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AN ASSESSMENT OF ASSESSMENTS

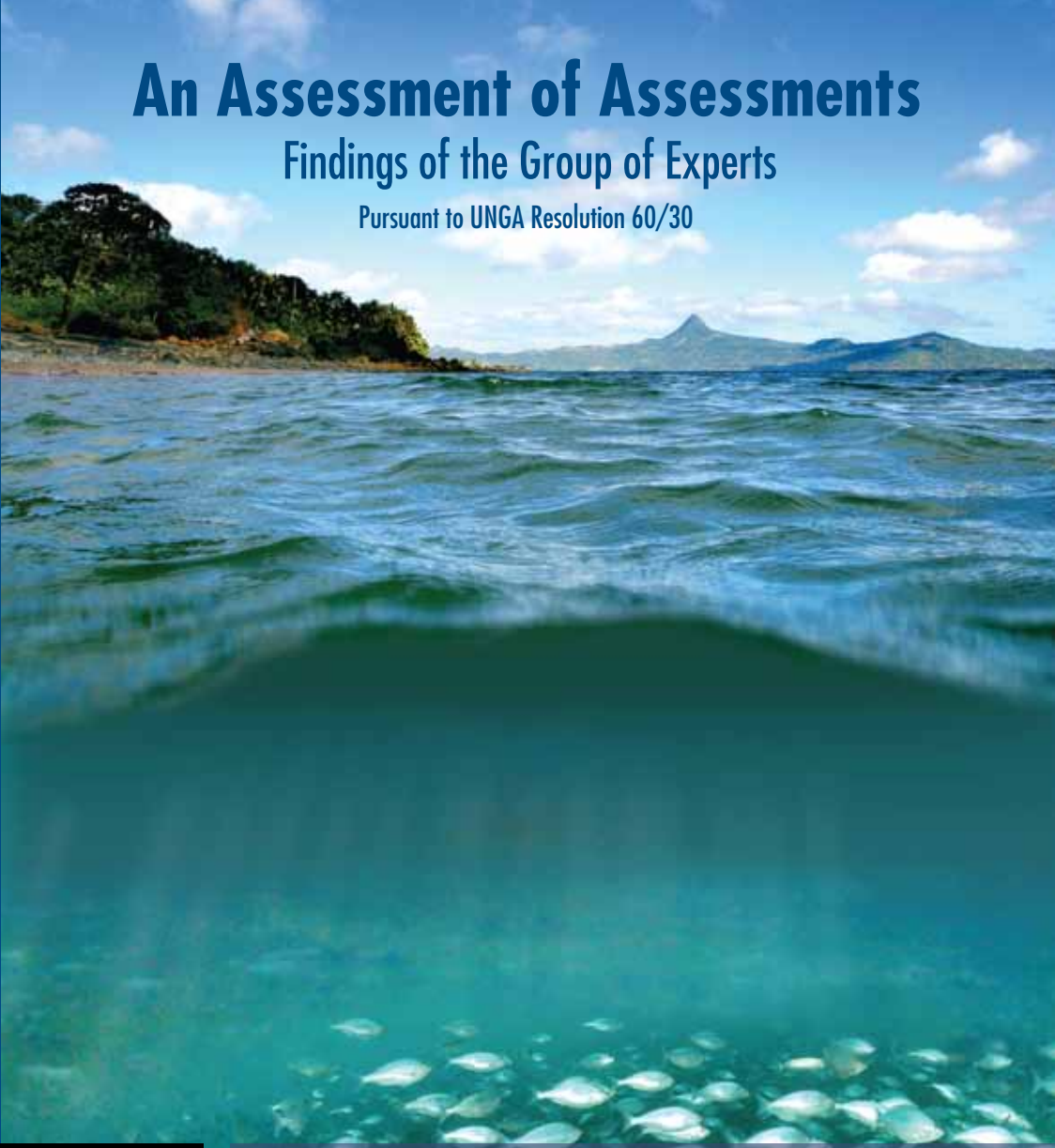
Findings of the Group of Experts

Summary for Decision Makers

An Assessment of Assessments

Findings of the Group of Experts

Pursuant to UNGA Resolution 60/30



UNEP

United Nations Educational, Scientific and Cultural Organisation

Intergovernmental Oceanographic Commission

Start-up Phase of a Regular Process for Global Reporting and Assessment of the State of the Marine Environment including Socio-economic Aspects

Summary for Decision Makers

An Assessment of Assessments

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An Assessment of Assessments

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Summary for Decision Makers

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In memory of our friend and colleague Umit Ünlüata.

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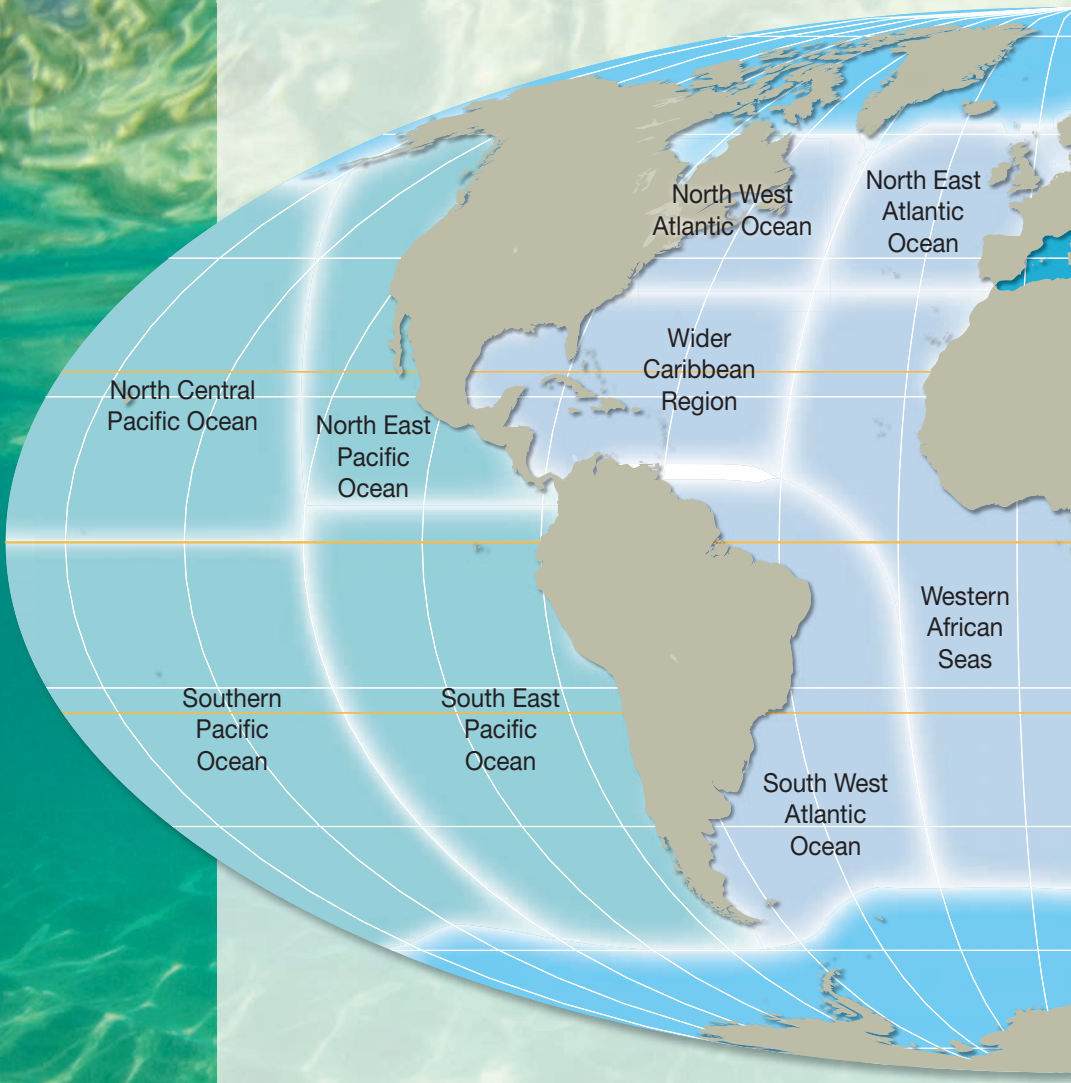
AoA Regions



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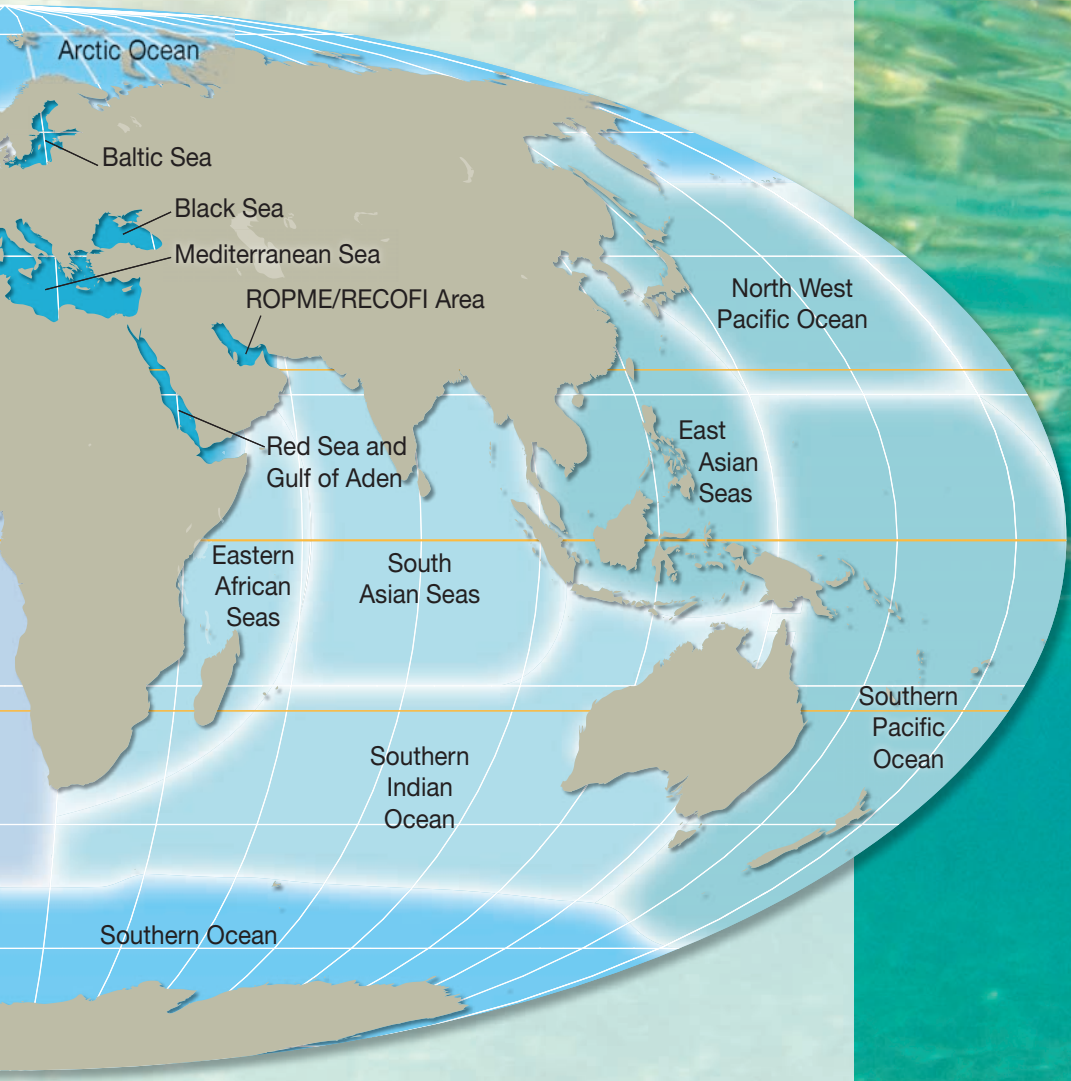

Foreword

Oceans and seas cover over 70 per cent of the Earth's surface, yet despite their central role in the economic, environmental and social affairs of six billion people, significant gaps exist in our understanding and management of the complex processes and trends at work including on the high seas.

There are several factors behind this. These range from a failure to integrate the numerous current assessments into a meaningful whole and a fragmented institutional landscape to a lack of capacity in some regions.

In 2002 governments at the World Summit on Sustainable Development (WSSD) moved to address the issue by deciding to keep the oceans under permanent review.

The "Assessment of Assessments" (AoA) is a start-up phase towards a Regular Process for global reporting and assessment of the state of the marine environment that takes the WSSD decision forward. It was initiated in response to a UN General Assembly Resolution in 2005.

The AoA represents the most comprehensive initiative undertaken to date by the UN system to better coordinate ocean governance. Its central recommendation calls for a mechanism that builds on existing global, regional and national institutions and processes while integrating all available information, including socio-economic data, on how our seas and oceans are actually being used.

Carried out through a regular process, this could play a major role in helping decision-makers find and apply sound and sustainable solutions to the challenges being faced.

The realization of the report has been a model of the UN 'Delivering as One'. Led by the United Nations Environment Programme and UNESCO's Intergovernmental Oceanographic Commission, it has included agencies such as the International

Maritime Organization, the World Meteorological Organization and the Food and Agriculture Organization.

Meanwhile, hundreds of scientists, experts and government representatives have participated not least in the peer-review of this report. The report is being presented to the *Ad Hoc Working Group of the Whole*, convened to recommend to the 64th session of the UN General Assembly a course of action on the Regular Process.

A positive endorsement will make good on the WSSD commitment. Crucially it will also pave the way to a first global integrated ocean assessment by 2014. It cannot come a moment too soon. Dramatic and profound changes are sweeping across the world's oceans and seas and their economically-vital ecosystems.

The clearing of mangroves and coastal wetlands to over-exploitation of fish stocks and rising tides of pollution are challenging the marine realm's ability to sustain livelihoods and life itself.

Meanwhile climbing concentrations of greenhouse gases – equal to a third or more of annual CO_2 emissions – are being absorbed, triggering mounting concern over the future marine food chain.

Koïchiro Matsuura

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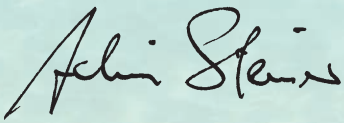

UN Under-Secretary General and Executive Director of the United Nations Environment Programme


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INTRODUCTION

In 2002, the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, supported actions at all levels to "*establish by 2004 a Regular Process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments*" (Johannesburg Plan of Implementation (UN 2002)). This was endorsed by the United Nations General Assembly (UNGA) later in 2002 (Resolution 57/141).

In 2005, the UN General Assembly launched the "Assessment of Assessments" (AoA) as a preparatory stage towards the establishment of the "Regular Process." Resolution 60/30 called for the establishment of an *Ad Hoc Steering Group* (AHSG) to oversee the execution of the AoA and a *Group of Experts* to undertake the actual work. It invited the *United Nations Environment Programme (UNEP)* and the *Intergovernmental Oceanographic Commission (IOC) of UNESCO* to serve as lead agencies for the process to provide secretariat services and coordinate the work.[1]

In 2006, the UN General Assembly, in the context of ecosystem approaches to the oceans, noted that the continued environmental degradation in many parts of the world and the rise in competing demands required an urgent response and the setting of priorities for management interventions aimed at conserving ecosystem integrity. It drew attention to consensus that "ecosystem approaches to ocean management should be focused on managing human activities in order to maintain, and where needed, restore ecosystem health to sustain goods and environmental services, provide social and economic benefits for food security, sustain livelihoods in support of international development goals…, and conserve marine biodiversity" (Resolution 61/222).

1 See www.unga-regular-process.org

Opportunities to demonstrate concrete achievements through the Regular Process:

- 2010, the WSSD target encouraging application of the ecosystem approach to ensure sustainable development of the oceans;
- 2012, ten years since the WSSD recommended setting up the Regular Process;
- 2014, the 20th anniversary of the entry into force of the United Nations Convention on the Law of the Sea (UNCLOS); and again
- 2014, when the Commission on Sustainable Development (CSD) is expected to reconsider oceans.

THE RATIONALE FOR THE REGULAR PROCESS

Humans depend upon healthy oceans and well-functioning marine ecosystems for goods such as food, medicine and energy and to protect their communities from severe storms. The oceans sustain major industries such as fisheries, petroleum, shipping and tourism. They are vital for the planet's life support processes – they play an essential role in global climate, the water cycle and the circulation of nutrients and in delivering oxygen to the air and absorbing carbon dioxide, and they create the habitat needed by marine species to survive. Culturally, marine life and landscapes have great spiritual, aesthetic and recreational values.


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As 71% of the Earth's surface, the oceans long seemed immense, inexhaustible and impervious to human influence – an enormous reservoir to be exploited and utilized. Today there are many signs that marine ecosystems are experiencing unprecedented environmental change, driven by human activities. Pressures from fishing, pollution from land-based and sea-based sources, marine

debris, the loss and degradation of valuable habitat and invasions by non-native species are growing worldwide. Each of these pressures may affect marine species, water quality or habitat, directly and indirectly. The cumulative and interactive effects of different natural and human-induced pressures over time can seriously disrupt whole ecosystems and the goods and services they provide.

Marine monitoring and research are the basic tools for understanding what is happening in the oceans, why, and how effective response measures have been. Assessment assembles this knowledge in a form useful for decision making. It can tease out the *relative* significance of different oceans problems and their causes – in environmental, social and economic terms, and it can analyze response measures showing what has worked and the likely consequences of various options for future action. *Regular* assessment is an integral part of adaptive management that can respond to changing conditions.

Today there is no systematic effort to keep under continuing review the state of the world's oceans or the sustainability of how humans use and manage them. Without baselines and reference points, it is impossible to place current status and recent trends into historical contexts. There is limited ability to detect or predict indirect and cumulative effects, some of which may only become apparent after long time lags. In all regions, more integrated, ecosystem-based approaches are needed in order to assess how to sustain ecosystem goods and services and their social and economic benefits and how to avoid the risks of change for human well being.

It is essential to build on, guide and strengthen existing marine assessments in order to advance a more coherent global system that clarifies and recognizes linkages – within ecosystems, between regions and in relation to how land-

based and riverborne inputs and climate change affect the state of the marine environment – in order to provide an overview of the state of the marine environment and its interaction with the world economy and human society. In many regions there is a need to strengthen capacity for utilizing data and information and to expand data collection and analysis in key areas necessary for informed decision making. Preserving and building on knowledge from one assessment to the next is vital.

There is no global forum to define assessment needs and consider findings regularly so that ocean pressures and linkages are tackled in an effective, integrated and timely manner, nor to provide guidance on the appropriate levels and mechanisms for decision making within the complex system of ocean governance. A regular global marine assessment process is a means of structuring existing information from different disciplines to enable new patterns and new understanding to emerge. It can stimulate further development of the information base, improve knowledge and methods of analysis, facilitate priority-setting at different levels and by linking potential solutions to identified problems, it can develop better guidance for policy-makers in a variety of sectors and fields. This will better serve progress not only toward the goals for sustainable ocean management set out in the WSSD Plan of Implementation but also toward the Millennium Development Goals adopted by the UN General Assembly.

For marine assessments to have *influence*, the processes which produce them must be perceived as *relevant, legitimate* and *credible* (see Box 2). This will require careful attention to ensure that the Regular Process is designed and operated in accordance with certain principles and best practice. In addition, collaboration among governments, international institutions and with other stakeholders will be essential for the establishment and operation of the Regular Process.


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THE MANDATE OF THE ASSESSMENT OF ASSESSMENTS

The mandate given the Assessment of Assessments was to:

a. Assemble information about marine assessments relevant to the Regular Process (see Chapter 3 and Annexes IV and V of the report);
b. Undertake a critical appraisal of the assessments in order to evaluate their scientific credibility, policy relevance, legitimacy and usefulness. The appraisal should, in particular, identify:
   (i) best practices and approaches (including assessment methodologies);
   (ii) thematic and geographic assessment gaps and needs;
   (iii) uncertainties in scientific knowledge, data gaps and research needs; and
   (iv) networking and capacity-building needs in developing countries and countries with economies in transition;
   (See Chapter 2 for the analytical framework, Chapter 3 for the evaluation of gaps and needs and Chapter 4 for the best practices.); and
c. Identify a framework and options to build the Regular Process, including potential costs, based upon current relevant assessment processes and practices (see Chapter 5).

THE FINDINGS OF THE ASSESSMENT OF ASSESSMENTS

Review of Existing Assessments and Findings

Chapter 3 of the AoA report summarizes and analyzes what was found in examining existing assessments in order to inventory candidate building blocks for the Regular Process and the gaps that need to be filled. It treats assessment *products* and *processes* separately. The relatively consistent information in the individual and regional templates, supplemented by the experts' judgment, allowed a systematic tabulation of assessment *products* across the AoA regions (see Box 1). Tables 3.1a and 3.1b in the report give an indication on the one hand of the coverage of ecosystem properties (water quality, living marine resources, habitat, lower trophic levels, protected species, social and economic conditions) and, on the other, of factors that affect the influence of the regional

Box 1: **The method of the Assessment of Assessments**

The Group of Experts established by the lead agencies and approved by the Ad Hoc Steering Group began work in 2006. It agreed on a strategy for examining existing assessments to identify coverage and gaps in data, information and assessments, both thematic and geographic, to examine the capacity to undertake marine assessments and the processes used, and to consider how existing assessments could contribute to the Regular Process. The Group:

- Identified 21 regions solely for the purpose of reviewing assessments at the regional level. (A schematic map of the regions can be found at the beginning of this report while a more detailed chart of regional institutions and processes is can be found in Annex I of the main report.)
- Examined a range of individual assessments within each region and produced an overview of assessment practices and products in the region, together with regional summaries. (The regional summaries are found in Annex IV of the report, while the individual and regional templates used for the examination are found in Annexes VI and VII).
- Developed an additional series of "supra-regional" summaries for larger-scale assessments focusing on a particular theme, sector or assessment process. (The supra-regional summaries found in Annex V cover, for example, open ocean pollution, fisheries, invasive species and marine biodiversity, the large marine ecosystem (LME) assessments of the Global Environment Facility's International Waters Programme, the Global International Waters Assessment (GIWA), the Millennium Ecosystem Assessment (MA) and the work of the joint Group of Experts on Scientific Aspects of Marine Environmental Protection (GESAMP).)
- In order to preserve the information collected and examined through the AoA process, an online database has been created by UNEP-World Conservation Monitoring Centre (WCMC) known as the Global and Regional Assessments of the Marine Environment Database (GRAMED). This provides access to an extensive collection of information on assessments, scientific research studies and data holdings of relevance to the marine and coastal environment at national, regional and supra-regional scales (http://www.unep-wcmc.org/GRAMED/).

assessments (use of reference points and indicators, analysis of policy alternatives, degree of integration, assessment capacity). The assessments covered in the supra-regional summaries are more variable. A less systematic tabulation of some of them indicates their thematic/sectoral coverage, regularity, degree of integration, analysis of policy alternatives and coverage of social and economic conditions (see Table 3.2 in the report).


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Assessment *processes* vary widely among institutions and themes, both within regions and at the supra-regional level. Moreover, few were found to be documented thoroughly and the terminology used for documenting assessment practices is much less systematic than that used for documenting data and analytical methods. For a number of well-established processes, supplementary information was acquired from official websites and through members of the Group of Experts. Because it was not possible to generalize systematically, the findings about assessment processes are primarily descriptive. They are valuable in pointing towards what is needed if assessment processes are to be influential (see Box 2).

Summary of findings on assessment products

Findings regarding assessment coverage

The Group of Experts found that across the globe:

- assessments of *living marine resources* are generally the strongest, followed by extensive work in *water quality* assessments. All regions have at least some information on fishery status and trends, although full analytical assessments are only available in a few areas. Extensive assessments of species not exploited commercially are much less common, and assessments of lower trophic levels, including primary productivity, are conducted primarily in the seas adjacent to the most developed countries. Although assessments of water quality are widespread, assessments of status and trends of physical and geochemical oceanographic conditions are uncommon except in the North Atlantic and North Pacific.
- characterization of *habitat* and impacts on them is less well developed and has tended to focus on specialized and high risk environments such as coral reefs, seagrasses, mangroves, marshes and estuaries. The methodology and framework for habitat assessments are less well developed than for living marine resources and water quality. As habitat is the property that inherently integrates many ecosystem features, strengthening these assessments is essential.
- assessments of *protected species* (e.g., sea turtles, seabirds) are more extensive in the developed world while limited elsewhere, and there are serious data deficiencies.

- assessment of *economic and social conditions* is quite poor, even in those regions where extensive information is available on status and trends in the marine environment. Where data are available, they are seldom integrated with environmental assessments other than in a very general manner (population density, for example).
- assessment coverage in areas beyond national jurisdiction, both thematically and sectorally, is particularly weak. Although there are several major international research programmes covering extensive open ocean and deepsea areas, data remain sparse. Consequently, models and analyses are commonly dominated by information from coastal areas or within exclusive economic zones, even when results are interpreted much more widely.


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Findings regarding the integration of assessments

Although regional assessments often integrate results across the different sectors of human activity that cause pollution, other types of integration are rare. Assessments that integrate across ecosystem components may exist within a given sector (e.g., ecosystem approach to fisheries), but even if there are strong fisheries assessments in some regions they frequently have no linkage to other assessments covering habitat, water quality or other ecosystem features. As for economic and social aspects, at best institutions with regulatory authority may request assessments that combine the economic and social status of the activities they regulate and the state of the marine resources necessary for the activity (e.g., the state of the fishing industry and of the targeted stocks). Moreover, the interdisciplinary methodology for integrated assessment is not well developed.

The small number of assessments that integrate across sectors, ecosystem components and environmental, social and economic aspects is largely a function of the narrow mandates of the institutions calling for the assessments. Connections

between relevant agencies are generally weak or absent, while integrating data is not normally a major objective of the agencies. Different mandates also lead to certain redundancies, for example between institutions responsible for fisheries and those responsible for biodiversity more broadly. In regions where integrated policy frameworks are advancing (e.g., European Union Marine Strategy Framework Directive 2008), this may lead to more integrated assessments.

Findings regarding gaps in data coverage

There are major gaps in global coverage of data on the marine environment, and consistent time series datasets are

Box 2: **The analytical framework of the Assessment of Assessments**

Chapter 2 of the AoA report sets out the analytical framework developed by the Group of Experts. This framework is used to examine existing assessments and identify ***best practices*** for assessment. The analytical framework:

- utilizes a broad definition of assessment ("*Assessments are formal efforts to assemble selected knowledge with a view toward making it publicly available in a form intended to be useful for decision making*") so that a wide variety of potential building blocks for the Regular Process could be examined.
- considers assessments as both ***product*** and ***process***. The product includes the expert reports and the underlying data and information used in the analysis. The process includes the institutional arrangements (composition, mandate, procedures) established to govern, guide and conduct assessments. The product can have obvious value as an authoritative presentation of expert findings. It is the process which agrees on the modalities, methods and procedures of an assessment that make products influential.
- explains the criteria of ***relevance***, ***legitimacy*** and ***credibility***, as these attributes have been identified as central to an assessment's influence and used in identifying best practices. All three must be achieved to some extent, but there are trade-offs among them and balance must be achieved.
    - ***Relevance*** of *product* is enhanced if the approach and findings are closely related to the needs of decision-making processes and help decision-makers set priorities. The *process* can enhance relevance if it identifies key target audiences and ensures effective consultation and communication between them and the experts undertaking the assessment throughout the process, if it strengthens the

rarely maintained. Where datasets exist for a small area, it is unclear in most cases whether they are representative of larger coastal and ocean areas. Moreover, many datasets cannot be used for integrated analyses because different sampling strategies impede the ability to relate one set to another at sufficient resolution, or database structures may not lend themselves to integration; the data therefore are not "interoperable". In some regions, database infrastructure is inadequate to maintain and fully utilize existing datasets. Too few assessments address early on how to manage and preserve underlying data and information for future analyses.

capacity of both experts and decision-makers to interact productively and if it expands the informed audience(s);

- ***Legitimacy*** rests on perceptions of balance and fairness in the way *products* reflect the contributions and concerns of all interested stakeholders and in the way the *process* provides for this, including requirements for transparency and availability of data and information and efforts to strengthen the capacity of all interested groups to contribute;
- ***Credibility*** is based on the validity of information, methods and procedures. Use of high quality data and established methods, available to the wider expert community, and treatment of all contributions without bias, enhances product credibility. The *process* enhances credibility through appropriate and transparent procedures for dealing with selection of experts, inclusion of the full range of expertise and interpretational perspectives, and formal procedures for quality assurance, peer review and the treatment of dissenting views and uncertainty.

- defines the terms used in the AoA report for describing different types of assessments. These cover ***status and trends (or process) assessments, impact assessments*** and response assessments and incorporate environmental, economic and social aspects. They also cover ***sectoral assessments*** and ***thematic assessments***. The term ***integrated assessment*** is used to mean integration across environmental, social and economic aspects, across sectors and/or across ecosystem components. ***Fully integrated assessments*** address all three dimensions. Additional terms used in this report are defined in the "use of terms" section to be found in the main AoA report.

In their respective thematic and sectoral areas, several supra-regional assessments contain a large amount of information and their databases are a major resource for future integrated assessments. Three examples include the FAO worldwide summaries of fishery catch and effort statistics, IOC's International Oceanographic Data and Information Exchange (IODE) and the Ocean Biogeographic Information System (OBIS) of the Census of Marine Life (CoML). However, several issues are not well covered by regular supra-regional assessments, including social and economic changes, habitat changes and broader ecosystem changes. While some regions have important information on these topics, there are still major gaps in global coverage.

Findings regarding policy application

The use of *indicators and reference points* to compare status and trends over time to reference levels is valuable for providing advice to decision-makers. There is fairly broad use in fisheries, and coherent theoretical bases exist for setting reference points across jurisdictions. There is also wide use of reference points in water quality assessments in the developed world and growing use in developing countries. In other fields, such reference points are lacking, and there is not yet an agreed framework globally for setting reference points that reflect "good" environmental or ecosystem quality.


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In many regions there is *no clear link between assessment and policy and management processes*. The ability to make this connection at regional, supra-regional and global levels is especially challenging in view of the wide range of decision-making bodies.

Findings regarding assessment capacity

Overall, assessment capacity (personnel and infrastructure) varies widely across regions. For some sectors, such as fisheries

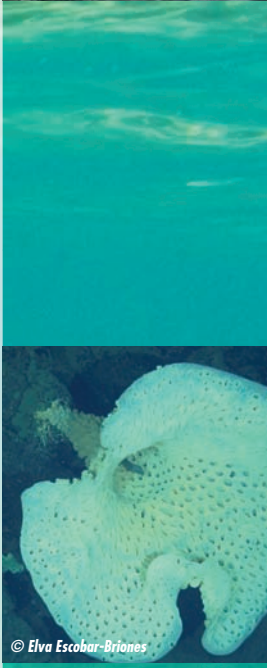
and water quality, technical capabilities exist in terms of skilled personnel and established methodology, but capacity may still be severely limited by lack of funding, lack of consistency in data collection and/or inadequate institutional infrastructure. For features such as habitat, both technical capabilities and infrastructure are less developed. The various Global Ocean Observing System (GOOS) monitoring initiatives are improving capability to assess oceanographic conditions, but there are major gaps in research surveys that provide data on living marine resources other than those harvested within the exclusive economic zones (EEZs) of the most developed countries. The capacity for integrated assessments is limited in part by methodology, in part by lack of data and infrastructure and in part by insufficient institutional mandates. Regarding the vast range of capacity-building initiatives by national, intergovernmental and non-governmental actors, the Group of Experts found that expert networks play a very constructive role through exchange of information, knowledge and expertise within, and less frequently across, different disciplines and between experts and decision-makers.

Summary of findings on assessment processes

The Group of Experts' most important finding is that there is limited awareness of how the design of an assessment process fundamentally affects the influence of its products – that is, their perceived relevance, legitimacy and credibility (see Box 2). Findings on assessment processes are summarized in several categories which lay the groundwork for the key design features and related *best practices* discussed in Chapter 4.

Findings regarding policy relevance

Many assessments do not clearly articulate the objectives and scope or the key questions to be answered by the assessment and in many regions there is no clear link between an assessment and the relevant decision-making body or bodies. A number of assessments are produced only once, or very occasionally; there is no regular cycle linking monitoring and assessment to measures previously adopted in order to



evaluate progress and the need for further action. Priorities are commonly identified but this often constitutes a simple list without an objective basis for policy-makers to understand the *relative* significance of each problem and of the various sectoral causes. Without integrated assessments, there may be no basis for setting priorities across sectors and/or ecosystem components or to evaluate trade-offs affecting environmental, social and/or economic aspects. Only some assessments analyze future policy options and, more rarely, their potential outcomes and risks in a given situation. This linkage between problem and solution is especially informative for decision-makers. Few assessments include an outlook component that develops and analyzes future scenarios as an aid to decision making.

On the other hand, there is growing appreciation of the need for good interaction between decision-makers and experts, a direct link between the assessment process and relevant decision-making authorities and the involvement of all stakeholders in setting objectives and defining the scope of assessments. In this way the assessment can respond to decision-makers' needs, incorporate the knowledge of different stakeholders and engage their support for follow-up actions.

Findings regarding assessment legitimacy and credibility

It is clear that in order to enhance legitimacy and credibility there is a need for balance among expert participants in an assessment – among disciplines and interpretational perspectives, among experts drawn from different stakeholder groups (governments, industry, environmental organizations, academic and research institutes, holders of traditional knowledge) and on a geographic and gender basis. Similarly, in order to enhance credibility, the Group found consistently that the most reliable means of quality assurance, as a component of peer review and in other circumstances, is dialogue and debate among experts, provided that the range and balance among the experts is adequate. Peer review of assessments appeared to be standard practice but approaches vary substantially.

For other assessment features such as selection of experts, means for quality assurance, availability of data and metadata, treatment of lack of consensus, communicating assessment results to the public, capacity building and post-assessment evaluation, the Group of Experts found on the one hand a wide variety of practices and many useful examples and, on the other, a lack of documentation. There is a need for a more systematic approach to evaluating assessment *processes* and every process should provide for post-assessment evaluation.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Conclusions

Although assessment capacity is strong in many regions, there is a clear need for continued efforts to develop greater expertise and infrastructure around the globe in the technical aspects of marine assessment. In addition, six major areas that need immediate, concerted and ongoing attention are:

a. Ensuring that assessment processes are well designed and clearly link assessment processes and policy-makers (see Chapter 4), conducted to the highest standards, and fully documented by the institutions responsible for assessments;
b. Improving data accessibility and interoperability so that assessments can be extended and scaled up or down within and across regions;
c. Increasing the consistency of selection and use of indicators and reference points to guide the interpretation of status and trends;
d. Developing integrated ecosystem assessments that can inform on the state of systems rather than just individual sectors or ecosystem components and which include social and economic aspects,
e. Strengthening the mandates of institutions to undertake fully integrated assessments; and
f. Strengthening capacity for response assessments that are linked directly to the findings of state, pressure and impact assessments.

Best Practices

Chapter 4 of the AoA report identifies best practices for an assessment *process* and its *products*. It considers best practices in relation to three basic elements: the principles and design features noted below, and the institutional arrangements for organizing an assessment that are a main focus of the framework and options set out in Chapter 5 of the report. All three elements would normally be addressed, at least in a general manner, in the decision establishing an assessment process.

Guiding principles for the establishment and operation of an assessment process

Eight principles can be distilled from documents establishing assessments at global, supra-regional, regional and national levels and from the analysis of the Group of Experts. They express a general commitment to ensuring that the attributes of relevance, legitimacy and credibility are realized both in the assessment process and its products:

(1) Viewing the oceans as part of the whole Earth system;
(2) Regular evaluation of assessment products and the process itself to support adaptive management;
(3) Use of sound science and the promotion of scientific excellence;
(4) Regular and proactive analysis to ensure that emerging issues, significant changes and gaps in knowledge are detected at an early stage;
(5) Continuous improvement in scientific and assessment capacity;
(6) Effective links with policy-makers and other users;
(7) Inclusiveness with respect to communication and engagement with all stakeholders through appropriate means for their participation
(8) Transparency and accountability for the process and its products.

Design features for an influential assessment

The following twelve basic considerations, or *design features,* are especially important for the establishment and operation of any assessment process. The first eleven are examined in Chapter 4, followed by a list of *best practices* for each. The final topic is considered in both Chapter 4 and Chapter 5.

a. **Objectives and Scope:** clear goals and definitions; progress toward integrated marine assessment and ecosystem approaches and progress toward regular, iterative assessment in support of adaptive management that links potential solutions to identified problems;
b. **The Science/Policy Relationship:** regular dialogue, policy-relevant questions, guidance for priority-setting, identified target audience(s) and the roles of governments and other stakeholders vis-à-vis experts, including government involvement in reviewing assessment products;
c. **Stakeholder Participation:** clear and meaningful modalities for participation by stakeholders;
d. **Nomination and Selection of Experts:** transparent criteria and procedures for selecting lead authors, contributing authors, peer reviewers and other experts; provision for balance and to protect the integrity of the process from inappropriate influence and bias (e.g., from employers, funders or sponsoring bodies);
e. **Data and Information:** agreed procedures for sourcing, quality assurance and the availability and accessibility of underlying data and information including metadata; clear standards for reporting on the extent, representativeness and timeliness of available data and the occurrence of any significant gaps; methods for scaling information up or down and for drawing inferences to reach general conclusions, including implications for assessment findings;
f. **Treatment of Lack of Consensus among Experts:** clear and transparent guidelines for addressing and reporting lack of consensus;
g. **Treatment of Uncertainty:** clear and transparent guidelines for addressing and reporting uncertainty;


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h. **Peer Review:** agreed, transparent criteria and procedures; use of reviewers not involved in the assessment;
i. **Effective Communication:** provision to develop a communications and outreach strategy to cover the entire period of the assessment, including appropriate products for each identified target audience;
j. **Capacity Building and Networking:** strategies for improving assessments over time through targeted efforts;
k. **Post-Assessment Evaluation:** provision for post-assessment evaluation of assessment products and the assessment process itself, drawing both on *insiders* involved in the process and *outsiders* not involved in any way; and
l. **Institutional Arrangements:** clear agreement on the composition of institutional mechanisms and relationships between them; clearly articulated responsibilities for management and expert components and for the secretariat; development of a networked "system" of assessment processes.

It is normally better to agree on the design features in the pre-assessment stage so that the assessment itself proceeds smoothly and its objectives are achieved. Clear documentation on all these features in any assessment will hasten the development of a more systematic approach to assessing and improving assessment products and processes in future.

THE WAY FORWARD: FRAMEWORK AND OPTIONS FOR THE REGULAR PROCESS

Framework for the Regular Process

The Group of Experts recommends a framework for the Regular Process consisting of (a) an overall objective for the Regular Process, (b) a description of the scope of the Regular Process, (c) a set of principles to guide its establishment and operation and (d) best practices to be followed in designing a Regular Process and applying the principles. These elements should be addressed in the decision establishing the Regular Process. Further details to give effect to the principles and design features would be subsequently agreed by the institutions set up to manage and

implement the assessments. Plans for any particular assessment would be initiated and carried out in accordance with the agreed principles and procedures of the Regular Process and within the agreed institutional arrangements.

Overall objective of the Regular Process

A clear formulation of the overall objective of the Regular Process is fundamentally important. The Group of Experts suggests the following:


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"The Regular Process under the United Nations for global reporting and assessment of the state of the marine environment, including social and economic aspects, will serve as the mechanism to keep the world's oceans and seas under continuing review by providing regular assessments at global and supra-regional levels:

a. The individual assessments under the Regular Process will support informed decision making by enabling governments and other stakeholders to draw on the best scientific information available and thus contribute to managing in a sustainable manner human activities which affect the oceans and seas;
b. These assessments will focus on a fully integrated view of environmental, social and economic aspects. As the Regular Process progresses, it should encourage additional fully integrated ecosystem assessments at the appropriate geographic scale, especially at regional and sub-regional levels, and, according to need, undertake selected sectoral or thematic assessments;
c. These Regular Process assessments will draw, as far as possible, upon assessments made at global and supra-regional levels, at the regional level and, where appropriate, at the national level. The Regular Process will therefore seek to stimulate regional, sub-regional and national assessment processes, by promoting capacity building, by strengthening the knowledge base, by encouraging inter-comparability


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and by facilitating networking among institutions and individuals concerned with marine assessment;

d. These assessments will be underpinned by consistent analytical frameworks and data standards, and will deliver products to communicate effectively to policy-makers. In parallel, the Regular Process will build institutional and individual assessment capacity, and promote necessary research."

Scope of the Regular Process

It is also critical to clearly define the scope of any assessment. The Group of Experts proposes that:

"The scope of individual assessments under the Regular Process will be defined in terms of:

(1) **Geographical coverage:** The individual assessments under the Regular Process will be concerned either with assessments that cover all the world's oceans and seas ("global assessments") or with assessments that cover issues relevant to several ocean regions ("supra-regional assessments");

(2) **Sustainability:** Whenever relevant to an assessment, the Regular Process will make arrangements for assembling, analyzing, assessing and integrating information on the environmental, social and economic aspects – the three pillars of sustainable development. It will cover all human activities that utilize and have the potential to impact the marine environment;

(3) **Analytical framework:** Unless special circumstances warrant another approach, the Regular Process will use the framework of Drivers – Pressures – State – Impacts – Responses (DPSIR) in its analyses, and promote cross-sectoral ecosystem approaches to assessment. As relevant, it will seek to identify the management responses that have

already been taken, to evaluate their success in addressing the relevant pressures and improving the state of the marine environment,[2] and to evaluate future options for response and their likely outcomes and risks, as well as the costs of inaction, as a basis for decision making;

(4) **Vulnerability:** When conducting any assessment, the Regular Process will seek to identify the groups of people, natural processes and non-human species and habitats that are particularly vulnerable to the pressures identified, and evaluate the risks to them;

(5) **Forward-looking:** Whenever relevant to an assessment, the Regular Process will seek to include not only conclusions on the current state of the marine environment and related human activities but also outlooks on future states, using accepted procedures that are fully documented."

Guiding principles for the Regular Process

The Group of Experts proposes that the eight principles set out above should guide the establishment and operation of the Regular Process.

Best practice guidance on key design features for the Regular Process

The Group of Experts further recommends the use of the best practice guidance for the eleven key design features referred to above as elaborated in Chapter 4 of the AoA report. Best practice on the twelfth key design feature ("Institutional Arrangements") is applied in identifying the options for institutional arrangements for the Regular Process set out below.

The First Cycle of the Regular Process: 2010–2014

In order to support adaptive management, the Regular Process will need to go through a succession of cycles. The products of the first cycle need to be specified as the Regular Process is established. The products and process of future cycles will


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2 "Response assessments" identify and evaluate responses that reduce human contributions or vulnerabilities to environmental changes.

be adjusted as a result of the evaluation of previous cycles. The Group of Experts recommends a first five-year cycle of the Regular Process from 2010 to 2014, which can demonstrate concrete achievements in relation to the opportunities identified in the introduction.

Fundamental building blocks

All cycles of the Regular Process will need to include the following fundamental building blocks if they are to continue to deliver improvements in marine assessment. The first steps are especially important in order to:

a. Build capacity at both individual and institutional levels based on identified priorities;
b. Improve knowledge and methods of analysis;
c. Enhance networking among assessment processes, international monitoring and research programmes and associated institutions and individuals;
d. Create communications tools and strategies for reaching different target audiences.

Assessment products of the first cycle

The fundamental building blocks are a means to an end – more integrated assessments. The crucial added value of the Regular Process will be its ability to deliver ***fully integrated assessments***, bringing together environmental, social and economic aspects. The centrepiece of the package of products that the first cycle will deliver should therefore be a first version of an integrated assessment of the world's oceans and seas. This would be produced in the later years of the first cycle (2013–2014) on the basis of a number of preparatory, supporting products. As part of this integrated assessment, there could also be a thematic assessment of a major cross-cutting aspect of the world's oceans, such as food security. This would help develop novel cross-disciplinary and cross-sectoral approaches.

The preparatory, supporting products for the first cycle will be the means of developing improved knowledge and methods of analysis for the first integrated global assessment. These products


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will build on, guide and strengthen capacity and networking for marine assessment. They will be needed in the earlier years of the first cycle (2010–2012) and should include:

a. A set of common questions and issues to be addressed (in differing degrees of elaboration) across all regions;
b. Agreed assessment methods for the datasets in different scientific fields;
c. An agreed approach to evaluating the risks that are identified;
d. A common framework and guidelines for data assembly;
e. An agreed approach for integrating the data and information and analytical results across sectors, ecosystem components and environmental, social and economic aspects;
f. Methods to process digitally the available data, including the methodologies for quality assurance, modelling and the metadata that should eventually be assembled.


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The first version of an integrated assessment will, inevitably, have shortcomings but it will provide a global baseline. Future cycles will address these shortcomings, in the light of an evaluation of both products and process of the first cycle, and produce ever better integrated assessments. Future cycles will enable the tools and methods to be further developed for bringing together information and assessments available at regional and other levels on environmental, social and economic aspects.

Options for Institutional Arrangements of the Regular Process

The report covers six institutional aspects of the Regular Process, including arguments for and against various options: (1) the relationship of the Regular Process to the United Nations; (2) the establishment of a Management and Review Body (MRB) for the Regular Process; (3) a Panel of Experts for the Regular Process; (4) an additional Pool of Experts for the Regular Process to draw upon; (5) a Secretariat for the Regular


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Process and (6) Focal Points within governments, international organizations (global and regional), the private sector and civil society organizations to facilitate interaction and collaboration with the Regular Process.

Options for relationship with the United Nations

Resolution 57/141 affirmed that the Regular Process should be established "under the United Nations". This indicates that it is the UN General Assembly to which the Regular Process is ultimately accountable.

In the operation of the Regular Process, three functions would benefit from consideration by all UN member states and a wider range of stakeholders:

a. The specification of the objective and scope of each individual assessment to be undertaken by the Regular Process, key questions to be answered and primary target audiences, in order to ensure that assessments are relevant for decision-makers;
b. Examination of the findings of assessments in order to draw out their implications for consideration by the appropriate decision-making body (or bodies); and
c. Periodic evaluations of the Regular Process and its products.

These functions will be most effectively carried out in an informal UN meeting. Two main options for relationship with the United Nations can be identified:

(1) The UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP), if the United Nations General Assembly so decides;
(2) Alternatively, the UN General Assembly could convene *ad hoc* meetings to carry out the three functions.[3]

3 These could follow either the model of the *ad hoc* working group of the whole of the UN General Assembly convened to recommend a course of action regarding the Regular Process (Resolution 63/111) or the model of the *ad hoc* open-ended informal international workshops convened by the UN General Assembly in June 2005 and June 2005 in conjunction with the ICP to consider the establishment of a Regular Process (Resolutions 58/240 and 59/24).

Options for a Management and Review Body

The Regular Process will require a body to manage and oversee its operation. This body will ensure continuity and consistency in the operation of the Regular Process and provide a means for the "managers" to engage in regular dialogue with the experts responsible for any assessment. It is necessary to be clear, however, about the distinct roles of the management body and the experts in relation to final approval of assessment reports. The management body will have a role in reviewing the conclusions and findings of an assessment and their implications for policy and decision making. It should not modify the experts' evaluations but rather build on them to ensure policy relevance and promote follow-up actions by the appropriate decision-making authorities. To avoid any inappropriate influence on the experts carrying out individual assessments, the management body should not be involved directly in substantive technical work. The experts should have the final word with respect to the accuracy and completeness of the factual analyses.

The role of the management body in relation to the role of all UN member states noted above needs also to be clear. This body (subject to any decisions of the UN General Assembly) provides an opportunity for focused discussions to refine the specifications for any individual assessment under the Regular Process and to lay the groundwork for productive discussion of assessment findings in the United Nations and other relevant decision-making bodies. It can be thought of as a smaller, specialized working group of the larger UN membership.

The management functions can be formulated as follows:

a. To oversee the Regular Process in accordance with its mandate; to agree on such matters as modalities for communication with and participation by stakeholders, means for transparency and accountability and procedures for nomination and selection of experts, quality assurance, access to information and peer review; to ensure that responsibilities for authors, reviewers and the secretariat are clearly articulated;
b. To elaborate decisions and guidance from the UN General Assembly on the objectives, scope and terms

of reference for an individual assessment, taking into account any further discussions in the ICP or the alternative *ad hoc* meeting;

c. To initiate and approve proposals for assessments to the extent that this is not reserved to the UN General Assembly;
d. To approve the programme/budget and finances of the Regular Process, and partnerships to support its work;[4]
e. To give final approval to the selection of experts;
f. To guide and oversee the development, organization and conduct of each individual assessment under the Regular Process, including approval of its objectives and scope, implementation plan and related budget and communications strategy; to consider regular progress reports from the assessment team and respond to any questions from the team seeking clarification about their activities;
g. To review and comment on the final products of each individual assessment under the Regular Process;
h. To promote networking among institutions engaged in marine assessment; and
i. To provide for a post-assessment evaluation (internal and external[5]) of each individual assessment under the Regular Process and ensure that the evaluation outcome is followed up in the practices and products of the Regular Process.

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It is proposed that a Management and Review Body (MRB), representative of the international community as a whole, carry out these functions. The AoA report considers four basic options for its composition: (1) government members only, (2) members drawn from intergovernmental organizations (IGOs) only, (3) a mix of members from governments, intergovernmental and non-governmental bodies (including the private sector, scientific organizations and civil society) and (4) an expert network of individuals and institutions with a smaller core management group. The Group of Experts concludes that the

4 Subject to the financial arrangements agreed for the Regular Process and the budget approval procedures for the UN Secretariat and other relevant "host" institutions for the Regular Process.

5 Meaning a review team comprised of individuals involved in the assessment (both "users" and the experts who produced the assessment) and of individuals who were not involved in any way.

MRB will need to have a substantial majority input from states and that the involvement of other stakeholders in a balanced way will strengthen the legitimacy, relevance and credibility of assessments, and thus recommends option (3).

The Group of Experts recommends the following membership for the MRB:

- From UN member states, the AoA report considers two options: either an open-ended body or a smaller, representative subset of states with rotating membership. The Group recommends the second option, with membership between 18 and 36 states[6] appointed in the same manner as the members of the AoA Ad Hoc Steering Group;
- From intergovernmental organizations that will be involved in the work of the Regular Process, the Group recommends that one member be appointed from each of the six bodies that have been involved in the AoA (FAO, UNESCO-IOC, IMO, ISA, UNEP and WMO) and another seven from the following international bodies: the CBD Secretariat, DOALOS, IAEA, the World Bank, UNDP, UNIDO and WHO;
- From additional stakeholders with expertise in the work of the Regular Process, the Group recommends that five members be appointed by MRB state members on the basis of recommendations from the bodies concerned: (1) the International Union for Conservation of Nature (IUCN)); (2) the Scientific Committee on Oceanic


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6 It should be noted that if the option of an ad hoc meeting for relationship with the United Nations is selected, this would allow for more in-depth discussion of proposed assessments and their findings among all member states. Consequently, the number of state members of the MRB could be on the lower end, and the MRB could concentrate on "management" rather than "review" functions.


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Research (SCOR) of the International Council for Science (ICSU); (3) the International Social Science Council (ISSC); (4) the World Ocean Council or the many sectoral business and industry associations; and (5) a body or bodies representing indigenous peoples.

Options for a Panel of Experts for the Regular Process

The Regular Process will need a high level of expert input from a wide range of specialized fields and a variety of affiliations (e.g., government, IGOs, non-governmental organizations (NGOs), the private sector, academic and research institutions, holders of traditional knowledge). A crucial part of the structure of the Regular Process will therefore be an Expert Panel, whose functions can be formulated as follows:

a. To undertake assessments;
b. To draft detailed terms of reference (as necessary) and related implementation plans, budgets and communications strategies for each individual assessment under the Regular Process for approval by the MRB;
c. To approve the reports and conclusions for each individual assessment under the Regular Process;
d. To advise the MRB on proposals for individual assessments under the Regular Process and on other matters as requested;
e. To identify, develop and recommend methods, approaches and standards for data collection and analysis and for assessment of the marine environment;
f. To select experts for membership in the Panel, subject to confirmation by the MRB, and for individual assessment teams under the Regular Process; and
g. To promote networking among marine assessment processes and individual experts.

The AoA report considers two options: either (1) create a new Expert Panel of, say, 20 members or (2) employ the existing Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), comprised of 25–30 members, subject to any modifications needed in the mandate, composition and institutional arrangements of GESAMP.

The Group of Experts recommends that the Regular Process establish a new Expert Panel.

Options for a Pool of Experts for the Regular Process

In addition to the Expert Panel, the Regular Process is likely to need to draw on a wider range of experts for individual assessment teams, as external peer reviewers and as a resource for capacity-building initiatives. Three main options for recourse to additional experts are considered: (1) establishing a Pool of Experts for the Regular Process, (2) appointment on a case-by-case basis, drawn from nominations by governments and other relevant stakeholder organizations, and (3) drawing experts from suitable existing expert lists. A supplemental self-nomination process under all three options could also be contemplated. In all cases, the selection of experts would be based on agreed criteria and procedures.

The Group of Experts considers that the option of establishing a Pool of Experts for the Regular Process is the most promising but would need to be supplemented, whenever necessary, by case-by-case appointments as in the second option and that provision should also be made for self-nomination.

Options for Secretariat support of the Regular Process

The MRB and the Expert Panel will need the normal secretariat support. Seven main functions of a Secretariat are identified in the AoA report:

a. To support the work of the MRB and Expert Panel by organizing meetings and providing administrative and substantive support for their meetings and other work;
b. To identify, acquire, coordinate and manage information (primarily information shared with other processes) for


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consideration by the Expert Panel, and to run a system to manage data, tools, resources and documents to support the experts' work;

c. To organize and coordinate the peer review process for products of the Regular Process;
d. To prepare an annual report to be submitted to the UN General Assembly in accordance with the mandate of the Regular Process, and to the different UN bodies and other organizations that sponsor members of the MRB;
e. To develop and maintain interactions with existing regional and global assessment processes, expert networks and other partners;
f. To organize and coordinate public information and outreach activities of the Regular Process, including editorial work and the release of reports and other products;
g. To serve as a focal point to promote and facilitate capacity building that supports the objectives of the Regular Process;
h. To develop the programme and budget of th e Regular Process and manage and report on related funds/trust funds; and
i. To help mobilize financial resources to support the Regular Process in addition to those provided by governments as envisaged in para. 5.80 of the AoA report.


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The Secretariat should be hosted within the United Nations structure in a body or bodies with experience in managing a scientific process, appropriate links to relevant expert communities and stakeholders and competence to enter into agreements with potential partners and collaborating institutions. Moreover, it will be more cost-effective if the Secretariat can draw on existing facilities and services and benefit from the standing and continuity of an established body or bodies. The report considers three options: (1) hosting the Secretariat within a single IGO, (2) establishing an inter-agency Secretariat co-located in one IGO and (3) distributing the Secretariat among several IGOs.


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The Group of Experts recommends option (2): that the Regular Process establish a co-located, inter-agency secretariat in one IGO.

Focal points to promote interaction and collaboration with the Regular Process

Networking among those involved in assessment processes can stimulate and enhance the sharing of knowledge, expertise, methods and lessons learned and help develop more consistent approaches – within and across disciplines and regions and among sectoral and thematic assessments. It strengthens capacity and improves individual assessments. But before members of a network can communicate, they need to know who the other nodes of the network are and how to contact them. The AoA report identifies five important elements of a network: (1) the members of the Management and Review Body, Expert Panel and Secretariat of the Regular Process, (2) global organizations, (3) regional organizations, (4) national bodies engaged in marine monitoring, assessment and research and (5) components of civil society and the private sector interested in the state of the oceans. Governments, international bodies and other entities will need to appoint a focal point for communications with the Regular Process and the rest of the network.


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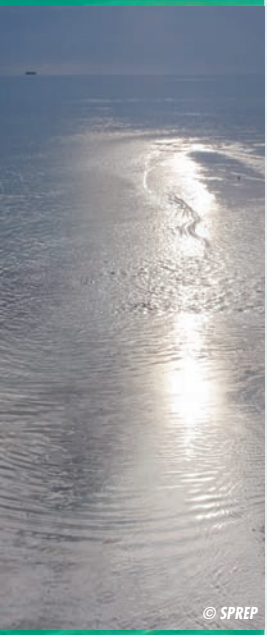
These focal points need to be more than recipients of information. They need to interact in three complementary directions: within their own organization, with the central units of the Regular Process and, within their region, with regional and national organizations and colleagues in marine-related fields. This multi-directional communication is essential to support fully integrated assessments, especially at the regional level. In addition, interactions with the Regular Process need to be mutually supportive; that is, to determine how the Regular Process can build on, guide and strengthen other initiatives and to determine how other assessments and their associated data may be used for purposes of the Regular Process and contribute to filling information gaps and developing common approaches.



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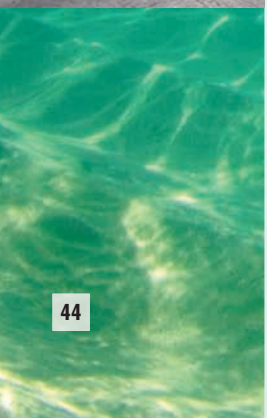

The Group of Experts recommends that governments and relevant organizations identify focal points for the Regular Process and provide them with sufficient status and resources to interact effectively with the Regular Process, with relevant elements of their own organization and with other organizations within their region.

Options for Financing the Regular Process

The Appendix to Chapter 5 gives an initial overview of the possible cost implications of the Regular Process in its first cycle, as discussed in that chapter. The way in which resources are provided will depend largely on the decisions taken on institutional arrangements for the Regular Process. Rather than anticipating these decisions and attempting to work out the costs, the Group of Experts has identified the factors which should shape the financial mechanism. The mechanism should recognize that the creation of the Regular Process will require the provision of resources by states through one or more IGOs and that it may require the mobilization of additional resources through other means for such activities as capacity building. It should ensure that the United Nations and each of the participating global IGOs have a sense of "ownership" of the Regular Process as a whole. Financing should be settled for the whole of each cycle of the Regular Process as early as possible in that cycle. A clear budget is needed, together with a clear central focus for management and accountability.

The overall direct resource needs for the first five-year cycle of the Regular Process, based on the overall indications of cost in the Appendix to Chapter 5, would average between US$ 4 million and US$ 5.6 million a year, or between US$ 20 million and US$ 28 million for the full five-year cycle. Any additional costs of capacity building would have to be calculated in light of an evaluation of needs and of what can be delivered by organizations already active in this area. In addition, there would be costs for states which support directly participants in the UN forum, the Management and Review Body and/or the Expert Panel.

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