



CONVENTION ON BIOLOGICAL DIVERSITY

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SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE

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Montreal, 10-14 November 2003

Agenda item 5.3*

METHODS FOR RAPID ASSESSMENT OF MARINE AND COASTAL BIOLOGICAL DIVERSITY

Note by the Executive Secretary

I. INTRODUCTION

1. The present document has been developed in response to paragraph 6 (c) of recommendation VI/5, of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), which concerned the development of methodologies and identification of pilot studies for scientific assessments, including in relation to marine and coastal biological diversity. In the information note on the rapid assessment of marine and coastal biological diversity prepared for the eighth meeting of SBSTTA (UNEP/CBD/SBSTTA/8/INF/13), the Executive Secretary provided general guidance on conducting rapid assessment of marine and coastal biological diversity. This guidance included a conceptual framework for designing and implementing a rapid assessment, the rapid assessment decision tree, and tables to assist the user in defining the scope of the assessment. General sampling methods, examples of ongoing assessment programmes, and case-studies were also provided.

2. The present document aims to supplement the above-mentioned information document (UNEP/CBD/SBSTTA/8/INF/13) by providing information on established rapid assessment protocols and methods that can be used to undertake the five types of assessments it identified: inventory assessment, species-specific assessment, change assessment, indicator assessment, and resource assessment. The list of methods provided here is not meant to be comprehensive. Rather, the focus is on selected protocols that can be widely applied and that come with detailed instructions. Increasingly, such protocols are now available on the Internet. The intent of the present note is to provide practical information on selected methods available to undertake a variety of rapid assessments. The Secretariat is in the process of making both the guidance and the methods available on its website, with the expectation that the list of methods and protocols will be regularly updated.

3. To facilitate such updating, Governments, organizations and researchers conducting rapid assessments of marine and coastal biological diversity are encouraged to inform the Secretariat about their assessment protocols, particularly of those that are widely applicable and are accessible through the Internet.

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II. AVAILABLE METHODS

A. *Inventory assessment*

4. Inventory assessments focus on overall biological diversity rather than extensive or detailed information about specific taxa or habitats. This type of assessment will attempt to gather as much information as possible about the ecosystem through extensive and, as much as possible, comprehensive sampling of its biological constituents.

Method	Biodiversity covered	Best suited for	Complete protocol available from
Reef Check protocol	Corals, fish invertebrates, substratum type	Non-specialists. Applied worldwide.	http://www.reefcheck.org/methods.htm
Atlantic and Gulf Rapid Reef Assessment protocol	Coral diversity, cover, mortality and health, associated macro algae, sea urchin numbers, coral health	Relatively experienced surveyors (involves identification of corals and fish to species). Developed for the Wider Caribbean Region, but may be adaptable to other locations.	http://www.coral.noaa.gov/agra/method/methodhome.htm
Conservation International Marine RAP	Coral diversity, fish, molluscs	Specialist – applicable worldwide	http://www.biodiversityscience.org/xp/CABS/research/rap/methods/marine_rap_methods/marrapmethods.xml

B. *Species-specific assessment*

5. Species-specific assessments provide a rapid appraisal of the status of a particular species or taxonomic group in a given area. The assessment provides more detailed biological information about the focus species within the context of its protection, use or eradication (in the case of invasive species).

Method	Biodiversity covered	Best suited for	Complete protocol available from
Roving Diver Method	Relative abundance of reef fish	Relatively experienced surveyor (requires identification to species)	http://www.coral.noaa.gov/themes/REEF-protocols.html
Crown-of-thorns starfish and coral surveys using the manta tow and scuba search techniques	Crown-of-thorns starfish	Non-specialist or specialist. Developed for the Great Barrier Reef, but has wider applicability	http://www.aims.gov.au/pages/research/reef-monitoring/ltn/mon-sop1/mon-sop1-00.html

C. *Change assessment*

6. Change assessments are undertaken in order to determine the effects of human activities (pollution, physical alterations, etc.) or natural disturbances (storms etc.) on the ecological integrity and associated biodiversity of an area. The information collected in this type of assessment can be either retroactive or proactive in nature.

Method	Biodiversity covered	Best suited for	Complete protocol available from
Vitareef	Change in conditions of reef corals	Non-specialists and specialists	http://www.cofc.edu/~coral/Vitareef/vitareef.htm
Rapid assessment of pollution sources	The quantity and type of contaminants arising from various sources, both point and diffuse, within a particular area	Non-specialists and specialists	http://giwa.ico3.com/
Assessing and Monitoring Floatable Debris	Provides assistance in design of floatable debris assessment and monitoring programmes, including available protocols	Non-specialist and specialist	http://www.epa.gov/owow/oceans/debris/floatingdebris/pdf.html

D. Indicator assessment

7. Indicator assessments assume that biological diversity, in terms of species and community diversity, can tell us a great deal about the water quality, hydrology and overall health of particular ecosystems.

Method	Biodiversity covered	Best suited for	Complete protocol available from
Monitoring coral reefs with indicator species	Butterflyfish as indicators of reef health	Non-specialist or specialist. Applied in the Indo-Pacific	http://www.coral.noaa.gov/themes/butterfly.pdf
Development of biological criteria for coral reef ecosystem assessment	Reviews available coral reef bioindicators and their use	Specialist – reviews available criteria for U.S. coral reefs, but has wider applicability	http://www.epa.gov/owow/oceans/coral/biocriteria/chap3.4.html
Reef condition index	Part of Conservation International Marine RAP – based on coral and fish diversity	Specialist	http://www.biodiversityscience.org/xp/CABS/research/rap/methods/marine_rap_methods/marrapmethods.xml
Atlantic and Gulf Rapid Reef Assessment protocol	Uses corals, fish and algae indicators to assess reef health	Specialist	http://www.coral.noaa.gov/agra/method/methodhome.htm

E. Resource assessment

8. Resource assessments aim to determine the potential for sustainable use of biological resources in a given area or water systems. Data pertains to the presence, status and condition of economically important species, species on which livelihoods depend, or those with a potential for marketing.

Method	Biodiversity covered	Best suited for	Complete protocol available from
Rapid assessment of small scale fishing communities	Fishing communities – The method will document and evaluate important components of local culture, management needs, and community-based fisheries-management systems.	Specialist. Applicable worldwide	http://www.fao.org/DOCREP/004/Y1290E/y1290e08.htm
Participatory Rural Analysis (Source: Townsley, P. 1993. A Manual on Rapid Appraisal Methods for Coastal Communities. Bay of Bengal Programme, Madras, India.)	Coastal communities – The method aims to show how to identify the 'ideal behaviour' needed to resolve a particular environmental problem, the people who behave in this ideal way and those who don't, and how to change the behaviour of the latter group.	Specialist - The methodology was developed and tested through a project on sustainable use of land resources in Ecuador but is designed to be applicable in a wide range of environmental programmes such as education, training, communication or promotional activities	GreenCOM Academy for Educational Development 1255 23rd Street N.W. Washington, DC 20037, USA
