
**PREPARATORY CONFERENCE FOR THE COMMISSION FOR
THE CONSERVATION AND MANAGEMENT OF HIGHLY
MIGRATORY FISH STOCKS IN THE WESTERN AND
CENTRAL PACIFIC**

Second session
Madang, Papua New Guinea
25 February – 1 March, 2002

WCPFC/PrepCon/15
1 March 2002

**WORKING GROUP II: SCIENTIFIC STRUCTURE AND PROVISION OF INTERIM
SCIENTIFIC ADVICE**

Summary report by the Chairman of the Working Group

1. In accordance with its Terms of Reference as agreed at PrepCon 1 (WCPFC/PrepCon/4), WG.II recognized two main tasks: (a) the need to review the WCPFC Convention to identify science needs, data requirements, priority-setting, planning and coordination of research; and the review of scientific work; and (b) the need for provisional scientific advice on the status of tuna stocks in the Convention Area.
2. WG.II recalled that the following principles would continue to guide its work:
 - (a) the desirability of maintaining a range of options to be evaluated for the provision of scientific services and advice within the scope provided by articles 12 and 13 of the Convention;
 - (b) the importance of transparency in its deliberations;
 - (c) the need to provide for participation by developing States in the scientific work of the Commission and also during the interim period prior to the establishment of the Commission;
 - (d) the need to utilize, to the extent possible, the scientific resources of various national and regional organizations and arrangements as well as the need to avoid duplication of scientific effort and to ensure economy and efficiency.

Science and Data Needs of the Commission

3. WG.II agreed that its work during this session would be to review the Commission's needs with respect to:
 - (a) data requirements, including current gaps in data coverage and standards for data collection and management;
 - (b) science, and in particular stock assessment and advice on stock status in the short term and ongoing;
 - (c) research priorities and research planning and coordination;
 - (d) review of assessments, analyses and other scientific work.

4. It was noted that the paper commissioned by the interim secretariat entitled ‘Approaches to meeting the science and data needs of the Commission’ provided a useful basis for discussion. It was further noted that some of the essential questions WG.II would need to consider during the PrepCon process were:

- (a) A desirable structure for scientific functions;
- (b) The role of existing regional organizations within such a structure;
- (c) The procedures and work programmes for the Scientific Committee and any subsidiary bodies that might be established; and
- (d) Statistical requirements for members of the Commission.

5. In considering a desirable structure for scientific functions of the Commission, WG.II sought to refine the range of possible levels of science capability within the Secretariat in relation to the delivery of the various science functions utilizing Table 6, attached as Annex I, of the paper “Approaches to Meeting the Science and Data needs of the Commission” as a guide for its discussions. In the light of the discussions, WG.II developed, on a provisional basis, a revised alternative for the structure of scientific functions (appended to this report as Annex II). A summary of some of the elements identified is attached as Annex III. While there was some convergence of views on the overall level of scientific services to be provided to the Commission, some delegations expressed reservations about the revised alternative and further discussions on this matter will be required at future sessions of the working group.

6. During discussions under this item the representatives from the Inter-American Tropical Tuna Commission and the Oceanic Fisheries Programme of the Secretariat for the Pacific Community presented information outlining estimated costs for data, stock assessment and biological and ecological research.

7. Working Group II established an ad-hoc task group to consider the future information needs to support discussions and progress on matters related to the scientific activities of the Commission. The report of the ad-hoc task group is attached as Annex IV. Drawing upon the material from the ad-hoc task group the working group agreed that the Working Group II Chair, in conjunction with the interim secretariat, identify mechanisms to initiate the following, to the extent practicable and within the limits of available resources, prior to the meeting of the next working group:

(a) an investigation of the technical capabilities, and security and data-sharing policies of existing organizations, including those of participants to the Preparatory Conference, with the view of possibly contracting out interim data services and to prepare a report for presentation to the next Preparatory Conference

(b) compilation and review of the standards for collection, verification and the timely exchange and reporting of data on fisheries currently practiced by existing arrangements (e.g. SCTB, ISC, IATTC, CCAMLR, CCSBT and ICCAT). This information should include an assessment of the suitability of the existing standards.

(c) an approach to the SCTB, ISC and existing organizations to review again the development and application of reference points for stocks of skipjack, yellowfin, bigeye, southern albacore and northern albacore and to prepare reports to the Preparatory Conference.

(d) a review of relevant information on ecosystem and bycatch issues for use by the Commission taking into account information available from existing bodies, including the SCTB Billfish and Bycatch Research Group, and paying particular attention to incidental catches of sensitive species

Provision of scientific advice

8. In addition to reviewing the Commission's science needs WG.II agreed that its work during this session would include consideration of possible processes by which the Preparatory Conference could receive and consider interim scientific information and advice as well as procedures for scientific functions in the long term. In the light of the discussions on this issue, WG.II decided to recommend to the Preparatory Conference that it establish a Scientific Coordinating Group (SCG) to assist the Group in carrying out those parts of its terms of reference which require special scientific and technical considerations. The SCG would be a sub-group of WG.II and would report to both WG.II and the Preparatory Conference. The terms of reference for the SCG are appended as Annex V.

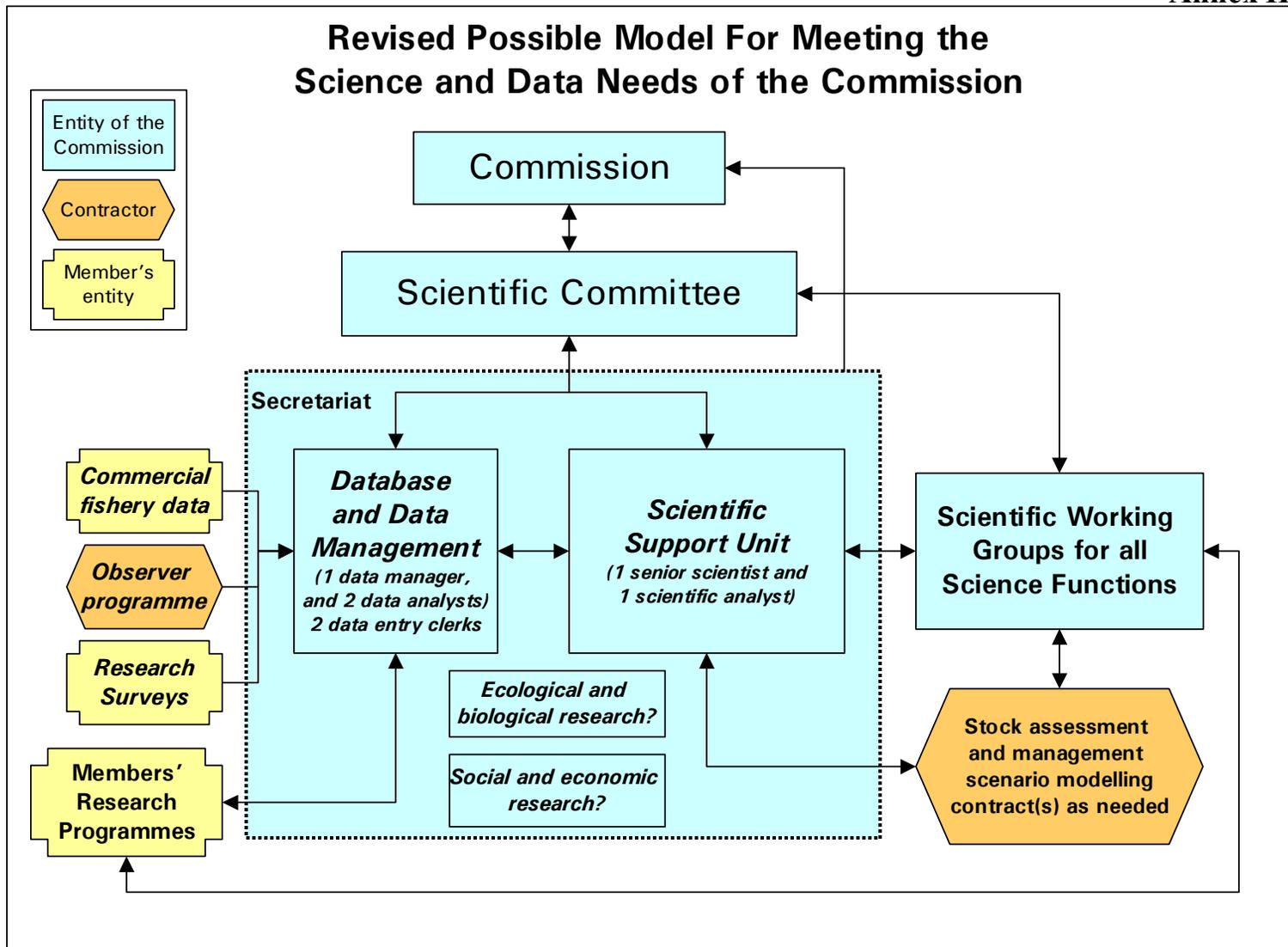
9. WG.II, in adopting the terms of reference for the SCG, emphasized the importance of funding to ensure the involvement of developing State participants of the PrepCon.

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Annex I

TABLE 6. LEVELS OF CAPABILITY WITHIN THE SECRETARIAT FOR EACH OF THE FUNCTIONS POTENTIALLY REQUIRED BY THE COMMISSION

Secretariat Science Capability (SSC) Level	<i>Fishery-related data collection and management</i>	<i>Science Functions</i>		
		<i>1. Stock assessment and management scenario modelling</i>	<i>2. Biological and ecological research</i>	<i>3. Economic and sociological research</i>
1	Secretariat receives fishery data submissions from members and acts as a data clearing-house, without standard data formats or a customised database. Secretariat has no independent capacity to collect or manage fishery-related data.	Secretariat has no scientific staff with stock assessment and/or management scenario modelling capability. Scientific advice would be sought directly by the Commission under Article 13 of the Convention.	Secretariat has no scientific staff with biological and/or ecological research capability. Scientific advice would be sought directly by the Commission under Article 13 of the Convention.	Secretariat has no scientific staff with economic and/or sociological research capability. Scientific advice would be sought directly by the Commission under Article 13 of the Convention.
2	Secretariat receives fishery data submissions from members in prescribed formats and manages fishery data in a customised database. Secretariat provides data to members in response to official requests.	Members assume responsibility for all stock assessment and/or management scenario modelling, submit papers to the secretariat for co-ordination and distribution and participate in working groups.	Members assume responsibility for all biological and/or ecological research, submit papers to the secretariat for co-ordination and distribution and participate in working groups.	Members assume responsibility for all economic and/or sociological research, submit papers to the secretariat for co-ordination and distribution and participate in working groups.
3	Secretariat receives fishery and survey data submissions from members in prescribed formats and manages the data in a customised database. Other data collection tasks, such as the regional observer programme, are contracted out. Secretariat provides data to analysts for scientific analyses.	Secretariat contracts out all stock assessments and management scenario modelling to external organisations / consultants. Secretariat staff occasionally participate with contractors in assessments to allow them to act as liaison with the Scientific Committee.	Secretariat contracts out all biological and ecological research to external organisations / consultants.	Secretariat contracts out all economic and social research to external organisations / consultants.
4	Secretariat collects and manages fishery and research data, including the use of logbooks, and manages the data in a customised database. Specific data collection tasks, such as the regional observer programme, are contracted out. Secretariat provides data to analysts for scientific analyses.	Secretariat staff would direct, participate in and review all research, but would contract out specific aspects of stock assessments and management scenario modelling to external organisations / consultants.	Secretariat staff would direct, participate in and review all research, but would contract out specific aspects of biological and ecological research to external organisations / consultants.	Secretariat staff would direct, participate in and review all research, but would contract out specific aspects of economic and social research to external organisations / consultants.
5	Secretariat collects and manages fishery and research data, including the use of logbooks and observers, and manages the data in a customised database. Data are available for internal use and data summaries are provided to Members. Consideration should also be given at this level to direct acquisition of VMS and observer system data.	Secretariat conducts all stock assessment and management scenario modelling required to provide comprehensive advice to the Commission.	Secretariat conducts all biological and ecological research required to provide comprehensive advice to the Commission.	Secretariat conducts all economic and social research required to provide comprehensive advice to the Commission.



Annex III

SUMMARY OF POSSIBLE ELEMENTS IDENTIFIED DURING DISCUSSIONS ON THE SCIENCE NEEDS OF THE COMMISSION, DERIVED FROM TABLE 6 FROM THE MRAG AMERICAS REPORT (MRAG AMERICAS 2002)

Fishery-related data collection and management

- Secretariat receives commercial fishery and research data submissions from Members in standardised formats, electronically wherever possible.
- Data managed by the Secretariat in a customised database, structured to interface with existing databases in the region.
- Secretariat manages the regional observer programme.
- Staffing and training of the regional observer programme contracted out.
- Secretariat conducts in-house processing of:
 - observer programme data;
 - fishery independent data (tagging, research surveys etc.);
 - port sampling data (species composition, length frequency etc.).
- Secretariat has facility to provide technical guidance to countries requiring assistance with the collection and processing of catch/effort and port sampling data.
- Secretariat provides data to Member countries and approved providers of scientific services for scientific analyses according to rules of access agreed by the Commission.
- Secretariat develops aggregated data products and distributes to Members.

Staffing level: Data management unit: one data manager; one observer programme manager (as necessary, according to observer coverage), one commercial fisheries data analyst; one observer and research data analyst; two data entry clerks.

Stock assessment and management scenario modeling

- With Commission approval, Scientific Committee establishes working group(s) on stock assessment and management scenario modelling.
- Secretariat contracts out year-round work on stock assessments and management scenario modelling to qualified providers, e.g. OFP, IATTC, or other independent consultants.
- The Scientific Committee, in conjunction with the Secretariat and the Contracts Committee as appropriate, drafts requests for proposals.

- Members participate in and submit assessment papers to working group(s) and/or Scientific Committee as appropriate.
- Amount and type of work undertaken by working groups depends in part on the amount and type of work that is undertaken by external contractors.
- Contractors present to and/or participate in working group(s) and Scientific Committee as appropriate.
- Secretariat has a scientific support unit capable of monitoring the progress of scientific components of external contracts and to allow them to act as scientific liaison with the Scientific Committee.
- Contract Terms of Reference would specify the basic assessment methodologies and data sources to be used by the contractor(s).

Staffing level: Scientific Support unit: One senior scientist, one scientific analyst

Biological and ecological research....?

Economic and sociological research....?

Provisional time line

2002

WG.II

- Identify mechanism for meeting science and data needs, including structure for Secretariat.
- Provide estimates of costs to the Commission related to the preferred mechanism for meeting science and data needs for science functions.
- Scope out available data and databases and develop database structure and function for Secretariat.
- Identify procedures for issuing requests for proposals for scientific services.
- Scope out options for data collection, including logbooks and observer programme.
- Establish interim working group or contract reports on science priorities; agree current scientific priorities for the Commission and data requirements to meet these priorities.
- Develop draft protocols for operation of the Scientific Committee.

PrepCon

- Agree preferred mechanism for meeting science and data needs, including structure for science related activities of the Secretariat.
- Agree implementation schedule.

2003-2004

PrepCon

- Agree organization of the Scientific Committee and any other statutory

- bodies required by the adopted mechanism for meeting science and data needs (e.g. contracts committee).
- Commission (on entry into force of the Convention)
- Establish Secretariat with basic administrative staff and skeleton scientific staff (starting with data manager), review scientific staffing requirements.
 - Begin arrangements for first external science contracts.
- 2004-2005**
- Commission
- Continue to develop, as appropriate, science capabilities within the Secretariat.

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Annex IV

SCIENTIFIC ACTIVITIES NEEDED TO SUPPORT MANAGEMENT MEASURES

Report of *ad hoc* Task Group

The MRAG report included a list of scientific activities mandated by the WCPFC Convention. Some of the activities listed are currently in place in various forms. A small group was tasked by the Chair of WG II to review the list of scientific activities and recommend means to assist the Preparatory Conference in implementing these activities.

The task group met from 9am – 11am on February 27, 2002. The meeting was chaired by John Sibert (USA) and attended by Noel Barut (Philippines), Rupa Bhawal (Canada), Chung-Hai Kwoh (Chinese Taipei), Michael Laurs (USA), Tony Lewis (SPC/OFP), Joel Opnai (FFA), Dai-Yeon Moon (Korea), Talbot Murray (NZ), Neville Smith (NZ), Chi-Lu Sun (Chinese Taipei), Jerry Wetherall (USA), and Vaughan Wilkinson (NZ).

The bullet points below are extracts from the MRAG report. Task Group recommendations are presented in italic type. Comments from the group are in plain text.

The Group noted the existence of reports from various analyses conducted at the request of the MHLC and felt that it would be helpful to the Preparatory Conference if these documents were available on the Interim Secretariat web site.

Data collection and management

- Collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programmes (Article 5(i)).

The Group noted that OFP currently receives logsheets and fisheries data in consolidated form from most parts of the Convention area, and summarizes and maintains databases at different resolutions.

The Group recommends that the Interim Secretariat investigate the technical capabilities, and security and data-sharing policies of existing organizations, including those of members, with the view of possibly contracting out interim data services and to prepare a report for presentation to the next Preparatory Conference.

- Adopt standards for collection, verification and for the timely exchange and reporting of data on fisheries for highly migratory fish stocks in the Convention Area in accordance with Annex I of the Agreement (Article 10(1d)).
- Compile and disseminate accurate and complete statistical data to ensure that the best scientific information is available, while maintaining confidentiality, where appropriate (Article 10(1e)).

The Group noted the report of the “Technical Consultation on the Collection and Exchange of Fisheries Data, Tuna Research and Stock Assessment” commissioned by the MHLC in 1994 and

convened in July 1996. The Consultation thoroughly reviewed data holdings at that time and agreed upon standards for collection, verification and for the timely exchange and reporting of data on fisheries for highly migratory fish stocks. The Group also noted that the SCTB has made considerable progress in implementing the recommendation of the Technical Consultation.

The Group recommends that the Interim Secretariat compile and review standards for collection, verification and for the timely exchange and reporting of data on fisheries currently practiced by existing arrangements (e.g. SCTB, ISC, IATTC, CCAMLR, CCSBT and ICCAT). The Interim Secretariat should further assess the suitability of the existing standards and make recommendations to the next Preparatory Conference.

- Develop a regional observer programme to collect verified catch data, other scientific data and additional information related to the fishery from the Convention Area and to monitor the implementation of the conservation and management measures adopted by the Commission (Article 28(1)).

Noting the importance of scientific data from the observer programs for stock assessment and data verification needs identified in the Convention and for flag states, the Group recommends that working groups II and III coordinate their activities closely to identify the objectives and priorities of the regional observer programme and to develop the programme in a manner consistent with Article 28 and Annex III of the Convention.

Stock assessment and management scenario modelling

- Assess the impacts of fishing, other human activities and environmental factors on target stocks (Article 5(d)).

The Group noted that this activity is the core activity of the Commission through the assessment of status of stocks of the four major tuna stocks and is subject to the arrangements for providing interim advice prepared by WGII.

- Determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded (Article 6(1a)).
- Take into account uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points and levels and distributions of fishing mortality (Article 6(1b)).

The Group noted that the development and application of reference points to tropical tuna species throughout their range is a challenging scientific task and that the MHLC has previously requested that SCTB review the matter.

The Group recommends that the Interim Secretariat request that SCTB and existing organizations concerned review again the development and application of reference points for stocks of skipjack, yellowfin, bigeye and southern albacore and to prepare reports to the Preparatory Conference.

Ecosystem issues

- Assess the impacts of fishing, other human activities and environmental factors on non-target species, and species belonging to the same ecosystem or dependent upon or associated with the target stocks (Article 5(d)).
- Take into account uncertainties relating to the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socio-economic conditions (Article 6(1b)).
- Develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans where necessary to ensure the conservation of such species and to protect habitats of special concern (Article 6(1c)).

The Group noted that research on the pelagic ecosystem and on ecosystem-based fishery management is an on-going research priority throughout the world. The Group also noted that these research results will eventually become important in the work of the Commission, but is probably not a priority for the interim period.

The Group recommends that the Interim Secretariat review relevant information on ecosystem and bycatch issues for use by the Commission taking into account information available from existing bodies, including the SCTB Billfish and Bycatch Research Group, and paying particular attention to incidental catches of sensitive species.

Economics

- Obtain and evaluate economic and other fisheries-related data and information relevant to the work of the Commission (Article 10(1j)).

The Group noted that economic information is often useful background for interpreting trends in the fishery.

The group recommends that the Interim Secretariat develop, as appropriate, a database of available information from key Pacific Rim markets on skipjack, yellowfin, bigeye and southern albacore caught by different methods as a background for interpreting trends in the commercial fishery, especially for the rapidly developing longline fishery

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Annex V

WORKING GROUP II: SCIENTIFIC COORDINATING GROUP (SCG)

Terms of reference

Resolution I of the WCPFC Convention sets forth various provisions for PrepCon to address in preparation for the Convention entering into force. For science needs, they include, inter alia: (1) provisional scientific advice on status of stocks (yellowfin, skipjack, bigeye and south Pacific albacore) and, if warranted, recommendations for conservation and management; and (2) recommendations for implementing the functions of the Scientific Committee and for scientific services, including procedures for data collection and reporting.

The Scientific Coordinating Group (SCG) is established to assist Working Group II in carrying out those terms of reference which require special scientific and technical considerations. The SCG would be a sub-group of WG.II and would report to both WG.II and the PrepCon. The SCG would be open to participation by scientific and technical representation of all PrepCon participants, as well as representatives of OFP, SCTB, IATTC and ISC.

Funding to promote broad participation in the SCG, organize its meetings, and to facilitate its work (e.g., through consultancies or contracts) will be provided through voluntary contributions.

Meetings of the SCG will be held in conjunction with the meetings of the SCTB, taking into account the need for encouraging maximum participation of scientific and technical experts and cost-effectiveness.

The SCG would begin its work as soon as practicable. To facilitate its work prior to its first meeting, the WCPFC interim secretariat will work with the WG.II Chairman to establish points of contact among participating PrepCon members and relevant regional bodies.

The WG.II Chairman would act in the capacity of the SCG Chair or appoint a Chairperson in consultation with the PrepCon Chairman.

The tasks of the SCG include:

Provision of interim scientific advice

1. Providing advice to PrepCon on stock condition and, when requested by PrepCon, provisional conservation and management actions. Information and related conclusions on stock condition produced by existing bodies, including, but not limited to, the SPC OFP, IATTC, SCTB and ISC, will be reviewed and assembled into a convenient format suitable for advising PrepCon on the status of the four primary tuna stocks; and

2. Prioritizing fisheries and scientific data needs in the interim period and providing recommendations to WG.II and the PrepCon on procedures to obtain such data.

Procedures for scientific functions

1. Providing recommendations to WG.II and the PrepCon on longer term data needs, requirements for data collection, verification, analysis and dissemination, and confidentiality;
2. Preparation of draft guidelines and a reporting format for WG.II and the PrepCon for determining and advising on the status of stocks and other key variables and eventually for providing advice to the Commission;
3. Undertaking a review of the available scientific and fishery management data that would include validating and analyzing these existing data in order to provide recommendations to WG.II and the PrepCon on the appropriateness and applicability of these data to the future work of the Commission; and
4. Performing other tasks that may be assigned by WG.II and the PrepCon.

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