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Workshop on Science Policy Interface (SPI) strengthening for the implementation of the IMAP in relation to Marine Litter, Biodiversity & fisheries, Hydrography, with a focus on the Risk-based Approach for monitoring.

Madrid, Spain, 2nd March 2017

Report of the Meeting “Workshop on Science Policy Interface (SPI) strengthening for the implementation of the IMAP in relation to Marine Litter, Biodiversity & fisheries, Hydrography, with a focus on the Risk-based Approach for monitoring, Madrid, Spain, 2 March 2017”

FINAL DRAFT

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UNEP/MAP
Athens, 2017

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Introduction

1. Plan Bleu is mandated by UNEP/MAP to coordinate one of the key activities of the second phase of EcAp, the EcAp MED II project (2015-2018), focusing on the science-policy interface (SPI) strengthening. Indeed, in the framework of the implementation of the ecosystem approach (EcAp), the Integrated Monitoring and Assessment Programme (IMAP) has been adopted to monitor 27 indicators set up to assess the status of the Mediterranean Sea and Coast towards to achieving their Good Environmental Status (GES). In order to enable the implementation of the IMAP, it is crucial to bridge existing gaps between the scientific and policy making spheres. To this purpose, until 2018, a series of SPI workshops are planned, aiming to identify scientific needs in programmes that contribute to achieving the GES and detail solutions to fill them. A good coordination with the corresponding thematic UNEP/MAP Regional Activity Centers (RACs), having to support IMAP implementation at regional and national scales, is essential to involve environmental policy makers beside scientists; therefore, the principle of SPI workshops joined to thematic events organised by RACs has been agreed.

2. The first workshop, organized by Plan Bleu, took place in Sophia Antipolis (France) in December 2015. The objective was to bring together key stakeholders (scientists and policy makers) to discuss the implementation of science-policy interface (SPI) activities for IMAP. During this workshop, a first set of around 15 key cross-cutting and topic-specific knowledge gaps to be filled for the implementation of IMAP was identified, along with proposed actions to be taken to address these gaps. Since the Inception workshop held in December 2015, two SPI thematic workshops have been carried out: the second SPI workshop focused on IMAP pollution issues and was held as a specific session of a UNEP/MAP CORMON (Correspondence Group on Monitoring) on Pollution issues (19-21 October 2016, Marseille, France); the third meeting on SPI targeted biodiversity and MPAs and was held as a joint session of the 2016 Forum of Marine Protected Areas (MPAs) in the Mediterranean (Tangier, Morocco, 28th November 2016).

3. Further to the decision IG. 22/7 of COP19 of the Barcelona Convention in February 2016 adopting the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast (IMAP), the objective of this forth workshop on SPI was to highlight the usefulness of the Risk-based Approach (RBA) to develop and optimize strategies for monitoring to marine ecosystem and supporting the implementation of IMAP at regional and national levels. The concept of "risk" concerns the non-achievement of GES for the Mediterranean Sea following the 11 Ecological Objectives of the Ecosystem Approach.

4. The workshop was held back to back with the Meetings of the Ecosystem Approach (EcAp) Integrated Correspondence Group (CORMON) on Marine Litter, Biodiversity and fisheries, and Hydrography and coast co-organized by UNEP/MAP, MEDPOL, SPA RAC and PAP RAC. Joining the different events enabled to gather scientific researchers invited by Plan Bleu for the SPI workshop, scientific experts designated by governments of Contracting Parties to the Barcelona Convention to participate to the CORMON meetings, National Focal Points of UNEP MAP and RACs.

5. The meeting underscored the importance for countries to strengthen SPI in order to achieve Good Environmental Status (GES) and in particular for the following topics: marine litter, biodiversity & fisheries, hydrography and coast. In particular, the session focused on the Risk-based Approach (RBA), a transversal approach which was identified as an overarching principle for the IMAP of EcAp.

Participation

6. The meeting was attended by participants from the following Contracting Parties: Albania, Bosnia & Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Montenegro, Morocco, Slovenia, Spain, Tunisia and Turkey. The UNEP/MAP Secretariat was represented by the MED POL Programme, Plan Bleu, SPA/RAC, PAP/RAC and INFO/RAC. The meeting was also attended by the Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), the European Environmental Agency

(EEA) and the International Union for Conservation of Nature (IUCN), as well as by several key scientific experts working in national institutions and regional projects. The full list of participants is attached as Annex IV to the present report.

Agenda item 1. Opening of the Meeting and organizational matters

Opening of the Meeting

7. Ms. Itziar Martín Partida, Technical Director of the Division for the Protection of the Sea at the Spanish Ministry of Food, Agriculture and Environment, opened the meeting as representative of the host country and addressed some welcoming words to the participants.

8. Ms. Tatjana Hema, UNEP/MAP MED POL Program Officer, welcomed and thanked the participation of the attendees to the fourth Science Policy Interface (SPI) workshop. Ms. Hema highlighted the importance of linking decision makers and scientific experts towards increasing sustainability of human practices, and stressed that the development of SPI is becoming a priority for Contracting Parties to the Barcelona Convention. Therefore, the EcAp MED II envisages specific activities devoted to develop and strengthen SPI strategically, to reinforce the bidirectional communication between scientific and managerial communities. In this respect, she pointed out the importance of carrying out the SPI session in the framework of the integrated CORMON Meetings (i.e. Biodiversity and fisheries, Marine Litter, and Hydrography) to bring together country representatives, managers and high level experts from various academic fields to bridge existing gaps, allowing the implementation of IMAP.

9. Mr. Didier Sauzade, Plan Bleu Officer for marine ecosystems, presented the rationale of this workshop focused on strengthening the SPI in the field of the use of the Risk-based Approach (RBA) as a method aiming at both developing monitoring strategies to implement IMAP and dealing with the risks of not achieving Good Environmental Status (GES) in national waters. The RBA is an overarching principle of IMAP and may represent a method for joined-up thinking across scientists, managers and decision makers. Previous SPI workshops recommended thus holding a specific workshop on this approach. The overall objective of this workshop was to share experiences between countries on this approach, to exchange on the importance and usefulness of the RBA for IMAP implementation, as well as to provide recommendations for its application. The agenda of the workshop was then presented.

Adoption of the Agenda

10. The proposed Provisional Agenda appearing in document UNEP(DEPI)/MED WG.432/1 was adopted and appears as Annex I to the present report.

Election of officers

11. In accordance with the Rules of procedures for meetings and conferences of the Contracting Parties the meeting elected one (1) President, three (3) Vice-Presidents and one (1) Rapporteur from among the participants, as follows:

President:	Mr. Mohamed El Bouch, Morocco
Vice-President 1:	Mr. Mustafa Fouda, Egypt
Vice- President 2:	Ms. Jelena Knezevic, Montenegro
Vice- President 3:	Mr. Jesús Gago, Spain
Rapporteur:	Ms. Antoniadis Konstantinos, Cyprus

12. The Chair emphasized the need to bridge the gap between science, policy making and politics, in order to have a vision of the existing constraints and make the good decisions to progress towards achieving GES in the Mediterranean Sea by 2020.

Agenda item 2. State of play of the EcApMEDII Project

13. Ms. Gyorgyi Gurban, UNEP/MAP EcAp Project Manager, presented the status of implementation of the EcAp MED II project and the related output 3, dedicated to stronger Ecosystem Approach related science-policy interface strengthening in the Mediterranean. Ms. Gurban recalled that the EcAp process started almost a decade ago in Spain and has been since then reconfirmed through various decisions. The last one, related to IMAP, reflected one of the main EcAp's achievements, i.e. establishing for the first time an integrated monitoring programme in the Mediterranean. She also recalled that the EcAp MED II project was EU financed to strengthen capacities and integrate southern and eastern Mediterranean countries into the process, focusing on gaps existing in monitoring and specific needs.

14. In this respect, Ms. Gurban pointed out that previous CORMON meetings had recommended SPI development to ensure policy makers are aware of scientific projects, are able to take advantage of project results and can contribute to them by providing inputs and recommendations from administrations. She recalled that three previous SPI workshops had been carried out, involving the MED POL and different RACs (Plan Bleu and SPA/RAC), as well as scientific researchers and experts, managers in charge of IMAP implementation and representatives from CPs. She finally stressed the importance and usefulness of the RBA for the implementation of IMAP, common thread of the forth SPI workshop.

15. Ms. Gurban announced that, in order to facilitate the implementation of a national IMAP-derived programme, a system of data sharing and management at the regional level had been undertaken by INFO/RAC and that a funding strategy was being prepared to mobilize resources by the end of the year.

16. Mr. Antoine Lafitte, Plan Bleu, made a brief presentation on the progress achieved under Output 3 of the ECAP MEDII project, regarding Science-Policy Interfaces. Mr. Lafitte quickly remembered the activities conducted and envisaged, as well as their principal objectives. He made a quick review of the three SPI workshops already carried out and described their main results and outputs issued in support of the implementation of IMAP.

Agenda item 3. Introduction to the RBA for monitoring

17. Mr. Sauzade, Plan Bleu, introduced the RBA and its application to monitoring in the context of the IMAP implementation, in the fields of marine litter, biodiversity and hydrography (see Working document UNEP(DEPI)/MED WG.432/5).

18. Mr. Sauzade started his intervention recalling that the RBA is an overarching principle of IMAP, and highlighting the interest of dedicating one SPI session to this approach. He pointed out that the RBA allows dealing with uncertainty in the attempt to reach Good Environmental Status (GES). Uncertainty is an implicit aspect in the field of the environment, especially regarding the marine environment and its management, since many valuable ecosystem components are to be protected while there is still much high uncertainty about threats and risks affecting them.

19. Mr. Sauzade highlighted the advantages of the application of the RBA, as an approach allowing balancing different languages and information coming from various sources (managers, decision-makers, scientists, other) that provides a base for a good communication. In addition, it is a method that enables identifying and prioritizing research needs for the implementation of monitoring, and provides a framework for the management of environmental risks according to different criteria (such as risk exposure, related effects and severity of impacts, determination of risk levels, etc.) allowing for prioritization. The implementation of the RBA requires going through a series of stages, including problem formulation, hazard identification, risk analysis (likelihood of exposure and environmental effects), and characterization of risks. The RBA is part of the preparatory phase of the strategic cycle that links monitoring, assessment and management, related to the determination of what and where to monitor. This preparatory phase includes tasks that are intuitive to a certain extent, related to the

collection of data on human activities and environmental systems, the identification of components present in the region to be evaluated and monitored, and the definition of ecologically relevant areas for assessment, as well as reference states and targets.

20. Mr. Sauzade stressed that, for the definition of the object of monitoring, it is necessary to identify components and locations likely to be at most risk of impact from human activities. Therefore, the risk of impact needs to be assessed (i.e. in terms of intensity, frequency and geographical extent of pressures) for each component. As a result, a set of components and locations ranging from expected high impact to low or no impact (reference areas) are to be compiled, and prioritised according to the risk of not achieving the established targets. In order to prioritise, the spatial and temporal occurrence as well as the intensity of pressures are to be considered. GIS tools are recommended to overlap and link different data in order to identify critical areas.

21. In conclusion, Mr. Sauzade stated that the RBA is a convenient way to design and optimize marine and coastal environmental monitoring and assessment strategies, as well as to improve their cost effectiveness. Therefore, it is believed a useful tool providing significant support in the implementation of IMAP.

Agenda item 4. Presentation of experiences on risk-based approach related to monitoring

22. Mr. Pascal Peduzzi, UNEP GRID, delivered a presentation on “Supporting monitoring with data, models and dissemination platforms”.

23. Mr. Peduzzi showed how the development of tools, capacities and expertise regarding data acquisition and processing (i.e. modelling, programming, remote sensing, infrastructure for spatial data management and storage, maps and graphs, GIS, web mapping, or capacity building) allows spatially approaching and monitoring environmental states and pressures over time, from local to global scales, based on UNEP GRID’s experience. He made particular focus on Mediterranean marine and coastal environments and provided various examples of the use of tools for spatial monitoring of specific pressures and environmental state changes (e.g. use of remote sensing for mapping and classifying marine ecosystems, as well as for mapping, modelling and assessing coastal evolution and erosion processes; mapping and evaluating the intensity of (e.g. fishing) activities; or assessing distribution and intensity of environmental pressures, such as oil spills). Mr. Peduzzi finally stressed the importance of disseminating and sharing data, and of the use of web services to make them available and interlinkable.

24. Mr. Andreas Paliaexis, from the European Commission, presented the “JRC’s experiences on RBA for Biodiversity within the frame of the implementation of the MSFD: General methodology and concepts of RBA”.

25. Mr. Paliaexis highlighted the alignment between the EU MSFD and the UNEP/MAP EcAp Initiative, in terms of EO and indicators, and highlighted the opportunity for the EcAp process to build on MSFD experiences for IMAP implementation. In this sense, he stressed the usefulness of the RBA given the different capacities, and therefore needs, of CPs. Considering that assessing biodiversity is an ambitious and resource-demanding task, the RBA provides a framework for a pragmatic design of environmental monitoring. It provides guidance for prioritization based on relevancy of ecosystem components in terms of ecological value, types of human activities, impacts of pressures and risk to biodiversity of non-achieving GES. RBA can help CPs focus and allocate resources on particular needs, thus adopting cost-effective practices. Mr. Paliaexis also pointed out some aspects of the RBA requiring further efforts, such as the identification of causal relationships between pressures and states; the way ecosystem respond to managerial actions, since multiple pressures act simultaneously; as well as linking the level of pressures and impacts to GES thresholds.

DISCUSSION

26. Participants expressed interest on the RBA through a rich exchange of views after the morning presentations. They agreed that the concept of risk was intuitive and shared, and that the application of the RBA appealed to common sense. However, they highlighted the complexity of the experiences presented, related to the application of methods. They also underlined the need to further develop on the cost-effectiveness aspect of the approach, for instance by developing methodological guidelines, in order to allow understanding how to conceive more efficient and less costly monitoring networks, in particular in countries with limited resources.

27. Despite a number of expressed methodological difficulties regarding the application of the approach, participants agreed that these could be overcome as there exist wide opportunities in developing new monitoring strategies. In this respect, they highlighted the need to grab the opportunity represented by the next update of the National Assessment Programmes (NAPs) for the application of the RBA at the national level.

DISCUSSION

28. After presentation of a number of issues related to RBA to be addressed in priority for the implementation of IMAP at the national level (appearing in Annex II to the present document) a discussion session was opened. The issue of the application of the RBA in relation to non-indigenous species (NIS) raised a number of participant interventions, dealing mostly with their recommendation to focus on areas easy to monitor as well as to include NIS hotspots, such as areas close to the Suez Canal or to ports facilities, besides Marine Protected Areas (MPAs). Furthermore, participants asked to consider separately NIS and AIS (alien invasive species) by reason of the differences they pose in terms of threat and risk; while NIS might not necessarily pose risk of disturbance to indigenous species, AIS might need surveillance and early warning system(s) allowing taking the necessary measures to avoid or mitigate their impacts.

29. Another issue that raised interest was the development of joint or integrated thematic monitoring, that is, the design of monitoring strategies allowing measuring different parameters simultaneously, as a way to become cost effective.

30. On the other hand, the rapid assessment method was suggested as a useful method that could be considered in the preparation of national monitoring programmes, since it allows for a quick evaluation of the existing monitoring methods for the different ecosystem components, in order to select the most suitable one(s) for each case. In this sense, the use of this “rapid assessment” could also contribute to enhance the cost effectiveness of the regional and national monitoring strategies (link: <http://www.mass.gov/eea/docs/czm/invasives/ras-2013-final.pdf>).

31. Overall, participants recognized that the RBA provides an approach understood both by scientists and decision makers, and constitutes thus a common language. They also noted that there is a link between RBA and the risk-based management regarding the need to concentrate resources and efforts to address identified priorities.

32. At the end of the session, participants expressed their concern regarding the issue of (temporal) sustainability of the several different SPI networks already in place.

Agenda item 5. SPI good practices and examples of risk-based approach

33. Mr. François Galgani, IFREMER, presented “How to address research needs for the marine litter and micro litter indicator related to biota”.

34. Mr. Galgani recalled that three Common Indicators (two validated, one remaining Candidate) had been set up to assess marine litter under EcAp. He also recalled the origin of plastic waste in the

production and consumption chain, as well as the different plastic litter types in the marine environment ranging from micro to macroplastics, causing different economic, social and environmental impacts. In the framework of IMAP, Candidate Indicator 24 calls for the selection of sentinel species to monitor impacts of plastics. In this respect, the RBA provides a risk assessment framework useful to define areas to monitor, based on the identification, analysis and evaluation of risks, as well as in terms of relevancy of impacts. High risk areas might be identified and prioritized by overlapping information (from observational data or modelling) of the spatial distribution of litter and relevant ecosystem components (e.g. sea turtles, fish populations) or human uses (e.g. tourism, fisheries).

35. Ms. Kalliopi Pagou presented “The implementation of a joint marine monitoring for the Mediterranean. Experiences from the IRIS-SES project”.

36. Ms. Pagou recalled that the Integrated Regional Monitoring Implementation Strategy in the South European Seas (IRIS-SES) Project is a pilot project (2014-2015) set in the framework of the EU MSFD. The MSFD involves increasing monitoring efforts, but foresees equal or less financing, and calls for coherence among MS to get comparable results. Therefore, the project envisaged highlighting opportunities to carry out joint monitoring programmes (JMP), through the identification of links between different MSFD monitoring requirements, in order to develop decision making tools to support management. Gathering data on socioeconomic maritime sectors and pressures, on the one side, and on ongoing monitoring programmes, on the other side, allows overlapping information and thereby provide recommendations for the planning of a monitoring strategy further focusing on identified needs. Some lessons can be drawn from IRIS-SES, namely: the need for strong coordination among countries, to develop comparable methods and carry out similar practices (including intercalibration) allowing for the comparability of resulting data; or the need for a data repository, well-coordinated and top-down managed to ensure data quality. Ms. Pagou also insisted on the fact that JMP should be based on existing monitoring programmes and strategies, and suggested that MPAs could serve as opportunities to implement them.

37. Mr. Stelios Katsanevakis, Aegean University, provided a visual presentation on “Methods for monitoring marine alien invasions and their impacts on biodiversity”.

38. Mr. Katsanevakis stated that the objective of his intervention was to present tools generating products easily understandable by policy makers and, therefore, providing answers to their needs regarding biological impacts of alien invasive species (AIS). The first method, the CIMPAL index, was created to reflect impacts of high alien species richness in the Mediterranean, based on the number and abundance (or presence) of invasive species, the extent of affected habitats (coverage or presence/absence), and impact weight of species in specific habitats, ranging from no impact to individual, population or community impacts. The CIMPAL index allows for determination of hotspot areas on which impacts of AIS are higher, therefore indicating areas (and species and/or habitats) to be prioritized for management actions. On the other hand, a second methods estimating AIS occupancy was presented. Occupancy - the probability of a species (AIS in this case) to be present in a specific area- is estimated based presence/absence data, yet going beyond and providing a rough estimate of population state. It was pointed out that collection of information to be used in the application of this method is easy and cheap to collect. Moreover, it was stressed that the method can be used in many studies, e.g. of distributional range and/or temporal trends (useful for IMAP’s Common Indicator 6) as well as in large-scale monitoring programs (dealing with large-scale coverage and different species). This method also issues areas showing different levels of AIS occupancy; areas of higher occupancies can be prioritized for management actions to control AIS populations.

39. Mr. Samir Grimes, from the Algerian National School of Marine Sciences and Coastal Management, presented the “Risk-based Approach for monitoring marine litter, coastal georisks, biodiversity and fish stocks. State of play and perspectives in Algeria”.

40. Mr. Grimes recalled that environmental surveillance and monitoring have often been based on risk and vulnerability evaluation and that in the framework of the EcAp Initiative it is necessary to

develop a management system based on agreed tools, indicators and standards. He underlined the need to act in a coordinated, efficient and durable way so that different institutions (academic, administrative, etc.) meet requirements from different agreements in an optimal manner. In Algeria, in order to identify where to allocate resources, a synthetic map of the coastal zone based on scientific works has been produced to display no-data areas, high biodiversity richness areas, zones of intense pressures and, as a result, areas of high vulnerability (hotspots). Capturing together all this information will allow conceiving a systematic and comprehensive monitoring system covering the entire coastal zone, focusing on ecosystem components and human pressures, as well as the standardization of data according to a number of biotic indices. A series of examples were provided, regarding the monitoring of old (algae blooming, coastal erosion) and new issues (e.g. marine litter). Finally, Mr. Grimes concluded by highlighting some critical aspects in need of further efforts to overcome existing constraints, namely: improving data collection (also, and especially, socioeconomic and institutional); improving involvement and consultation of stakeholders, to enhance intersectoriality; or developing a medium and/or long term strategy allowing for the development of capacities, knowledge, and allow time to reach process objectives.

41. Ms. Claudette Spiteri, Deltares, delivered a presentation on the “Link to the usefulness of RBA for hydrography and coast monitoring”, to address Common Indicator 15 on the extent of the habitats impacted by hydro alterations.

42. Ms. Spiteri pointed out the Deltares guidance document to assess changes in hydrographical conditions, which could be of use under IMAP. She referred to the RBA as a pragmatic approach allowing for the prioritisation of monitoring strategies and assessment, thereby managing large scales and keeping monitoring requirements practicable. Indeed, the RBA allows considering variation in scale, and areas of high pressures and high vulnerability. A three-step method was proposed for the assessment: the characterization of baseline hydrographical conditions (i.e. without structures, through monitoring and modelling); the assessment of hydrographical alterations induced by new structures (modelling); and assessment of habitats directly impacted by hydrographical changes (through overlaying alterations with habitat maps). In the framework of IMAP, there is a need to identify significant alterations (i.e. pressures acting on biological habitats) of hydrographical conditions as well as to focus on vulnerable types of habitats (MPAs, breeding, spawning, etc.) in order to produce a final spatial map of the areas where hydrographical changes overlap key habitats. Ms. Spiteri underlined the need to determine the resolution/accuracy required in each case (i.e. spatial scales), according to the specific topography/ bathymetry, and taking into account that a data gradient exists between coastal and offshore areas. She also stressed that significant alterations might be evaluated through long-time series to distinguish them from natural variability. Ms. Spiteri ended by highlighting the opportunity brought by the assessment of EO7 to enhance SPI, due to the fact that scientific models are to be developed in line with policy requirements and partnerships will thus be needed between administrative bodies and the scientific communities.

43. Mr. Anthony M. Knights, Marine Biology and Ecology Research Centre at Plymouth University, presented “An exposure-effect approach for evaluating ecosystem-wide risks from human activities: the experience of the ODEMM project”.

44. Mr. Knights recalled the valuable resources and ecosystem services provided by marine environments and the effort undertaken under the Millennium Assessment (2005) to reach consensus among stakeholders to quantify them. Under the ecosystem approach, He pointed out three interlinked spheres under the ecosystem approach,

45. Mr. Knights highlighted the complexity of interlinkages between drivers, pressures and states. Under the ODEMM Project, in order to evaluate threats and risks, an attempt to map and weigh existing relationships between maritime socioeconomic sectors, environmental pressures impacting the environment, and ecosystem components experiencing state changes resulted in a picture reflecting the complex networks of ecosystem interactions (almost 10 000 recorded) in different regions from different sea basins. The threat each interaction poses to ecosystems was characterised and evaluated through expert judgement, in terms of habitat’s spatial extent, frequency, degree of impact (severity) and

persistence of pressures, and ecosystem resilience. This holistic methodology, based on the impact chain concept, allows evaluating risks from larger to lower scales and provides an integrated assessment of risk and management potential as it supports the setting of specific targets. It can help targeting key risk factors, by focusing on specific interests such as key sectors and related pressures, in order to assess the effects of management options regarding reduction of risks, since it allows identifying fast and slow recovery systems after implementing managerial measures. It is therefore a methodology suitable to underpin the decision-making process in order to render it more transparent and provide clear justification of trade-offs made.

DISCUSSION

46. Following presentations of scientific experts, a new discussion session was opened to allow participants to provide further recommendations on how to apply RBA for the implementation of IMAP.

47. Participants agreed on the usefulness of the RBA to help defining priorities among “risks” for environmental management and the need to further work and develop on it to facilitate its application in the framework of IMAP.

48. Participants acknowledged that the objective of the RBA is not the acquisition of knowledge in itself, but ensuring that we do not take unacceptable risks to society; in fact, the approach draws upon scientific knowledge that allows reaching an acceptable level of risk. In this context, the development of SPI platforms can be of particular interest for the optimal application of the RBA in the design of monitoring strategies for IMAP. In addition, it was noted by participants that the assessment of state changes (DPSIR approach) can provide an opportunity for the application of the RBA, in order to evaluate acceptable and unacceptable risks; however, the application of the RBA requires scientific knowledge regarding pressures, state changes and impacts (on human welfare).

49. Participants agreed that, in order to seek simplicity, the RBA needs to be applied by using existent and available data, taking into account that decision will certainly need to be made in a context of uncertainty. In this respect, whenever a notion of relationship between pressure and state changes exists, there will be an opportunity to implement the RBA, as it is considered that existent data provide sufficient knowledge to apply this approach.

50. In addition, it has been noted that participative sciences might partially allow compensating for scientific knowledge deficiencies in the framework of the RBA. Some participatory techniques, such as the “world café” have been suggested as useful to gather expert advice and opinion.

51. Finally, participants noted that SPI allows overcoming some critical concerns rising from the fact that time periods necessary to carry out scientific work differ from timing dictated by politics.

Agenda item 6. Recommendations on how to use the RBA to implement national IMAP for the three clusters

52. The Secretariat presented the Conclusions and Recommendations of the meeting which after minor changes were adopted and are included in Annex III to this report.

Agenda item 7. Any Other Business

53. Under the eight Agenda item, participants didn't raise and discuss any other matters.

Agenda item 8. Closure of the meeting

54. The President concluded the meeting and thanked the participants in his closing remarks for their constructive contribution to the meeting which resulted in the very good consensus about the way forward for the next steps in the implementation of IMAP. The Secretariat and Plan Bleu celebrated their fruitful collaboration and noted with thanks the significant guidance and inputs during the meeting, which allowed providing substantial recommendations for the progress of monitoring initiatives at the regional and national levels, as well as for the improvement and strengthening of SPIs to contribute to the successful implementation of IMAP across the region.

After the expression of usual courtesies, the President declared the meeting closed at 18.30 p.m. on Thursday 2nd March 2017.

Annex I
Agenda of the Meeting

Provisional Annotated Agenda

2nd march 2017

Agenda item 1: Opening of the Meeting and organizational matters (9.00-9.15)

UNEP(DEPI)/MED WG.432/1, UNEP(DEPI)/MED WG.432/2

The Meeting will be opened by Ms. Tatjana Hema, MAP Deputy Coordinator and Plan Bleu Representative.

The Meeting will elect one (1) President, three (3) Vice-Presidents and one (1) Rapporteur from among the participants.

The proposed provisional agenda appearing in document UNEP(DEPI)/MED WG.432/1 and annotated in the present document will be proposed for adoption by the meeting. The meeting will review and adopt the agenda and the proposed timetable contained in the Annex to the present document, including as appropriate issues suggested to be addressed under the item “Any other business” of the provisional agenda.

Simultaneous interpretation in English and French will be available for the plenary sessions. Documentation will be in English and French. As per practice, pre-session documentation will not be distributed on paper. Participants are encouraged to download the documentation on their computers in advance of the session.

Sessions are scheduled every day from 09:30-12:30 and 14:30-17:30.

The Meeting is expected to adopt a list of Conclusions and Recommendations.

Agenda item 2: State of play of the EcApMEDII project (9.15 - 9.30)

The Secretariat will give a short presentation on the EcApMedII project and the related output 3 dedicated to stronger Ecosystem approach related science-policy interface in the Mediterranean. A document has been prepared in order to present the objectives and main outcomes of the previous SPI workshops (UNEP(DEPI)/MED WG.432/3).

Agenda item 3: Introduction on the RBA for monitoring (9.30-9:50)

(UNEP(DEPI)/MED WG.432/4), (UNEP(DEPI)/MED WG.432/5)

Plan Bleu will introduce the Risk-based approach for marine monitoring (UNEP(DEPI)/MED WG.432/4) presented in the Background document related to on Risk-Based Approach (RBA) (UNEP(DEPI)/MED WG.432/5) and its usefulness for IMAP implementation (UNEP(DEPI)/MED IG.22/28).

Agenda item 4: Presentation on risk based approaches related to monitoring (9.50-10.45)

This session will be structured around 2 presentations done by UNEP Global Research Infrastructure Database in Geneva and Joint Research Centre (JRC). The JRC will make a presentation on the usefulness of Risk based approach (RBA) for Marine Litter Monitoring in Mediterranean and for Biodiversity within the frame of the implementation of the MSFD: General methodology and concepts of RBA.

DISCUSSION (11.00-12.30)

Following the above presentations and a synthetic presentation of issues identified as priorities on the use of RBA for the implementation of national IMAP and specifics of marine litter, biodiversity and fisheries and coastal and hydrography monitoring (UNEP(DEPI)/MED WG.432/4), participants will embark on a discussion and provide recommendations on the application of RBA for IMAP implementation and will give directions on further work related to SPI and on Risk-based approach for marine monitoring.

Agenda item 5: SPI good practices and examples of risk based approach (14:00 - 16:15)

A series of presentations will be delivered by F. Galgani, Ifremer, France; K. Pagou, HCMR, Greece; S. Katsanevakis, Egean University, Greece; S. Grimes, ENSMAL, Algeria; C. Spiterri, Deltares, Netherlands; A. Knights, University of Plymouth, UK; on : SPI good practices and examples of risk based approach to give an overview of the existing use of RBA for monitoring to marine litter, marine biodiversity, coast and hydrography at Mediterranean and national levels and related to the corresponding MAP Ecological objectives and IMAP indicators.

- How to address research needs for the marine litter and micro plastics indicator for biota, related to the application of the RBA for IMAP.
- The implementation of a joint marine monitoring for the Mediterranean. Experiences from the IRIS SES project.
- Developing and applying methods for marine monitoring. A focus on marine alien invasions and their impacts on biodiversity.
- Risk Based Approach for monitoring to Marine litter, coastal geo-risks, biodiversity and fish stocks. State of play and perspectives in Algeria.
- Presentation on MAP EO7 (Hydrography) and common indicator 15 and link with the usefulness of RBA for hydrography & coast monitoring
- An exposure-effect approach for evaluating ecosystem-wide risks from human activities: the experience of the ODEMM project

Following these presentations participants will undertake discussions and provide further recommendations on how to apply RBA for IMAP implementation.

Agenda item 6: Recommendations on how to use the RBA to implement national IMAP for the three clusters (16.30-17.15)

This session will review and agree as appropriate on a set of recommendations formulated by the audience n the risk based approach (RBA) to monitoring and assessment in order to support national IMAP implementation.

Agenda item 7: Any Other Business (17.15-17.30)

Agenda item 8: Closure of the meeting (17.30)

The Chairperson will close the Meeting at 17.30 hours on 2nd march 2017.

DRAFT TIMETABLE

Thursday, 2nd March 2017	
8.30-9.00	<i>Registration</i>
9.00-9.15	<i>Agenda item 1: Opening of the Meeting and organizational matters</i>
9.15-9.30	<i>Agenda item 2: State of play of the EcApMEDII project</i>
9.45-10:00	<i>Agenda item 3: Introduction on the RBA for monitoring</i>
9.50-10.45	<i>Agenda item 4: Presentation on risk based approaches related to monitoring</i>
11.00-12.30	<i>Discussion</i>
12.30-14.00	<i>Lunch Break</i>
14:00 - 16:30	<i>Agenda item 5: SPI good practices and examples of risk based approach</i>
16.30-17.15	<i>Agenda item 6: Recommendations on how to use the RBA to implement national IMAP for the three clusters</i>
17.15-17.30	<i>Agenda item 7: Any Other Business</i>

Annex II
Issues to be addressed for the implementation of IMAP at the national level in relation to RBA

Issues to be addressed for the implementation of IMAP at the national level in relation to RBA

1. **Which scientific improvements are needed the most for RBA practical implementation in relation to IMAP** (monitoring, evaluations and management)?
2. **More precisely, in line with IMAP, under practical implementation of RBA:** *“areas that are under high pressures and the biota that are known to be more sensitive would be identified”*.

What **scientific tools** are available?

3. As for **sensitive biota**, should the focus be on:
 - **Habitats**
 - **Spawning, breeding and feeding areas**
 - **Marine Protected Areas**
 - **Migration routes**
 - **Other?**

What **priorities**, if any, could be made between them?

As a **practical & cost-effective approach**, could the focus be on MPAs?

4. In relation to **non-indigenous species (NIS)**, is there a **need for a different approach than the one adopted to monitor biodiversity common indicators?**
5. Which are the **main elements to consider for the optimization of monitoring strategies, in line with the RBA?**
6. In relation to marine litter, in terms of distribution and quantities (especially for micro-plastics), **what are the key steps / elements to locate hotspots?**
7. Regarding Common Indicator 15 (Location and extend of the habitats impacted directly by hydrographic alterations), **how to monitor the areas subject to hydrographical changes taking into account the spatial distribution of habitats?**
8. In relation to Common Indicator 16 (coastal monitoring), **how urbanized areas in the vicinity of sensitive habitats can be highlighted?**
9. In relation to Candidate Indicator 25 (land use change), in line with RBA, **how to put the focus on areas of valuable habitats that were lost due to land use change? (e.g. changes from natural to urbanized areas)**
10. **Are there any opportunities for joint / integrated monitoring?**
 - of Marine litter with other Pollution and Biodiversity Indicators?
 - of seafloor litter and fish stock assessment surveys?
 - of addressing selected Biodiversity and Coastal Indicators?

Annex III
Conclusions and Recommendations

Recommendations and conclusions of the Workshop on Science Policy Interface (SPI) strengthening for the implementation of the IMAP in relation to Marine Litter, Biodiversity and Fisheries, Hydrography, with a focus on the Risk Based Approach (RBA) for monitoring

The Workshop dedicated to the SPI with a focus on the usefulness of RBA to monitoring has gathered the attendants of the Marine Litter, Biodiversity and fisheries and hydrography and coast CORMONs and scientific experts invited by Plan Bleu. It was acknowledged by the participants that the strengthening of Science Policy interface should be a very important component for IMAP implementation.

The Workshop resulted in the following recommendations and conclusions:

1. Based on the presentations regarding practical RBA applications, the meeting acknowledged that this approach is an efficient tool to develop monitoring and assessment schemes and enhance integration between Ecological Objectives.
2. The meeting recognized the important of RBA for (i) optimizing existing national coastal and marine monitoring programmes; and (ii) allowing prioritization of measures to be taken.
3. The RBA was agreed to be an approach offering benefits both for policy makers and for scientists in order to prioritize and ensure cost effectiveness on common grounds;
4. The meeting highlighted that in order to efficiently apply the RBA, there is a need to work towards shared methods related to different Ecological Objectives;
5. The meeting recognized the need for strong coordination on national level between various sectoral, administrative services and scientific experts who work on various aspects related to IMAP.
6. The meeting encouraged Contracting Parties to further exchange best experiences on their applications of the risk based approach in relation to IMAP implementation;
7. The meeting highlighted the benefits of integration and the importance of joint thematic monitoring to ensure coherence and cost efficiency.
8. The meeting highlighted that the RBA could be applied for monitoring and assessment of the environment to manage human activities and to support the Marine Spatial Planning.
9. The meeting highlighted that the development of guidelines to implement RBA could be useful for whom decide to use such approach in line with specific needs of IMAP, in a simple, user-friendly and concrete form, to provide a common language both for scientists and for monitoring experts and decision-makers on how RBA can guide their implementation efforts related to IMAP in a cost-efficient manner.
10. The meeting highlighted the need for capacity building and sharing of best practices in order to support those who chooses to apply RBA in the national monitoring schemes.
11. The meeting agreed on the further need, for implementing IMAP, also taking into consideration RBA, if suitable and needed, to address the issue of appropriate temporal and geographical scales for monitoring, reporting and assessment in the context of IMAP.

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