

## **Terms of Reference for Fisheries Assessment Working Groups in 2008-09**

### **Overall purpose**

For fish stocks managed within the Quota Management System, as well as other important fisheries in the New Zealand EEZ:

to assess, based on scientific information, the status of fisheries and fish stocks relative to MSY-compatible reference points and other relevant indicators of stock status; to conduct projections of stock size under alternative management scenarios; and to review results from relevant research projects.

Fisheries Assessment Working Groups (FAWGs) evaluate relevant research, determine the status of fisheries and fish stocks and evaluate the consequences of alternative future management scenarios. They do not make management recommendations or decisions (this responsibility lies with MFish Fisheries Operations and the Minister of Fisheries).

### **Preparatory tasks**

1. Prior to the beginning of the FAWG meetings, the National Manager Fisheries Operations and the Chief Scientist will determine a preliminary list of stocks for which advice on fishery or stock status may be needed. The Chief Scientist will then provide direction to FAWG Chairs as appropriate. FAWG Chairs will determine the final agendas and assign ownership of specific items on the agenda.

### **Technical objectives**

2. To review any new research information on stock structure, productivity, abundance and related topics for each fish stock under the purview of individual FAWGs.
3. To estimate appropriate MSY-compatible reference points<sup>1</sup> for selected fish stocks for use as reference points for determining stock status, noting the approved Harvest Strategy Standard.
4. To conduct stock assessments or evaluations for selected fish stocks in order to determine the status of the stocks relative to MSY-compatible reference points<sup>1</sup> and associated limits, noting the "Guide to Biological Reference Points for the 2007-08 Fishery Assessment Meetings", and the approved Harvest Strategy Standard.
5. In addition to determining the status of fish stocks relative to MSY-compatible reference points, and particularly where the status is unknown, FAWGs should explore the potential for using existing data and analyses to draw conclusions about likely future trends in fishing mortality (or exploitation) rates and/or biomass levels if current catches and/or TACs/TACCs are maintained.
6. Where appropriate or practical, to conduct projections of likely future stock status using alternative fishing mortality (or exploitation) rates or catches and other relevant management actions, based on input from the FAWG, Fisheries Plan Advisory Groups and fisheries managers, noting the approved Harvest Strategy Standard.

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<sup>1</sup> MSY-compatible reference points include those related to stock biomass (i.e.  $B_{MSY}$ ), fishing mortality (i.e.  $F_{MSY}$ ) and catch (i.e. MSY itself), as well as analytical and conceptual proxies for each of the three of these quantities.

7. For stocks that are deemed to be depleted, to develop alternative rebuilding scenarios based on input from the FAWG, Fisheries Plan Advisory Groups and fisheries managers, noting the approved Harvest Strategy Standard.
8. For fish stocks for which new stock assessments are not conducted in the current year, to review the existing Fisheries Assessment Plenary report text on the “Status of the Stocks” in order to determine whether the latest reported stock status summary is still relevant; else to revise the evaluations of stock status based on new data or analyses, or other relevant information.

### **Working Group reports**

9. To include in the Working Group report information on commercial, Maori customary, non-commercial and recreational interests in the stock; as well as all other mortality to that stock caused by fishing, which might need to be allowed for before setting a TAC or TACC.
10. To provide information and advice on other management considerations (e.g., area boundaries, by-catch issues, effects of fishing on habitat, other sources of mortality, and input controls such as mesh sizes and minimum legal sizes) required for specifying sustainability measures.
11. To summarise the stock assessment methods and results, along with estimates of MSY-compatible reference points and other metrics that may be used as benchmarks for assessing stock status.
12. To review, and update if necessary, the “Status of the Stocks” sections of the Fisheries Assessment Plenary report for all stocks under the purview of individual FAWGs (including those for which a full assessment has not been conducted in the current year) based on new data or analyses, or other relevant information.
13. It is desirable that full agreement is achieved on the text of the FAWG reports, particularly the “Status of the Stocks” sections. If full agreement cannot be reached, then the Chair will document the extent to which agreement or consensus was achieved, and record and attribute any residual disagreement.

### **Working Group input to the Plenary**

14. To advise the Chief Scientist, Ministry of Fisheries, about stocks requiring review by the Fishery Assessment Plenary and those stocks that are not believed to warrant review by the Plenary. The general criterion for determining which stocks should be discussed by the Plenary is that new data or analyses have become available that alter the previous assessment, particularly assessments of recent or current stock status, or projections of likely future stock status. Such information could include:
  - New or revised estimates of MSY-compatible reference points, recent or current biomass, productivity or yield projections
  - The development of a major trend in the catch or catch per unit effort
  - Any new studies or data that extend understanding of stock structure, fishing patterns, or non-commercial activities, and result in a substantial effect on assessments of stock status.

## Membership and Protocols for all Science Working Groups

15. Membership of Working Groups is open to all interested parties who agree to the following standards of participation. Participants must commit to:
- participating in the discussion
  - resolving issues
  - following up on agreements and tasks
  - maintaining confidentiality of Working Group discussions and deliberations (unless otherwise agreed in advance, and subject to the constraints of the Official Information Act)
  - adopting a constructive approach
  - avoiding repetitions of earlier deliberations
  - facilitating an atmosphere of honesty, openness and trust
  - having respect for the role of the Chair
  - listening to the views of others, and treating them with respect

Key roles are:

- Chair: MFish scientist – required. The Chair is an active participant in Working Groups, who also provides technical input, rather than simply being a facilitator. The Chair is responsible for setting the rules of engagement; promoting full participation by all members; facilitating constructive questioning; focussing on relevant issues; reporting on Working Group recommendations, conclusions and action items, and ensuring follow-up; and communicating with the MFish Chief Scientist, relevant MFish Fisheries Operations staff, and other key stakeholders
  - Research providers – required (may be the primary researcher, or a designated substitute)
  - Other scientists not conducting analytical assessments to act in a peer review capacity
  - Representatives of relevant MFish Fisheries Operations teams
16. Working Group participants will be asked to declare any relevant affiliations.
17. *Working Group papers:* Working group papers will be posted on the MFish website prior to meetings if they are available. However, it is also likely that many papers will be tabled during the meeting due to time constraints. Working Group papers are “works in progress” whose role is to facilitate the discussion of the Working Groups. They often contain preliminary results that are receiving peer review for the first time and, as such, may contain errors or preliminary analyses that will be superseded by more rigorous work. For these reasons, attendees must agree not to release information contained in Working Group papers to external media. In general, Working Group papers should never be cited. Exceptions may be made in rare instances by obtaining permission in writing from the MFish Chief Scientist and the authors of the paper.
18. Participants who use Working Group papers inappropriately, or who do not adhere to the standards of participation, may be requested by the Chair to either leave a particular meeting or, in more serious instances, to refrain from attending one or more future meetings.
19. Meetings will take place as required, generally January-April and July-November for FAWGs and throughout the year for AEWGs and BRAGs.
20. A quorum will be reached when the Chair (a Ministry of Fisheries scientist), the designated presenter, and three or more other participants are present. In the absence of a quorum, the Chair may decide to proceed as a sub-group, with outcomes being taken forward to the next meeting at which a quorum is formed.

21. The Chair is responsible for deciding, with input from Working Group members:
  - The acceptability of the analyses under review
  - The way forward to address any deficiencies
  - The need for any additional analyses
22. The Chair is responsible for facilitating a consultative and collaborative discussion.
23. Working Group meetings will be run formally, with agendas pre-circulated, and formal records kept of recommendations, conclusions and action items.
24. A record of recommendations, conclusions and action items will be posted on the MFish website, shortly after each meeting has taken place.
25. Other principles guiding the operation of all MFish Science Working Groups include:
  - Data upon which analyses presented to the Working Groups are based must be provided to MFish in the appropriate format and level of detail in a timely manner (i.e. the data must be available and accessible to MFish; however, data confidentiality concerns mean that such data are not necessarily available to Working Group members)
  - Methods of analysis must be sound
  - Working Groups will seek to draw on the best available expertise, and will encourage and seek peer review
  - Working Groups will maintain high standards of professional integrity and science ethics
  - Working Groups will operate with openness and transparency
26. The outcome of each Working Group round will be evaluated, with a view to identifying opportunities to improve the process. The Terms of Reference may be updated as part of this review.
27. The MFish Science team will provide administrative support to the Working Groups.

### **Record-keeping**

The overall responsibility for record-keeping rests with the Chair of the Working Group, and includes:

28. To keep notes on recommendations, conclusions and follow-up actions for all Working Group meetings, and to ensure that these are available to all members of the Working Group and the Chief Scientist, Ministry of Fisheries in a timely manner. If full agreement on the recommendations or conclusions cannot readily be reached, then the Chair will document the extent to which agreement or consensus was achieved, and record and attribute any residual disagreement.
29. To compile a list of generic assessment issues and specific research needs for each Fishstock or species or environmental issue under the purview of the Working Group, for use in subsequent Research Planning processes.

## **Terms of Reference for Fisheries Data Working Group**

1. To identify the data used for stock assessment purposes for incorporation into the Ministry of Fisheries data collection systems, for use in the fisheries stock assessment process, including,
  - a. Data from the commercial catch;
    - i. Commercial catch and effort data
    - ii. Commercial catch monitoring (Observers)
    - iii. Fishing Industry collected data (where appropriate)
  - b. Non-commercial data;
    - i. Scientific survey data
    - ii. Scientific experiment data
    - iii. Recreational catch data
    - iv. Customary catch data
    - v. Other data used for stock assessment purposes as may be deemed appropriate by the respective stock assessment working groups
  - c. Data from the Quota Management System;
    - i. TACCs and landed catches
    - ii. TACC overruns
    - iii. Bycatch trading
2. To review the systems for the collection of any new data used for stock assessment purposes that may be maintained as a part of the Ministry of Fisheries data collection systems, and that may be used by any other Ministry of Fisheries working group as a part of the stock assessment process.
3. To report on any new information that may impact on the interpretation of data used for stock assessment purposes held in the Ministry of Fisheries data collection systems
4. To provide advice on methods, systems, and conditions of the release of data used for stock assessment purposes.
5. To report on changes to Ministry of Fisheries data collection, and other, systems that may impact on the interpretation of any data used for stock assessment purposes.

## **Terms of Reference for Stock Assessment Methods Working Group**

To oversee and evaluate stock assessment methods used in the Ministry of Fisheries' fisheries assessment process; viz.

1. To make recommendations on the standardisation of methodology so that:
  - Commonly used methods are always applied in an identical fashion
  - The same software is used whenever a standard method is applied
  - Terminology is defined and used uniformly in all stock assessment papers
  - Uniform data quality requirements are applied whenever a standard method is used
  - Results from the application of a standard method are applied in a standard fashion.
2. To review the "Guide to Biological Reference Points" where appropriate.
3. To compile a list of stock assessment research needs.

## **Terms of Reference for the Ministry of Fisheries Aquatic Environment Working Group (AEWG) in 2008–09**

### **Overall Purpose**

For all New Zealand fisheries, to assess, based on scientific information, the effects of fishing, aquaculture, and enhancement on the aquatic environment, including:

- Bycatch and unobserved mortality of protected species (seabirds, marine mammals, etc.), fish, and other marine life, and consequent impacts on populations
- Effects of bottom fisheries on benthic biodiversity, species, and habitat
- Effects on biodiversity, including genetic diversity
- Changes to ecosystem structure and function, including trophic effects
- Effects of aquaculture and fishery enhancement on the environment and on fishing

Where appropriate, such assessments should explore the implications of the effect, including with respect to government standards, other agreed reference points, or other relevant indicators of population or environmental status. Where possible, projections of future status under alternative management scenarios should be made.

AEWG assesses the effects of fishing or environmental status, and may evaluate the consequences of alternative future management scenarios. AEWG does not make management recommendations or decisions (this responsibility lies with Ministry of Fisheries Operations).

### **Technical Objectives**

1. To review any new research information on fisheries impacts, and the relative sensitivity or susceptibility of potentially affected species, populations, habitats, and systems.
2. To estimate appropriate reference points for determining population, system, or environmental status, noting any draft or published Standards.
3. To conduct environmental assessments or evaluations for selected species, populations, habitats, and systems in order to determine their status relative to appropriate reference points and Standards.
4. In addition to determining the status of the species, populations, habitats, and systems relative to reference points, and particularly where the status is unknown, AEWG should explore the potential for using existing data and analyses to draw conclusions about likely future trends in fishing effects or status if current fishing effort, catches, or catch limits are maintained.
5. Where appropriate and practical, to conduct projections of likely future status using alternative management actions, based on input from AEWG, Fisheries Plan Advisory Groups and fisheries managers, noting any draft or published Standards.
6. For species or populations deemed to be depleted, to develop alternative rebuilding scenarios to levels that are likely to ensure long-term viability based on input from AEWG, Fisheries Plan Advisory Groups and fisheries managers, noting any draft or published Standards.
7. For species, populations, habitats, or systems for which new assessments are not conducted in the current year, to review any existing Plenary report text in order to determine whether the latest reported status summary is still relevant; else to revise the evaluations based on new data or analyses, or other relevant information.

## **Working Group reports or other input into an “Aquatic Environment Plenary”**

8. To include in Working Group reports summaries of information on selected issues that may relate to species, populations, habitats, or systems that may be affected by fishing.
9. To provide information and advice on management considerations (e.g., area boundaries, by-catch issues, effects of fishing on habitat, other sources of mortality, and input controls such as mesh sizes and minimum legal sizes) that may be relevant for setting sustainability measures.
10. To summarise the assessment methods and results, along with estimates of relevant standards, reference points, or other metrics that may be used as benchmarks.
11. It is desirable that full agreement is achieved on the text of these WG reports. If full agreement cannot be reached, or where this can only be accomplished by creating a report that represents the “lowest common denominator” of views and interpretations of data and analyses, then the Chair will document the extent to which agreement or consensus was achieved, and record and attribute any residual disagreement.
12. To advise the Chief Scientist, Ministry of Fisheries, about issues of particular importance that may require review by a plenary meeting or summarising in an analogue of the Fishery Assessment Plenary Report (the “Aquatic Environment Plenary”) and issues that are not believed to warrant such review. The general criterion for determining which issues should be discussed by a wider group or summarised in the “Aquatic Environment Plenary” is that new data or analyses have become available that alter the previous assessment of an issue, particularly assessments of population status or projection results. Such information could include:
  - New or revised estimates of environmental reference points, recent or current population status, trend, or projections
  - The development of a major trend in bycatch rates or amount
  - Any new studies or data that extend understanding of population, system, or environmental susceptibility to an effect or its recoverability, fishing patterns, or mitigation measures that have a substantial implications for a population, system, or environment
  - Consistent performance outside accepted reference points or Standards

## **Membership and Protocols for all Science Working Groups**

Refer to paragraphs 15-29 of the Terms of Reference for Fisheries Assessment Working Groups in 2008–09.