI

This section will be repeated per Common [candidate] Indicator. The following four points need to be provided per CI:

- Based on the overall DPSIR analysis as provided in chapter 3, elaborate those aspects that are most relevant for the individual CI
- Provide and apply the GES assessment methodology per CI that considers spatial and temporal aggregation and integration
- Provide and apply an alternative assessment methodology for those CIs where GES spatial and temporal aggregation and integration is not possible
- Based on the overall DPSIR analysis as provided in chapter 3, elaborate the interrelationship of the DPSIR findings that are most relevant for the individual CI and related GES findings, as appropriate and feasible

Note:

For the presentation of CIs for GES assessment / alternative assessment, the methodology should elaborate the use of the criteria of assessment, optimally nested scales of assessment, visualisation of the assessment findings by applying the tools as feasible within the selected specific GES assessment methodology i.e., maps/graphs/infographics, etc.

Where possible, assessment findings will also be provided for Candidate CIs as part of the relevant chapters/sections based on available data (CCI24, 25, 26 and 27).

GES assessment per CI will include the following elements:

- The relationship with Mid-Term Strategy (MTS) Core Theme
- Ecological Objective
- IMAP Common Indicator
- GES Definition
- GES Targets

4.3 GES Assessment for the EO / alternative assessment for EO

- Further to the findings on *possible* integration of an individual CI with other CIs, elaborate the integrated GES assessment findings at the level of: (i) EO, to which the CI(s) belongs; (ii) between EOs of different IMAP pollution clusters
- Summary of GES using traffic-light system, per CI
- SIDA project on GES in the Adriatic as a case study

Example to interrelate DPSIR and GES assessments

Table 6. The GRID/Table combined with the GES assessment results.

Scaled GRID pressures/impact approach	SUB-REGIONS	SUB-DIVISIONS	Country/ National Part	Assessment Result	Coastal	Industry	Offshore
					urbanizati		structures
Common Indicator x	Western Mediterranean Sea	North Western (NWMS)	Onshore	non-GES			
			Offshore	GES			
		Alboran Sea (ALBS)	Onshore	...			
			Offshore	..			
		Tyrrhenian Sea (TYRS)	Onshore				
			Offshore				
	Adriatic Sea	North Adriatic (NADR)	Onshore				
			Offshore				
		Middle Adriatic (MADR)	Onshore				
			Offshore				
		South Adriatic (SADR)	Onshore				
			Offshore				
	Central and Ionian Sea	Central (CEN)	Onshore				
			Offshore				
		Ionian Sea (IONS)	Onshore				
			Offshore				
	Aegean and Levantine Seas	Aegean Sea (AEGS)	Onshore				
			Offshore				
		Levantine (LEVS)	Onshore				
			Offshore				

Note: For the purpose of this table, onshore and offshore areas are not used as legal terms but as the geographical terms to distinguish them for the purpose of monitoring and assessing different areas with different ecological features

Current status

Please see the updated 2023 MED QSR Roadmap Progress Report, attached for the current status of CIs and EOs.

5. Key findings per CI

- Further to the GES assessment findings as provided above, provide key findings on compliance and non-compliance with GES targets. In so doing, provide highlights for individual CIs – diagrams or figures, and maps if feasible (these could be in boxes).
- Endeavour to provide a comparison of the present findings with 2017 Med QSR GES assessment findings
- Identify gaps per CI that need to be further addressed towards achieving GES, considering the key knowledge gaps from the 2017 Med QSR
- Highlight data gaps

Current status

Chapter 5 will be drafted based on the findings of Chapter 4.

6. Measures and actions required to achieve GES

Further to knowledge gaps identified in chapter 5:

- Propose measures and actions to be put in place towards GES achievement (what is the outlook and what are the risks, challenges to look out for)
- Pay particular attention to the steps needed to improve data availability

Note:

Depending on progress in specific GES assessment, this section can be further developed

Current status

Chapter 6 will be drafted depending on progress in specific GES assessments and the gaps and challenges that this process will highlight.

Proposals on measures and actions in light of the outcomes of the GES assessments.

Table 2: 2023 MED QSR Roadmap implementation. New information since the 8th EcAp Coordination Group meeting (9 September 2021) is highlighted in **bold**

2023 MED QSR Roadmap Main Processes and Milestones	
Milestone 1. Scales of monitoring, assessment and reporting	Ongoing
Outputs and Timeline:	The section related to scales of assessment with regard to the Pollution and Marine Litter cluster of IMAP due to its integrated dimension, is reported under Milestone 2 of the 2023 MED QSR Roadmap.
Analysis for each IMAP cluster on knowledge gaps, with focus on scales of monitoring prepared (mid 2019 – end 2020)	Biodiversity: The update of existing monitoring scales and the development of scales of assessment for the CIs related to Biodiversity is still ongoing. Proposals on scales of monitoring and assessment of CIs 3, 4, and 5 related to marine turtles and marine mammals were discussed with the members of the informal OWGs (29 March 2021 and 7 April 2021, respectively) approved by the CORMON Biodiversity and Fisheries meeting (10-11 June 2021) and by the subsequent SPA/RAC Focal Points Meeting (23-25 June 2021). They were submitted as Information Documents for the 8 th EcAp Coordination Group meeting on 9 September 2021 to agree on its use for the purpose of the 2023 MED QSR preparation. A proposal on scales of monitoring and assessment for CI 6 (Non-Indigenous Species, NIS) was discussed with the members of the related informal OWG (20 April 2021), then reviewed and endorsed by the CORMON Biodiversity meeting (June 2021). The document will be submitted to the next CORMON Biodiversity meeting (28-29 March 2022) as an information document.
Approaches on scales of monitoring for IMAP Common Indicators included in the IMAP Pilot Info System defined (2019)	The work on the development of monitoring and assessment scales for CIs 3, 4 and 5 related to sea birds were discussed with the informal OWG on sea birds and will be submitted for the consideration of the CORMON Biodiversity meeting (28-29 March 2022).
Scales of monitoring for all IMAP Common Indicators agreed (2021)	The work on the development of monitoring and assessment scales for CIs 1 and 2 related to benthic habitats is ongoing in close collaboration with the informal OWG on benthic habitats. The proposed scales of assessment are planned to be tested throughout 2021 and 2022 for their use to prepare the first draft of the 2023 MED QSR upon agreement by the respective CORMON.
Scales of assessment products for all IMAP Common Indicators clustered per Ecological Objectives proposed (2021-2022)	It is important to encourage the Contracting Parties, either individually or in collaboration with each other, to test and validate the proposed methodologies for the assessment areas per cluster and Common Indicator in order to have a final discussion at the CORMON meetings of the lessons learnt and any need for their adjustments, with the view for the Secretariat to progressing on developing accordingly the final drafts of the 2023 MED QSR sections by the end of 2022.
Assessment criteria/thresholds/baseline values proposed/updated for IMAP Common Indicators included in the IMAP Pilot Info System (2020-2021)	Assessment criteria
Assessment criteria/thresholds/baseline values initiated for all IMAP Common Indicators (2021-2022)	In line with the MAP PoW 2020-2021, MAP PoW 2022-2023 and the 2023 MED QSR Roadmap, work has been performed in the context of the EU-funded EcAp MED III and IMAP MPA projects, to update/upgrade and develop assessment criteria using a trend and threshold approach as appropriate for 10 CIs already included in the IMAP Info System (CI 1, 2, 6, 13, 14, 16, 17, 21, 22, 23) as well as for 3 CIs not yet included in the IMAP Info System (i.e., CIs 3, 4 and 5). More details per each IMAP Cluster are provided below:
Reporting formats adjusted to agreed scales of monitoring and scales of	Marine Litter:

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assessment products
(2021-2022)

A proposal for updated Baseline Values (BV) and proposal for Threshold Values (TV) for CI 22 (beach macro-litter), was presented and reviewed at the Integrated CORMON meetings (December 2020). Further to the inputs received from the participants of the Integrated CORMON meetings, MED POL prepared an updated version (UNEP/MED WG.509/11) which was presented, reviewed and approved during the resumed session of the MED POL Focal Points meeting (9 July 2021). It is presented for endorsement at the present Meeting as Working Document UNEP/MED WG.514/10. The collection of national monitoring data has been also undertaken from MED POL in order to upgrade/set BVs and TVs for CI 23 (seafloor macro-litter). Along with the requests of monitoring data shared with national authorities, exchanges with partners have been initiated, including the use of datasets from MEDITS.

Pollution:

The proposals for upgrading the Background Concentrations (BC) and Background Assessment Concentration (BAC) values for IMAP Common Indicator 17, and possible approaches for upgrade of Environmental Assessment Criteria (EAC) for IMAP Common Indicators 17, 18 and 20 (UNEP/MED WG.492/12 and UNEP/MED WG.492/Inf. 11) were considered by the Meetings of the CORMON Pollution, MEDPOL Focal Points and EcAp Coordination Group held in 2021. This work has been undertaken by building on the 2019 update of the sub-regional Mediterranean BAC values for heavy metals in biota and sediment provided to contribute to the preparation of the 2019 State of Environment and Development in the Mediterranean (SoED). Considering the evolving nature of this process, the use of the document UNEP/MED WG.492/12 as a basis towards development and testing of the methodologies for GES assessment related to EOs 9 and 10 has been recommended by the national representatives during the Meetings of the CORMON on Pollution Monitoring and MED POL Focal Points. To this aim, the Contracting Parties were requested to support the present work including in the framework of the informal OWG for EO9 by: i) undertaking an analysis of proposed values of the assessment criteria against the new monitoring data to be reported into IMAP Pilot Info System, as well as to be made available through another relevant sources; and ii) supporting improvements of existing methodology for the calculation of the assessment criteria. **The 8th EcAp Coordination Group Meeting appreciated the work undertaken (UNEP/MED WG.514/11); however, asked for further work on the assessment criteria, including in close collaboration with the members of OWG on EO9.**

The work on further elaboration of the assessment criteria continued. Further improvements were provided in order to address the requests of the members of OWG on EO 9 provided during the virtual meeting that took place on June 18th, 2021, and in subsequent e-mail consultations from June to 10 December 2021. It also incorporates the comments received during the Meeting of CorMon on Pollution Monitoring, the resuming session of the Meeting of MEDPOL Focal Points, and the 8th EcAp Coordination Group Meeting. The present work included recalculation of the new proposed BCs and BAC concentrations using data that were not available at the time the document was prepared, namely, data received from February 2021 to December 2021. The normalization was further elaborated in line with the request of one country by explaining it is only adequate if a significant positive correlation exists between the contaminant concentration and the normalizer (i.e., PAHs and TOC). Given the normalization process should not be automatic but based on the examination of the data and used with care, the normalization should not be performed if there is no correlation

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between the contaminant and the assigned normalizer. Therefore, when analysing the GES for the Mediterranean region it will be necessary to accommodate areas where no correlation exists with the normalizer along with the areas where a correlation is found with the normalizer. One possible solution is to assess GES at the level of sub-regions/sub-divisions. For calculation of BAC values from BC concentrations, UNEP/MAP adopted the methodology that corresponds to the OSPAR methodology (i.e. OSPAR (2008). “Co-ordinated Environmental Monitoring Programme (CEMP) Assessment Manual for contaminants in sediment and biota” (OSPAR Commission No. 379/2008). The present work provided a more detailed explanation of the pragmatic approach related to the determination of BAC. Statistical treatment of BDL was undertaken in line with the recommendations of the OWG. It is recognized that the different BDLs make it hard to use half of the BDL concentration for these values. However, it is unreasonable not to take BDL values into consideration. Therefore, the calculation used the BDL values as reported by the countries.

In view of the OWG’s recommendations, data from 2015 onwards were included in the calculation, even if they were used previously, in order to increase the number of data points. However, it must be noted that the level of data reported until 31 December 2021 was still less than 10 % of new data that need to be reported for the preparation of the 2023 MED QSR. Further to work undertaken in 2019, present work resulted in updated regional and sub-regional BAC values for the Mediterranean. The implementation of IMAP provided scientific evidence of significant variations between the four Mediterranean sub-regions, therefore values of BCs/BACs at the sub-regional level were initially introduced in 2019 and furthermore elaborated during work undertaken in the present period. The additional data reported by the CPs in the IMAP-IS improved the calculation of the BCs for PAHs in sediments. The calculation of the multiplication factor to calculate BACs for PAHs in sediments was not provided in the previous UNEP/MAP documents (2011, 2016, 2019). Looking at the OSPAR values for BC and BAC for PAHs in the sediments, it is proposed to use the multiplication factor of 1.5, as for trace metals in sediments, based on the relatively higher values of BCs for PAHs in sediments presently calculated in comparison to the BCs calculated in 2011.

The Meeting of CorMon on Pollution Monitoring planned in May 2022 is expected to consider the proposal of the upgraded assessment criteria for IMAP CIs 17 and 20 in the Mediterranean and its four sub-regions within the preparation of 2023 MED QSR.

As to further progress with development of region-wide harmonized criteria for reference conditions and threshold/boundaries values for key nutrients in water column, as it was requested by Decision IG.23/6 related to the 2017 MED QSR, the proposals for: i) setting the reference conditions and boundary values for Dissolved Inorganic Nitrogen (DIN) and Total Phosphorous (TP); and ii) testing practical application of the methodological approaches for their calculation in relevant sub-areas, were prepared (UNEP/MED WG. 492/11 and UNEP/MED WG. 492/Inf.12) for consideration of the CORMON Pollution meeting (26-28 April 2021). Due to nitrogen/phosphorus limitations present in the Mediterranean (i.e., restricted measurements of Dissolved Inorganic Phosphorous - DIP), as well as due to limited data availability and related demanding statistics, these documents set the basis for further elaboration of the following methodologies in relevant sub-areas: i) methodological approach developed for Adriatic Sea; ii) Best Practice Guide for nutrients toolkit (JRC) and iii) FAN/FLU index (Spain).

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In addition, the practical application of the methodological approach is showcased for Adriatic Sea, in order to set the reference conditions and boundary values for DIN and TP. Considering the evolving nature of this process, the use of the document UNEP/MED WG.492/11 was recommended as a basis for progressing towards setting the assessment criteria for DIN and TP by the national representatives during the Meetings of the CORMON on Pollution Monitoring and MED POL Focal Points. To this aim, the Contracting Parties were invited to support this work in the framework of the informal OWG on Eutrophication (EO5) through: i) analysis of available/ new monitoring data; and ii) elaboration and testing of proposed methodological approaches for setting boundary values, including relevant statistical approaches, as suitable for specific areas in Mediterranean sub-regions/sub-areas. **8th EcAp Coordination Group Meeting appreciated the work undertaken (UNEP/MED WG.514/12), however asking for further work on the assessment criteria, including in close collaboration with the members of OWG on EO5.**

During the discussions of the OWGs on Eutrophication (EO5), a lack of reporting of series of monitoring data into IMAP Info System by the Contracting Parties was identified as a key obstacle in setting the assessment criteria and applying the assessment methodology for GES for the respective CIs. **Given the absence of active involvement of the members of OWG on EO5, the Secretariat undertook work aimed at improving the unsatisfactory quantity and poor quality of monitoring data, by further exploration of data both from IMAP-IS and alternative data sources i.e., EMODnet database. The focus is given to the Adriatic Sea Sub-region given the higher quantity of data reported in this sub-region. Given this work is extremely time-consuming, the workload is multiplied, and the first proposal of the reference and boundary values for DIN and TP can be expected by the beginning of April 2022. The scarcity of data disables from undertaking similar exercises in other sub-regions/sub-divisions, while the members of OWG are not willing to undertake the calculation of these assessment criteria in their respective sub-regions. Therefore, the Meeting of CorMon on Pollution Monitoring planned in May 2022 is expected to consider the proposal of the criteria for the Adriatic Sea sub-region with a view of approving their temporary application in all 4 Mediterranean sub-regions within the preparation of 2023 MED QSR.**

Biodiversity:

Assessment criteria, thresholds and baseline values for CIs 3, 4 and 5 related to marine mammals, marine turtles were reviewed and approved by the CORMON Biodiversity meeting (10-11 June 2021) and endorsed by the SPA/BD Focal Points meeting (23-25 June 2021). They were submitted as Information Documents for the 8th EcAp Coordination Group meeting on 9 September 2021 and it was agreed to use this work for the purpose of the 2023 Med QRS.

The assessment criteria and threshold values for CI 6 related to NIS were reviewed by the CORMON Biodiversity meeting (June 2021). Few minor comments were received during the meeting that were integrated in the proposal in consultation with the relevant Contracting Party. The document is submitted to the CORMON Biodiversity meeting (28-29 March 2022) as information document.

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	<p>The progress in the development of the baseline values for CI 6 related to NIS was presented at the CORMON Biodiversity meeting (10-11 June 2021). Since then, a huge effort has been made to develop refined NIS baseline inventories at national, sub-regional and regional levels based on a collaborative approach including the national experts designated by the CPs and with the participation of regional and international NIS experts. The final proposal is submitted to the CORMON Biodiversity meeting (28-29 March 2022) for discussion and endorsement to be used for the purpose of the 2023 Med QSR.</p> <p>The work on the assessment criteria, thresholds and baseline values for the IMAP CIs 3, 4 and 5 related to seabirds was discussed within the informal OWG on seabirds and is submitted for discussion and endorsement to the Biodiversity CORMON meeting (28-29 March 2022).</p> <p>The work on the assessment criteria, thresholds and baseline values for the IMAP CIs 1 and 2 related to benthic habitats is ongoing in close collaboration with the informal OWG on benthic habitats. Results will be presented to the Biodiversity CORMON meeting (autumn 2022, tbc) for discussion and endorsement of its use for the purpose of the 2023 Med QSR.</p> <p><u>Coast and Hydrography:</u></p> <p>Work started in the context of the EU-funded EcAp MED III and IMAP-MPA projects for the provision of technical support to data monitoring and processing for Common Indicator 16, and the development of methodology and conduction of baseline assessment for Common Indicator 15. The conclusions of the work on the development of assessment criteria and of the related Guiding document for the application of assessment criteria for CI 16 was presented at the CORMON Coast and Hydrography meeting in November 2021. Based on the meeting conclusions and recommendations the Guiding document was finalised and translated to French. Currently, the procedure to start testing it in two countries is in progress.</p> <p>In the context of the EU-funded projects EcAp MED III and IMAP-MPA, additional progress has been made with the preparation of the baseline situation for the CI 15 on hydrography. The common approach has been applied for both EU-funded projects, using a similar instructions/contents for the reports, however one focused on pilot sites the other on national level. This includes also regional cooperation on assessment methodologies through regional and sub-regional expert group meetings and CORMONs during 2022-2023 and a stronger Science-Policy Interface. This will be instrumental to prepare the first draft of the 2023 MED QSR according to the 2023 QSR road map.</p> <p>As far as possible, the candidate CI 25 on Land cover change in close cooperation with the EEA monitoring results for 2012 and 2018 will be provided for the EU member states plus four Mediterranean EIONET member states.</p> <p>Ongoing cooperation between OSPAR, HELCOM, and REMPEC should be noted regarding the definition of Significant (oil) spill, format of reporting systems and the determination of GES for significant acute pollution events (EO9 CI 19 / MSFD D8C3- D8C4).</p>
Milestone 2. Integrated assessment of GES	Ongoing

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<p><u>Outputs and Timeline:</u></p> <p>Analysis of interrelations between sectors, activities, pressures, impacts and state of marine environment for each Common Indicators included in the IMAP Pilot Info System prepared (2018-2019)</p> <p>Approaches for mapping the pressures/impacts/status of marine environment for the above IMAP Common Indicators defined (Rome Meeting); (2019-2020)</p> <p>Methodological concept developed and proposed to assess the interrelation of pressures/impacts/status of marine environment (2020)</p> <p>Methodological concept to support better integration of thematic assessment products related to IMAP Common i.e., integration between Ecological Objectives (at national, sub-regional and regional scale) is agreed and tested (2020-2021)</p> <p>Thematic assessment products are prepared (2021-2022)</p> <p>2023 MED QSR delivered (2023)</p>	<p>Most of the outputs planned in 2018, 2019, and 2020 are completed. Work is ongoing on the remaining outputs, in particular the work for analyzing the interrelations between sectors, activities, pressures, impacts and state of marine environment for each Common Indicator included in the IMAP Pilot Info System.</p> <p>The work on setting framework for organization of field surveys in order to generate new monitoring data is supported through eight ongoing regional assignments in the framework of the EU-funded IMAP-MPA project. Moreover, an in-depth analysis is being performed of the national Biodiversity IMAPs of the Southern Mediterranean countries, prepared within the EcAp MED III project</p> <p>Regarding the IMAP Pollution Cluster, the project activities realized until now were focused on an analysis of National IMAPs related to Pollution Cluster in order to identify the gaps and needs in terms of setting optimal institutional and legislative framework during the phase of implementation, as well as integration of IMAP CIs of IMAP Pollution Cluster, and IMAP CIs of another two Clusters related to Biodiversity and Coast and Hydrography.</p> <p>Pollution:</p> <p>The initial proposal related to scales of assessment for IMAP Pollution and Marine Litter Cluster, was agreed by the CORMON Pollution Meeting organized in 2019 and the 7th Meeting of EcAp Coordination Group (September 2019). This proposal was further elaborated by developing a methodology to define the areas of assessment for EO5, EO9 and EO10 within the nested approach. These rules consider all IMAP Pollution and Marine Litter Cluster Common Indicators 13, 14, 17, 18, 20, 21, 22, 23. The proposed methodology was discussed by the CORMON Pollution Meeting (26-28 April 2021), which agreed to recommend its use as a basis for progressing towards integrated GES assessment and recommended its submission to the Meeting of the MED POL Focal Points, while work on its further elaboration would continue, including through OWG on Contaminants. The MED POL Focal Points Meeting recommended to return the proposed Document to the CORMON for some adjustments and terms definition, with a view to avoiding possible confusion with issues which fall outside the scope/mandate of the Barcelona Convention and its Protocols.</p> <p>Work continued to test and validate the proposed methodology by the Contracting Parties, as appropriate. In that respect and further to the initial discussion on the NEAT application during the Regional Meeting on IMAP Implementation: Best Practices, Gaps and Common Challenges (Rome, Italy, 10-12 July 2018), detailed elaboration of NEAT application in the Adriatic Sea Sub-region was undertaken considering the conclusions related to the aggregation and integration rules for GES assessment of the Meeting of CorMon on Pollution Monitoring (Teleconference, 26-27 April 2021) and the Meeting of MEDPOL Focal Points (Resumed Session 9 July 2021). The priority at this stage of IMAP implementation was given to the work on geographical aggregation and assessment scaling rather than integration. The first element that was undertaken for the implementation of the nested approach was the delimitation of the areas of assessment within the Adriatic Sea based on the areas of monitoring defined by respective Contracting Parties, along with the harmonization of the scales approach between the Contracting Parties (CPs) i.e., scaling up the marine assessment to sub-regional and regional scales within the integration process as required under</p>

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IMAP. For the purposes of the present work data on contaminants produced within the implementation of the national monitoring programmes of the CPs and delivered either to the IMAP Info System or to the European Marine Observation and Data Network (EMODnet) have been gathered as prepared until September 2021 for the upgrade of the assessment criteria on contaminates.

The IMAP Spatial Assessment Units (SAUs) were defined in the 3 steps approach per each of the Adriatic countries separately; afterward, their nesting within three sub-divisions of the Adriatic Sea sub-region was undertaken i.e., in the North, Central and South Adriatic.

The delineation and nesting of the areas of assessment and the assessment of GES were undertaken in the following 4 levels:

- **1st level provided nesting of all national IMAP SAUs & subSAUs within the two key IMAP assessment zones per country i.e., coastal and offshore zone; detailed assessment results were provided per subSAUs and SAUs;**
- **2nd level provided nesting of the assessment areas set in IMAP assessment zones i.e., coastal, offshore, on the subdivision level i.e. i) NAS coastal, NAS offshore; ii) CAS coastal, CAS offshore; iii) SAS coastal, SAS offshore); integrated assessment results were provided per i) NAS coastal, NAS offshore; ii) CAS coastal, CAS offshore; iii) SAS coastal, SAS offshore;**
- **3rd level provided nesting of the areas of assessment within the 3 subdivisions (NAS, CAS, SAS); integrated assessment results provided per subdivisions NAS, CAS, SAS;**
- **4th level provided nesting of the areas of assessment within the Adriatic Sea Sub Region; integrated assessment results were provided for the Adriatic Sea Sub-region.**

As the result of above-explained methodology, detailed assessment results on the EO9/CI 17 level were provided by applying the two ways of GES assessment i.e., per contaminant and per habitat. The final integrated result per SAU (NEAT value) is the same in both ways of GES assessment.

The assessment results per contaminant are spatially integrated within the nested scheme at i) the IMAP national SAUs & subSAUs, as the finest level; ii) the IMAP coastal and offshore assessment zones of SubDivisions (NAS-1, NAS-12, CAS-1, CAS-12, SAS-1, SAS-12); iii) the sub-division level (NAS, CAS, SAS) and iv) the sub-regional level (Adriatic Sea). At the same time aggregation of all contaminants, data was done in order to obtain one chemical status value (NEAT value) for all the levels of the nesting scheme. In other words, the results were provided per contaminant per habitat per SAU in the finest level which are i) integrated along the nesting scheme; and ii) are aggregated for all contaminants and habitats per SAU leading to one NEAT value per SAU.

The GES assessments finding by applying NEAT tool were also provided by aggregating data per habitat in this case sediments and biota (mussels) and then spatially integrated within the nested scheme.

For the areas with insufficient data reported for application of NEAT for delivering an integrated assessment of GES along the nested areas of assessment, the three methodologies were elaborated. The results of their testing, along with their inter-calibration, in the Levantine Sea are expected to be delivered for consideration of the Meeting of CorMon on Pollution

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	<p>Monitoring foreseen to be held in May 2022. The following methodological approaches are being tested: i) IMAP traffic light system; ii) the CHASE+ and iii) the Ecological Quality Ratio (EQR). The Meeting of CorMon on Pollution Monitoring planned in May 2022 is expected to consider the results of these methodologies testing for GES assessment of the Levantine Sea.</p> <p>During the Meeting of CorMon on pollution Monitoring that was held in 2021, different methodologies were discussed for GES assessment for Eutrophication. Due to the need to respect the timeline for preparation of the 2023 MED QSR, and to the fact that the Secretariat may not be able to work on the application of more than one methodology for each EO that could be applied across the region, it was agreed to launch the testing of the NEAT tool for GES assessment for EO5, and EO 9. The work is being undertaken to adjust above explained NEAT application on EO CI 17 GES assessment for producing the GES assessment results for IMAP CIs 13&14 in the Adriatic Sea Sub-region by applying existing assessment criteria for chl <i>a</i> and the new reference and boundary values that are expected to be proposed for TP and DIN.</p> <p><u>Marine Litter:</u></p> <p>The CORMON Marine Litter Meeting endorsed the document “Addressing interrelation of pressures impacts of marine litter and the status of marine ecosystem components” and agreed to integrate the input and information included in this document into the broader work under preparation by the MED POL programme pertinent to integration/aggregation aspects of the Pollution-Marine Litter Cluster of IMAP.</p> <p>In 2021, as part of the GEF Adriatic project, first documents towards integrated GES assessment (addressing EO1 on Biodiversity, EO2 on NIS, EO5 on Eutrophication, EO7 on Hydrography, EO8 on Coastal ecosystems and landscapes, EO9 on Contaminants and EO10 on Marine litter, and related CIs) were prepared for Albania and Montenegro as a joint collaboration of international experts and national responsible institutions.</p> <p>The above-explained methodology of applying NEAT tool on EO CI 17 was also applied on CI 22 in the Adriatic Sea Sub-region. The Meeting of CorMon on Marine Litter planned in May 2022 is expected to consider the results of these methodologies testing for GES assessment of the Levantine Sea.</p>
<p>Milestone 3. Implementation of national IMAPs throughout the Mediterranean</p> <p>Milestone 6. Technical assistance and support</p> <p><u>Outputs and Timeline:</u></p> <p>State of the national implementation of IMAP reported by the Contracting Parties</p>	<p>Ongoing</p> <p>Support to National IMAPs implementation has been given the highest priority. Further to activities under implementation of the MAP PoW 2020-2021, three EU-funded projects were developed and launched in 2020 to support national implementation of the IMAP in Southern Mediterranean Countries (Algeria, Egypt, Israel, Lebanon, Libya, Morocco, and Tunisia), building mainly on the results of the EcAp MED II project which supported the development of national monitoring programmes for all clusters in the seven countries in coherence with the IMAP recommendations, but also on the results of Marine Litter MED project pertinent to the development of IMAP Candidate Indicator 24: IMAP MPA (August 2019 – February 2023), EcAp-MED III (September 2020 – August 2023), and Marine Litter MED II (September 2020 – August 2023).</p>

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(2018/2019, 2020/2021, 2021/2022)	These projects, in particular IMAP-MPA and EcAp MED III, support the beneficiary countries in implementing their national monitoring programmes in high-pressure and MPA areas with the aim to achieve a minimum of 3 sets of data on IMAP Common Indicators for EO5, EO9, EO10; a minimum of 1 set of data on IMAP Common Indicators for EO1 and EO2, and a minimum of 1 set of data on IMAP Common Indicators for EO7 and EO8.
Minimum 3 sets of data on IMAP Common Indicators (EO5, EO9, EO10) reported by the Contracting Parties (2019, 2020, 2021/2022)	Below a summary of the main activities and achievements of the three EU-funded projects:
Minimum 1 set of data (EO1 and EO2) reported by Contracting Parties (2021/2022)	1. IMAP MPA: In depth identification at country level of the capacities required to enable IMAP implementation and facilitate the provision of reliable and quality assured data for the MED 2023 QSR started, with the recruitment of national experts to perform this activity. Draft studies to support the integration of the national monitoring programmes have been prepared.
Minimum 2 sets of data (EO7, EO8) reported by the Contracting Parties (2020, 2021/22)	Project beneficiary countries are implementing their monitoring programmes in the two categories of selected areas (i.e., marine protected area and areas under high pressure) focusing on a set of agreed common indicators. Minimum one set of data on EO1 and EO2 will be reported to the info/MPA platform.
Country capacity building trainings organized in line with their needs (2019-2021)	Several bilateral coordination meetings with the project focal points, and MAP/MED POL/ SPA/BD National Focal Points as appropriate, have been organized with all beneficiary countries (i.e. Algeria, Egypt, Israel, Lebanon, Libya, Morocco, and Tunisia) to follow-up and support the establishment of the National IMAP Committees; the organization of the project national kick-off meetings; the potential designation of thematic/national experts and signature of legal agreements for the implementation of activities at national level.
Sub-regional/regional workshops and trainings, in areas of common capacity needs and knowledge gaps, organized (minimum 2 per sub-region), (2019-2021)	Based on requests from countries and national IMAP committees, training to reinforce national capacities concerning the implementation of biodiversity/non-indigenous species monitoring protocols will be developed during early 2022, in close collaboration with the concerned national authorities and international partners. These actions will specifically include dedicated trainings, country missions, 'Train the trainers', exchange of specific best-practices (possible South-South, but also North-South cooperation), and assistance in applying the monitoring protocols/policy developments in line with the national IMAPs and specific country requirements.
Joint monitoring pilots designed and implemented (minimum 2 in participating countries), (2019-2021)	Regional experts are on board to support integrated/joint monitoring in MPAs and high-pressure areas in identified pilot sites for agreed common indicators. Most of the experts participated to the Integrated CORMON meetings (December 2020) and in the thematic CORMONs (2021). Monitoring and Assessment Scales, Assessment Criteria and Thresholds Values for the IMAP Common Indicator 6 related to Non-Indigenous Species were discussed during the CORMON Biodiversity meeting (10-11 June 2021). The meeting welcomed the document and requested further development of thresholds values and provided some minor comments to be included. This deliverable was amended following an online discussion with the Contracting Party (17 November 2021) who provided the comments. Final version will be submitted to the next CORMON meeting.
	Preliminary drafts of the regional and sub-regional NIS baseline were prepared and shared by the regional expert, based on the information provided by national experts. The document was discussed with the

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members of the OWG on NIS (December 2021) and will be discussed during the 2022 CORMON meeting on Biodiversity.

Draft report on monitoring and assessment scales, assessment criteria, thresholds and baseline values for the IMAP common indicators 3, 4 and 5 related to seabirds was shared by the regional expert and was revised by SPA/RAC. The updated version was discussed by the OWG on sea birds (December 2021) and will be submitted to the forthcoming CORMON meeting on Biodiversity.

2. EcAp-MED III:

The activities started for the design of concrete monitoring plans and to prepare and support implementation of field survey programmes for each beneficiary country for Pollution, Marine Litter, and Biodiversity. During the period December 2020-February 2021, an analysis was undertaken of the national IMAP-based monitoring programmes of the beneficiary countries, whose most important findings were submitted to the CORMON Pollution Meeting (26-28 April 2021). The design of the monitoring plans on Biodiversity is ongoing for Tunisia and Libya. Preliminary meetings were organized with national institutions (i.e., Ministry of Local Affairs and Environment, APAL in Tunisia and EGA in Libya) to ensure a successful coordination and implementation of the respective national IMAP. Gaps identified in the 2017 MED QSR were discussed to try to overcome them during this phase of IMAP implementation. Considering the situation induced by the ongoing COVID-19 pandemic and the measures taken at national, regional and international levels to contain its spread, the Secretariat is currently undertaking steps to build the Legal Instruments with four Contracting Parties. A bilateral meeting with ACCOBAMS was organized (teleconference, 16 October 2020) to discuss the lessons learnt and difficulties faced during the implementation of the regional survey on marine mammals (ACCOBAMS Survey Initiative, ASI) elaborated in June and July 2018.

Work started to implement the joint monitoring and assessment programme on NIS related to fisheries in the Eastern Mediterranean (i.e., Egypt, Israel, Libya and Lebanon), involving also other non-beneficiary countries (namely Cyprus, Greece, and Turkey). A list of seven non-indigenous fish species was prepared in 2019 that will be monitored and assessed at national and sub-regional levels, in collaboration with GFCM.

In relation to Coast and Hydrography, work started to provide technical support in 2021 to data monitoring and processing for CI 16 (*Length of coastline subject to physical disturbance due to the influence of man-made structures*) and for reporting on baseline situation for CI 15 (*Location and extent of the habitats potentially impacted by hydrographic alterations*) in Algeria, Egypt, Israel (excluding CI 16 which was addressed in previous project), Lebanon, Libya, Morocco and Tunisia. **All countries have provided reports except Egypt, for CI 16 and Algeria for CI 15 where the work is in progress and will soon be completed. Most of other, non-eligible countries for this project have not yet provided their monitoring data sets.**

The assessment criteria and the Guiding document for the application of assessment criteria for CI 16 was drafted, presented and discussed at the CORMON meeting (25 November 2021). Based on the comments and suggestions from the meeting the draft was finalised. The document was edited and is available in English and French languages.

3. Marine Litter MED II:

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Work in 2020 focused on contribute to the development of IMAP Candidate Indicator 24, towards making it operational at country level, with the “Regional Operational Strategy for Monitoring IMAP Candidate Indicator 24” that was endorsed by the CORMON Marine Litter meeting (30 March 2021, videoconference), which highlighted the need to base the development of the future national monitoring programmes for Candidate Indicator 24 in the Regional Operational Strategy.

Other projects are also instrumental for the implementation of National IMAPs, such as the GEF Programme for activities related to monitoring of CI 15, 16 and CCI 25, with the view of completing the coastline and land cover of as much the Mediterranean region as possible, as well as GEF Adriatic, supporting the monitoring of CI 16 related to coastline in Montenegro and Albania. The recently launched CAMP project in Bosnia and Herzegovina will assist monitoring activities in the country, related to pollution and marine litter as well as CI 16.

SIDA project “Towards integrated ecosystem assessment and ecosystems management approach in the Adriatic”

In spring 2022 a project funded by SIDA is undertaking quantitative assessment of IMAP Common Indicators (CI) that correspond to UNEP Regional Seas Indicators and to test integration tools/approaches to give an overall assessment of good environmental status and to identify the pressures at a level to inform taking appropriate, targeted measures and actions in the Adriatic area. The outcomes will support work to implement the ecosystem approach (EcAp) and UNEP/MAP-Barcelona Convention’s Medium-Term Strategy and contribute to the 2023 MED QSR.

Quality-controlled Common Indicator (CI) data for all three clusters will be collated for an application of the Nested Environmental Assessment Tool (NEAT) in a pilot area, for GES assessment. Integration of CIs with Ecological Objectives (EO) and across EOs will be tested. An analyse the methods used and the key findings will be reported. The potential for applying GES assessment tools/approaches to other parts of the Mediterranean when appropriate will be determined, as will the potential need for adjustment of the software of the applied GES assessment tools to serve to IMAP purposes.

Status of implementation of the national IMAP Pollution and Marine Litter monitoring programmes:

Further to the analysis of the progress of National IMAPs Pollution Cluster implementation, in line with the progress reported during and after the Integrated CORMONs Meetings (December 2020), the project activities of EcAp MED III, as reported above, were focused on an analysis of National IMAPs Pollution Cluster implementation, to identify the gaps and needs in terms of setting optimal institutional and legislative framework during the phase of implementation, as well as integration of IMAP CIs of IMAP Pollution Cluster, and IMAP CIs of another two Clusters related. So far implementation indicated that all Contracting Parties have built national monitoring programmes which are fully compatible with the IMAP requirements with regards to IMAP Pollution and Marine Litter cluster: i) the eutrophication parameters, as well as the parameters related to the concentration of heavy metals and organic compounds in surface sediments are currently monitored by the Contracting Parties at a relatively acceptable level, whereas marine litter can be

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	<p>considered as a recently introduced set of monitoring parameters for IMAP; ii) in most cases, there is a very good compatibility between the monitoring areas established for Ecological Objectives 5 and 9, while these are less compatible with the monitoring areas for Ecological Objective 10; however these areas are established close to areas of pollution monitoring; iii) regarding time scales, most monitoring programmes considered appropriately the time frame and the risk-based approach, and the high-pressure areas and sensitive areas are identified for monitoring as prioritized areas; however, the integration of risks is not fully ensured within all national monitoring programmes; v) the National IMAP Pollution and Marine Litter monitoring programmes do not specify how the integration and aggregation of the monitoring efforts and assessment products should be carried out for GES assessment.</p> <p>Actions were also undertaken to identify specific knowledge and technical needs of individual laboratories of the Contracting Parties to apply good laboratory practices for analysis of trace elements and organic contaminants as requested by the CORMON Pollution meeting (2-3 April 2019, Podgorica, Montenegro). Along with the missions to two IMAP Pollution Cluster competent laboratories that were realized in 2020, and the two online missions to another two IMAP competent laboratories, the capacities of national laboratories in relation to monitoring of IMAP Common Indicators 13, 14, 17, 18 and 20 were assessed as provided in UNEP/MED WG.492/10 and UNEP/MED WG.492/Inf.10, which were considered by the Meeting of CORMON Pollution Monitoring (26-28 April, 2021. The assessment findings related to 36 national IMAP Pollution Cluster competent laboratories refer to their capacities to apply the analytical methodologies, as recommended in relevant IMAP Monitoring Guidelines/Protocols. This assessment was based on the questionnaires that were distributed through respective MED POL Focal Points to designated national IMAP Pollution Cluster competent laboratories. Although only laboratories from 7 countries replied, this exercise gave a good insight into their capability to comply with IMAP Guidance Factsheets and new Monitoring Guidelines/Protocols and problems laboratories face. The specific knowledge and technical needs of individual laboratories were recognized regarding implementation of IMAP Common Indicators 13, 14, 17, 18 and 20.</p> <p>Means of implementation established for the revision of the Transboundary Diagnostic Analysis (TDA), with support through the GEF-funded MedProgramme, further address a need to support the development of a strategy for offshore monitoring and data sharing policy for the Mediterranean.</p> <p>Thanks to effective communication with the Contracting Parties, National Steering Committees for IMAP implementation were established in Algeria, Israel, Libya, Morocco, and Tunisia and recently in Lebanon in the context of the EU-funded IMAP MPA project. The Contracting Parties started to submit the unreported 2019 data and 2020 data, following the respective data submission call and in line with the respective COP decisions as described below.</p>
Milestone 4. IMAP Info System	Ongoing
Milestone 5. Monitoring Protocols and Data Quality Assurance and Quality Control	<p><u>IMAP Info System:</u></p> <p>In line with COP Decisions IG.22/7 and IG.23/6 providing for “the Contracting Parties to regularly report quality-assured data deriving from the implementation of the updated integrated national monitoring and assessment programmes”, in June 2020 the call has been opened for the Contracting Parties to start uploading and sharing their monitoring data using the approved Data Dictionaries and Data</p>

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<p>Outputs and Timeline:</p> <p>IMAP information and data sharing policy developed (2019)</p> <p>IMAP Pilot Info system ready to upload monitoring data (end of 2019)</p> <p>Data dictionaries and data standards finalized for all IMAP Common Indicators (mid 2021)</p> <p>IMAP Pilot Info System updated to cover all IMAP Common Indicators (mid-2022)</p> <p>IMAP Info System fully operational enabling the Contracting Parties to report their monitoring data in 2020, 2021 and 2022</p> <p>Monitoring Protocols drafted for IMAP Common Indicators included in the IMAP pilot Info System; (2018/2019)</p> <p>Quality Assurance and Quality Control schemes in place for IMAP Common Indicators included in the IMAP Pilot Info System (2019-2020)</p> <p>Quality Assurance and Quality Control schemes expanded to cover all IMAP Common Indicators (2021-2022)</p>	<p>Standards for 11 selected IMAP Common Indicators, respectively CI 1, 2, 6, 13, 14, 15, 16, 17, 21, 22 and 23. The Contracting Parties have started to upload all available and compatible data and new 2020 monitoring data with the original deadline set for no later than 31 January 2021. The level of data reported for IMAP CIs 13&14, 17 and 21 until 31 December 2021 was still less than 10 % of data needed for the preparation of the 2023 MED QSR. It must be noted that level of data reporting is poor and represents serious obstacles for the preparation of the 2023 MED QSR based on data.</p> <p>The IMAP Pilot Info System, developed and launched in 2019, has been designed for 11 IMAP Common Indicators (CI 1, 2, 6, 13, 14, 15, 16, 17, 21, 22 and 23). A testing phase with the participation of 10 Contracting Parties, namely Albania, Croatia, Cyprus, Israel, Italy, Lebanon, Malta, Montenegro, Slovenia and Spain, took place from July 2019 to May 2020 with test datasets provided for CI 1, 2, 13, 14, 15, 16, 17, 21 and 22. Data from the MED POL Info System database have been migrated by INFO/RAC into the IMAP Info System. The migration process, carried out in consultation with MED POL during 2020/2021, involved the information standards of CIs 13-14 (eutrophication) and 17 (contaminants) and the MED POL monitoring data for nutrients and contaminants (sediment and biota). The monitoring data have been received from Mediterranean countries over the last 15 years from 2005 to 2015-2017 and include some MED POL Info System datasets dating back to the early 1990s, in compliance with the LBS Protocol. The entire dataset is now available on the IMAP Info System in a standardized format and stored on an infrastructure able to guarantee its integrity and preservation over time.</p> <p>Further expansion and full operationalization of the IMAP Info System to cover all IMAP agreed Common Indicators is ongoing, also with support through the EU-funded EcAp MED III project. To this respect, the update and upgrade of the IMAP Info System is proceeding; moreover, technical support has been provided by the Secretariat and MAP components to upgrade the hardware and software platform, accommodate DS/DD that are being developed for the additional CIs, and to support the implementation of data flows for all the remaining CIs.</p> <p>New elements of the IMAP Data Policy have been presented at the Integrated CORMONs Meeting, December 2020, and welcomed without further requested changes. These elements will be integrated into the IMAP Data Policy Annex that will be built in the next biennium in line with the MAP Data Policy to be submitted to COP 22 (December 2021). The last updated version of the IMAP Data Policy has been finalized for review at the present meeting (UNEP/MED WG.514/13).</p> <p>Data Dictionaries (DD) and Data Standards (DS) have been developed by INFO/RAC in close cooperation with the other MAP Components for CI 1, 2, 6, 13, 14, 15, 16, 17, 21, 22 and 23 in the period 2017-2019 biennium. DD and DS for CI 19 need to be agreed for integration of existing data under MEDGIS-MAR within IMAP Info System.</p> <p>MED POL prepared a proposal of the DDs/DSs for CIs 18 and 20 (UNEP/MED WG. 492/8, Annex II) for consideration of the CORMON Pollution meeting (26-28 April 2021). Further to comments received from the participants, the proposal was further improved and finalized by INFO/RAC and MED POL; given that it was not considered by the MED POL Focal Point meeting (July 2021), the proposal is included as an Information Document for the attention of the 8th EcAp CG (UNEP/MED WG.514/Inf.7) and it is expected to be validated by the Meeting of CorMon on Pollution Monitoring that is foreseen in May 2022.</p>

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DDs for CIs 3 and 4 for marine mammals and marine turtles have been presented by INFO/RAC for review at the Integrated CORMON meetings (December 2020). They have been further elaborated in 2021 based on the feedback received and based on the outcomes of a meeting organized by INFO/RAC in April 2021 with ACCOBAMS and SPA/RAC to discuss the harmonization of DSs with the ACCOBAMS Survey Initiative. A revised version of DSs and DDs for CI 3, 4 and 5 for marine mammals and marine turtles, and a first version for CI 3, 4 and 5 for sea birds and monk seals have been reviewed by the CORMON Biodiversity meeting (10-11 June 2021), which agreed to further work on these DSs and DDs within the biodiversity OWG and to submit them for discussion and adoption at the CORMON Biodiversity meeting (28-29 March 2022).

Finally, a first draft proposal for DSs and DDs for the Candidate CI 25 (land cover change) is in preparation for the submission to the next Coast & Hydrography CORMON Meeting (October/November 2021, tbc).

Monitoring Protocols and Data Quality Assurance and Quality Control

In accordance with the MAP Programme of Work (PoW) 2020-2021 in the framework of its collaboration with the Marine Environment Studies Laboratory (MESL) of the International Atomic Energy Agency (IAEA), MED POL prepared the Monitoring Guidelines related to IMAP Common Indicators 13, 14, 17, 18 and 20 along with the Monitoring Guidelines related to Analytical Quality Assurance and Reporting Monitoring Data. Following their acceptance by the Integrated CORMON Meetings (1-3 December 2020) and by the CORMON Pollution meeting (26-28 April 2021), these Monitoring Guidelines, composed of 98 specific Protocols, have been approved by the Meeting of MED POL focal Points (Part II, 6-7 October 2021). These Monitoring Guidelines present coherent manuals to guide technical personnel of IMAP competent laboratories of the Contracting Parties for the implementation of the standardized and harmonized monitoring practices related to the analytical procedures of sampling, sample preservation and transportation, sample preparation and analysis, along with the quality assurance and reporting of monitoring data for IMAP Common Indicators 13,14, 17, 18 and 20.

In line with the Recommendations of the MED POL Focal Points Meeting, MEDPOL in collaboration with IAEA/MESL, edited the approved Monitoring Guidelines in order to provide an optimal design for their practical use by the technical personnel of national IMAP competent laboratories. The IMAP Monitoring Guidelines are presented in Chapters as follows:

- **A-1: Guidelines/Protocols for sampling and determination of hydrographic physical and chemical parameters;**
- **A-2: Guidelines/Protocols for sampling and determination of key nutrients and chlorophyll a in seawater**
- **B-1: Guidelines/Protocols for sampling and determination of contaminants in sediments**
- **B-2: Guidelines/Protocols for sampling and determination of contaminants in marine biota**
- **B-3: Guidelines/Protocols for sampling and determination of contaminants in seawater**
- **C-1: Guidelines/Protocols for sampling and determination of biomarkers in marine molluscs and fish**
- **D-1: Guidelines/Protocols for sampling and determination of contaminants in seafood**

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- **E-1: Guidelines/Protocols for Analytical Quality Assurance**
- **F-1: Guidelines/Protocols for Reporting IMAP Monitoring Data**

All relevant documents, which are cited in the IMAP Monitoring Guidelines are presented as Annexes in the Appendix to the Guidelines.

A Monitoring Guideline/Protocols for Floating Microplastics was also agreed by the CORMON Marine Litter Meeting (30 March 2021) for submission to the Meeting of MED POL Focal Points (Part II, 6-7 October 2021). This guideline aims to guide the technical personnel of the IMAP Pollution competent laboratories for implementation of the standardized and harmonized monitoring practices for IMAP Common Indicator 23.

It should be noted that the Guidance Factsheets and Monitoring Protocols were already developed for Common Indicators 1, 2, 3, 4, 5 and 6. The Guidance Factsheets for IMAP Common Indicators 13, 14, 15, 16, 17, 18, 19, 20 and 21 were further updated in 2019, and approved by the 7th Meeting of the Ecosystem Approach Coordination Group, along with Guidance Fact Sheets for IMAP Candidate Indicators 25, 26 and 27. The “Revised Guidance Fact Sheet for the IMAP Common Indicator 6 related to Non-Indigenous Species” was further updated in 2020. It was reviewed by the Integrated CORMON Meetings (December 2020), further discussed by the informal OWG on NIS, reviewed by the CORMON Biodiversity meeting, endorsed at the SPA/BD Focal Points meeting (23-25 June 2021), and approved by the 8th EcAp Coordination Group meeting (9 September 2021).

As for Biodiversity, and concerning threatened species, marine key habitats and NIS, several guidelines and tools have been developed by SPA/RAC (or with the contribution of SPA/RAC), in line with the IMAP requirements and made available to Contracting Parties through the SPA/RAC website or in hard copies; the most recent ones are:

- Monitoring guidelines to assess cetaceans’ distributional range, population abundance and population demographic characteristics
- Guidelines for the long-term monitoring programmes for marine turtles nesting beaches and standardized monitoring methods for nesting beaches, feeding and wintering areas
- Guidelines to standardize methodologies to estimate demographic parameters for marine turtles’ populations in the Mediterranean
- Guidelines for monitoring cetaceans
- Guidelines for monitoring Mediterranean monk seal
- Guidelines for monitoring sea birds
- Guidelines for monitoring marine turtles
- Guidelines for monitoring benthic marine habitats and updated reference list of marine habitat types
- Guidelines for Inventorying and Monitoring of Dark Habitats
- Guidance on developing invasive alien species national and sub-regional lists and Guidelines for monitoring NIS
- Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings
- Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan
- Guidelines for the Conduct of Environmental Impact Assessment (EIA)
- Monitoring the incidental catch of vulnerable species in the Mediterranean and Black Sea fisheries – Methodology for data collection.

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In line with UNEP/MED WG. 467/13 related to schemes for database Quality and Quality Assurance and Quality Control (QA/QC) of data related to Pollution that was approved at the 7th Meeting of the Ecosystem Approach Coordination Group, **MED POL prepared a proposal of the queries and ranges of values for IMAP CIs 1& 14 and 17, based on monitoring data reported into IMAP Info System until December 2021, as well as by analysing the weaknesses and gaps of IMAP as they were shown in its so far use. The proposals are aimed at ensuring the IMAP Info System functions related to search/retrieval/flagging of data, therefore at ensuring IMAP Infor System's minimal functionality as a repository of monitoring data reported by the CPs.**

Further assistance for establishment and implementation of QA/QC schemes and categories to be applied into IMAP Info System is planned for 2021-2022 as part of the EU-funded EcAp MED III project.

INFO/RAC, in close cooperation with CU and the other MAP Components and, through a dedicated help desk, has provided continuous technical support to Contracting Parties (CPs) to facilitate understanding, access, and use of the IMAP Pilot Info System functions, and technical assistance to help them in the process of filling-in of DSs and of data submission. In addition, in the biennium 2020-2021, Bilateral Assistance/Training meetings have been organized to provide to the majority of CPs, via videoconference, an organic and structured presentation for monitoring data reporting. More substantial assistance to the countries is planned from INFO/RAC in the upcoming biennium to strengthen national capacities for data control and reporting and to increase national capacities to report data into IMAP Info System.

The new Proficiency Tests (PTs) were successfully realized despite the challenges related during the period of COVID-19 pandemic. They were launched in the second trimester of 2020 for the determination of trace metals and organic contaminants in sediment and biota related to IMAP Common Indicator 17, resulting with the nomination of IMAP competent laboratories from 17 Contracting Parties for participation in this inter-calibration laboratory testing. Given several nominations were received with delay in early September, the communication with nominated laboratories and sending of samples was started with a delay. In addition, administrative biosecurity issues related to shipment of fish samples to laboratories located in the European Union (EU) further delayed realization of PT for determination of trace elements. **The sample for 2019 Trace Element Proficiency Test (TE-PT) was a sediment matrix. From 19 laboratories designated from 17 Parties that were sent the PT samples, 14 returned results, which is 74% of total number of participating laboratories, and compared to previous years an average turnout. The sample for 2020 Trace Element Proficiency Test was a fish matrix. From 17 laboratories, which were sent the PT samples, 15 returned results, which is 88% of total number of laboratories designated by the Parties. Compared to previous years and given the unprecedented situation in 2020 caused by major restrictions due to the Covid pandemic, this is a very good turnout The results of PT testing were considered by the Meeting of CorMon Pollution Monitoring (26-28 April 2021), as well as submitted for information to the Meeting of MEDPOL Focal Points (Part II, 10-11 October 2021).**

The training courses on determination of trace elements and organic contaminants were successfully implemented despite many obstacles appeared due to COVID-19 travel restrictions. They were organised in on-

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	<p>line mode from 6 to 10 December 2021. All selected candidates from Israel, Lebanon, Malta, Morocco, Slovenia and Turkey could participate. The selection of the participants was undertaken by applying the criteria agreed further to the conclusions of the Meeting of CorMon on Pollution Monitoring held in 2019, as well as by addressing the weaknesses notified by MEDPOL IAEA/MESL in functioning of IMAP competent laboratories.</p>
<p>Milestone 7. Outreach and Visibility</p> <p><u>Outputs and Timeline:</u></p> <p>Timeline for data-sharing with regional partners defined (2019-2021)</p> <p>Agreements reached with Regional Partners (2020)</p> <p>Communication and visibility strategy for the 2023 MED QSR developed and agreed (2021)</p> <p>Outreach to key partners is undertaken and relevant meetings held (2019-2020)</p> <p>Communication and visibility strategy for the 2023 MED QSR is implemented (2021-2023)</p> <p>2023 MED QSR published in 2 languages and online available and presented at COP 23</p>	<p>Ongoing</p> <p>Outreach to regional partners was supported throughout 2020-2021 through bilateral meetings and exchanges to ensure synergies and collaboration for the development of the 2023 MED QSR.</p> <p>In line with relevant COP Decisions, attention was paid to maximize where appropriate the synergies between IMAP and the European Union Marine Strategy Framework Directive (MSFD) implementation. The Secretariat and MAP components have followed relevant recent developments under the MSFD Working Groups (WG) - in particular, WG on Good Environmental Status, WG on Data, Information and Knowledge Exchange and WG on Good Environmental Status and Technical Groups on Marine Litter, Chemical and Noise.</p> <p>The MED REGION project was invited to present the main outcomes of the project at the Integrated CORMON meetings in December 2020, related to critical aspects of IMAP implementation (completion of gaps in monitoring data in the Mediterranean; the support to the development and operational implementation of (sub)regional indicators, lists of elements, threshold values; and towards the support to the development of effective regional measures, with a special focus on biodiversity).</p> <p>An informal meeting was held by the Secretariat with the Contracting Parties that are Member States of the EU in March 2021 to with the objectives to discuss the obligations and requirements of the 2023 MED QSR and MSFD implementation. This consultation reaffirmed the commitment of these Contracting Parties towards data submission required for preparation of the 2023 MED QSR. The Secretariat became better aware of the timelines for MSFD assessment and reporting and other technical issues, and some actions were agreed in this respect to provide technical support accordingly.</p> <p>UNEP/MAP-MED POL representatives participated in the following meetings: Meeting organized by permanent Secretariat of ACCOBAMS within ASI project; Meetings organized by HCMR within MEDREGION project; meetings organized by EEA within Copernicus and EMODnet projects, as well as the meetings of MSFD technical bodies as follows: 22nd Meeting of the Working Group on Data, Information and Knowledge Exchange (WG DIKE), March 2020; Drafting Group on Good Environmental Status (DG GES) Workshop on Horizontal Issues, March, 2020; EMODnet-CMEMS Thematic Workshop on Coastal Issues, June 2020; 14th Meeting of the Technical Group on Marine Litter (TGML), June 2020; 15th Meeting of the MSFD Common Implementation Strategy Technical Group on Underwater Noise (TG-Noise), June 2020; MSFD Expert Network on Contaminants annual (Webex) meeting, April 2020 and Meeting related to deselection of Priority Substances, June 2020; Drafting Group on Good Environmental Status (DG GES) Workshop on Thresholds, September, 2020; 23 Meeting of the WG on GES; MSFD Expert Network on Contaminants Core group: Significant oil spills, June 2020; 16th Meeting of the MSFD Common Implementation Strategy Technical Group on Underwater Noise (TG-</p>

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Noise), 6-7/27 October 2020; 23rd and 24th Meetings of the Working Group on GES (October 2020 and April 2021); Workshop on GES related to Sea Turtles, (October 2020); Joint Bluemed-JPI Workshop on “Musing on the concept of Good Environmental Status”, 2-4 December 2020; TAIEX EPPA Online Sub- Regional Workshop on Assistance for the implementation of the Barcelona Convention, February and May 2021; TAIEX EPPA Online Workshops on MPAs management (20-21 April 2021); Training for Contaminants organized in collaboration of JRC/DG on Contaminants and Swedish Env Agency (February - April 2021); TG ML (June/September 2020; June 2021); the Informal Meeting of the EU Water and Marine Directors, 14-15 June 2021.

PAP/RAC received positive reactions from several partners on their possible contribution to 2023 QSR, and already some concrete contributions from Mercator Ocean on hydrography. Concrete inputs are discussed also with the EEA in particular for the Candidate CI 25 on Land cover change. The Copernicus Land Monitoring service (CMLS) in collaboration with the Copernicus Marine Environment Monitoring Service (CMEMS) may also provide info related to EO5 and EO9 of IMAP or relevant descriptors of MSFD. Technical details were discussed so that the product can be used by both organisations and contacts with relevant focal points were coordinated.

In line with the Naples Ministerial Declaration calling for bold action to protect Mediterranean ecosystems, including through the enhancement of a regional science-policy interface enabling the articulation of evidence-based sustainable development policies, the Secretariat, in close collaboration with the Italian Oceanographic Commission, the IOC-UNESCO and the European Commission, supported the organization of the Regional Workshop “The Mediterranean Sea We Need for the Future We Want” that was held from 21 to 23 January 2020, in Venice, Italy, in the framework of the preparations for the United Nations Decade of Ocean Science for Sustainable Development 2021-2030 (Decade). It was an excellent opportunity to connect numerous institutions and initiatives contributing to strengthened marine environment knowledge and science in the Mediterranean region, as well as to encourage future research partnerships and collaboration in the region.

As a follow up to Mediterranean Regional Workshop, the strategic orientations and related initial set of actions will be reviewed by the present meeting (UNEP/MED WG.482/26). It capitalizes on information from two sources: (a) SPI recommendations to support IMAP implementation produced under the ECAP MED II project; and (b) Implementation Plan on the UN Decade Ocean Science. These re-confirm the commitment of UNEP/MAP to the objectives of the Implementation Plan of United Nations Decade on Ocean Science for Sustainable Development for period 2021 – 2030, by supporting knowledge management at regional level, including through the policy and science interface and strengthening of related partnership modalities. Furthermore, UNEP/MAP-MED POL contributed to the preparation of the SciNMeet Programme for Mediterranean that was submitted for review of the IOC, as well as to the Med Paper within the Ocean Decade Community White Papers (CWPs) on the Global South at Ocean and Coastal Research.

The 2023 MED QSR Communication and Visibility Strategy has been prepared in the context of the EU-funded EcAp MED III project and presented for endorsement at the present meeting (UNEP/MED WG.514/6). A timeline for implementation of activities related to outreach, partnership development and communication and visibility for the 2023 MED QSR are defined as part of the workplan of the EU-funded EcAp MED III project. To this respect, a meeting

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	took place in September 2021 to actively engage partners from scientific projects and institutions, aiming to clarify their potential contribution to 2023 MED QSR and to establish a Partnership Plan for regional data sharing, which would integrate the data to be submitted by Contracting Parties for the preparation of the 2023 MED QSR.
<p>Milestone 8. Effective regional collaboration</p> <p><u>Outputs and Timeline:</u></p> <p>CORMON meetings are held (minimum 1/year/cluster between 2019-2022)</p> <p>Integrated CORMON meetings are held (minimum 1/biennium 2020, 2022)</p> <p>Ecosystem Approach Coordination Group meetings are held (minimum 1/year between 2019-2023)</p> <p>Sub-regional expert groups to address monitoring and assessment sub-regional specifics, including scales of assessment products and their integration, are held (minimum 1/biennium for all 4 sub-regions in integrated manner, for all clusters)</p> <p>Online expert groups are held for each cluster, to ensure continuous work between CORMON meetings (to be re-established in CORMONs in 2019)</p> <p>Bilateral meetings on MoU implementation are held, new MoUs are considered and partnerships with key partners are further strengthened</p>	<p>Ongoing</p> <p>The implementation of the 2023 MED QSR Roadmap is progressing in coordination with the Contracting Parties and through the Ecosystem Approach Governance Framework.</p> <p>Progress in the implementation of IMAP and the 2023 MED QSR Roadmap by all MAP Components is regularly reviewed by the EcAp Task Force which meets virtually on a monthly basis. The EcAp Task Force members keep updated monitoring tools on the nomination of IMAP users, submission of monitoring data in the IMAP Info System, and the work under regional assignments, which enable the Secretariat to identify challenges and take rectifying actions when needed. In this respect, the relevant MAP Components contacted again in September 2020 their Focal Points which had not yet formally nominated their national IMAP users. Monitoring data submitted during the testing phase of the IMAP Pilot Info System have been re-uploaded by INFO/RAC with an indication of “testing data”, requesting the relevant Contracting Parties to validate them and proceed to the official release into the system. The re-establishment and scope of IMAP online working groups is expected to be operationalized through the CORMON meetings discussion.</p> <p>The Integrated CORMON Meetings, held via videoconference on 1-3 December 2020, were a key milestone in the QSR Roadmap implementation. They aimed to: boost the implementation of National IMAPs, take stock of the status of implementation of the 2023 MED QSR Roadmap and review the elements for the development and structure of the 2023 MED QSR; provide information on, and launch, the new EU-funded projects supporting IMAP implementation (i.e. EcAp MED III, Marine Litter MED II, and IMAP MPA); address cross-cutting issues related to IMAP implementation and share related best practices; and recommend ways and means to strengthen the Science-Policy Interface (SPI) in the Mediterranean in support of IMAP implementation.</p> <p>Based on the feedback received by the participants on the work and technical documents presented, work started immediately after the meeting to further revise and prepare them for the thematic CORMON meetings (held in Spring 2021), in order to further advance the work under the respective IMAP Clusters.</p> <p>The CORMON Marine Litter meeting was held on 30 March 2021 via videoconference, with the following aims:</p> <ol style="list-style-type: none"> a) To review the regional operational strategy for monitoring IMAP Candidate Indicator 24; b) To address the interrelation of pressures impacts of marine litter and the status of marine ecosystem components; and c) To analyze the potential complementarities and synergies between IMAP and the European Commission new GES Decision (2017/848/EU) for marine litter. <p>The CORMON Pollution meeting was held on 26-28 April 2021, via videoconference, with the aim to review and approve:</p>

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<p>Progress reports are submitted to the meetings of the Bureau of the Contracting Parties, the meetings of the MAP Focal Points and the COPs (2019-2023) for guidance and approval as appropriate</p>	<p>a) the monitoring guidelines for CI 18, the monitoring guidelines/protocols for Quality Assurance and Reporting of Monitoring Data for CI 13, 14, 17, 18 and 20;</p> <p>b) the state of play of inter-laboratory testing and good laboratory practice related to CI 5 and 9;</p> <p>c) the integration and aggregation rules for EO5, 9, and 10; and the assessment criteria for contaminants and nutrients.</p> <p>The CORMON Biodiversity meeting was held on 10-11 June 2021, via videoconference, with the aim to review and agree on the monitoring protocols of benthic habitats, discuss the scale of monitoring, assessment criteria, thresholds and baseline values of the CIs on Biodiversity (i.e. CI 3,4,5 and 6) as well as the comparison analysis between the IMAP and the new EU GES Decision, and the methodological approach for mapping the interrelations between Pressures-Impacts and the status of marine ecosystem components for the Biodiversity cluster of IMAP.</p> <p>Finally, the CORMON Coast & Hydrography meeting was held on November 2021, with the aim to present the Assessment criteria and the Guiding document for the application of the assessment criteria for CI 16 and the methodology for baseline reports on CI 15.</p> <p>The calendar of key EcAp and QSR Roadmap governance meetings, supported through the UNEP/MAP PoW 2020-2021 and EcAp MED III project, is presented in Section 2.</p> <p>Online Working Groups (OWGs) were re-established at the Integrated CORMON Meetings (December 2020), to provide important scientific feedback and technical support to the IMAP implementation at regional/sub-regional level, in particular on the aspects related to development of methodologies, assessment, scales, integration, protocols and guidelines in line with the approved 2020-2021 Programme of Work, taking into account the need to ensure in these groups a balanced representation of the Contracting Parties. Accordingly, the following OWGs were re-established and made operational at the beginning of 2021: marine mammals, marine turtles, sea birds, NIS, and habitats for the Biodiversity and Fisheries Cluster of IMAP; and contaminants, eutrophication, and marine litter for the Pollution and Marine Litter Cluster of IMAP. They worked on the preparation of proposals of technical documents for submission to the respective Cluster CORMON Meetings, held in March-June 2021.</p>

Way forward to 2023 MED QSR: analysis of gaps, concrete requirements and deadlines of output delivery

a) Overall analysis of gaps and needs

1. The 2017 MED QSR identified several knowledge gaps and provided recommendations on key directions to address in order to deliver a fully data-based 2023 MED QSR:

General directions:

- Harmonize and standardize monitoring and assessment methods.
- Improve availability and ensure long time series of quality assured data to monitor the trends in the status of the marine environment.

- Improve availability of the synchronized datasets for marine environment state assessment, including use of data stored in other databases were some of the Mediterranean countries regularly contribute.
- Improve data accessibility with the view to improve knowledge on the Mediterranean marine environment and ensure that Info-MAP System is operational and continuously upgraded, to accommodate data submissions for all the IMAP Common Indicators.

Biodiversity:

- Improve knowledge on distributional range, extent and condition of habitats, as well as on the pressures affecting them, their spatial distribution and potential cumulative effects, leading to structured data-led assessments of environmental status of the Mediterranean's marine habitats.
- Define the reference state of habitats and species as well as a target threshold value to achieve at the national and sub-regional levels.
- Improve information on distribution, population abundance and demographic characteristics of key species (marine birds, mammals, reptiles, fish and cephalopods) and on the condition of their habitats, as well as on the pressures affecting them, leading to structured data-led assessments of environmental status of the Mediterranean's marine species.
- Work to further improve the develop assessment criteria, when feasible, for those habitats and species based on adequate data availability.
- Develop a specific roadmap, in line with Decision IG.20/4, for the upcoming CORMONs to discuss, on how to further develop Ecological Objectives, which are currently not part of IMAP, namely Ecological Objective 4 “Food webs” and Ecological objective 6 “Sea-floor integrity”.
- Better estimate the trends in rates of introduction, abundance and distribution of non-indigenous species, through elaboration of regular dedicated monitoring.
- Provide for sound conclusions with regard to impacts of non-indigenous species, based on experiments or ecological modelling.

Coast and Hydrography:

- Enhance human and technical capacities for monitoring and assessment of the coast and hydrography.
- **Test the Guiding document on the assessment criteria for the CI 16 on coastline and definition of country-specific GES.**
- Fill the knowledge and scientific gaps in particular for the CI 15 on hydrography (e.g., impacts of hydrographic alterations to habitats).
- Further develop the candidate common indicator 25 on land cover change with the view to be included in the Common Indicators list.

Pollution and Litter:

- Review the scope of the biological effects monitoring programmes and confirm the added value of biomarkers in long-term marine monitoring as ‘early warning’ systems.
- Further develop harmonized monitoring protocols, risk-based approaches, analytical testing and assessment methodologies for monitoring levels of the contaminants in commonly consumed sea food.
- Test new research-proved tools for monitoring toxic effects.
- Develop region-wide harmonized criteria for reference condition and threshold/boundaries values for key nutrients in water column, taking account of available standards for coastal waters.
- Develop assessment criteria for integrated chemical and biological assessment methods.
- Continue the work on underwater noise and its impact on marine fauna, in close collaboration with the relevant bodies, especially ACCOBAMS.
- Improve knowledge on Emerging Chemicals.
- Ensure testing of the Background Assessment Criteria (BACs) and Environmental Assessment Criteria (EACs) and thresholds application on a trial basis in interested countries and regional and sub-regional level.
- Have application of the BACs and EACs as an evolving process to be updated on a continuous basis, their further update and refinement need to be ensured as to take into account new available data, as well as sub-regional specificities in the Mediterranean basins.

- Sea-based sources of litter should be further analysed and specified, given the fact that Mediterranean is a global hotspot for maritime transport and sea-based tourism such as cruises.
- Follow up development of harmonized and standardized monitoring and assessment methods for marine litter and its impacts, including through active participation of MAP in relevant processes such as the ongoing work of MSFD Technical Group on Marine Litter. Such methods would facilitate and be used for monitoring the implementation of the Regional Action Plan against marine litter and of achievement of the 20% reduction target (by 2024) established by COP 19 Decision on marine litter [including enhancement of the identification and evaluation of marine litter accumulation (stranding fluxes, loads and linkage with specific sources) and hotspots using GIS and mapping systems and modelling tools, as well understanding of transport dynamics and accumulation zones.

2. Based on the above, the Secretariat developed in 2020 an Operational Plan for the implementation of the 2023 MED QSR Roadmap (8th EcAp Coordination Group meeting, 9 September 2021, UNEP/MED WG.514/Inf.7). It includes per each Milestone/Outputs of the MED 2023 QSR Roadmap concrete activities supported by the UNEP/MAP Programme of Work and externally funded projects namely EcAp MED III, IMAP MPA, ML MED II, the timeline of which is fully aligned with 2023 MED QSR Roadmap ensuring a strengthened action at country, sub regional and regional levels and full complementarities.