

**Record of the 12<sup>th</sup> Scientific Working Group of the Preparatory Conference of  
the North Pacific Fisheries Commission**

**Tokyo, Japan  
17-18 March 2014**

**1. Welcome and Opening Remarks**

The SWG meeting was held on 17-18 March 2014 at Hakuyo Hall, Tokyo University of Marine Science and Technology in Japan. The Interim Secretariat welcomed all participants. A list of attendees appears as Attachment 1.

**2. Appointment of Chair and Rapporteur**

Dr. Hitoshi Honda (Japan) was elected as Chair, and Ms. Katie Moore (USA) as Rapporteur.

**3. Adoption of Agenda**

The agenda was adopted (Attachment 2) after Participants agreed to move some agenda items for discussion flow. A document list was provided to the participants (Attachment 3).

**4. Discussion on the Bottom Fish Stocks**

Discussion continued on the stock status of the bottom fish species in the Convention Area.

Japan presented SWG12/WP3/J, which is a follow up study of depletion model analysis of North Pacific armorhead using combined Japanese and Korean commercial fishery data from 2005 to 2012. The research is not a full scale stock assessment but is an approach for estimating total biomass, recruitment biomass and harvest rates based on available data. Japan and Russia noted that frequency of large recruitment may be increasing but current fishing mortality appears too high to ensure sustainable reproduction, although the results can be affected by model assumption and uncertainty of data and biological parameters.

Japan presented a review of literature on biological characteristics of North Pacific armorhead (SWG12/WP4/J). The paper was prepared to clarify current knowledge, information gaps and near future tasks to address key biological parameters of this species.

Korea presented information on its stock assessment based on a length cohort

analysis (SWG12/WP11/K). The fish have a unique growth cycle which causes complexity regarding models. Korea concluded the estimated biomass for armorhead in Emperor Seamounts based on the length-cohort analysis was very variable by length category intervals. The estimated values were very high. The method used would not be suitable for armorhead in the Emperor Seamounts. A more appropriate model, such as a spatial model, should be found or developed.

The USA noted that existing research indicates a highly variable biomass recruitment appears to be highly variable, and a pre-season forecast for age 1 and age 2 fish may be useful to determine an exploitation rate which allows for enough spawners. The USA further stated that one would be wrong 6 times out of the last 8 years to base catch levels on the 2 highest recruitment years (2010, 2012).

Additional discussions on Pacific armorhead were held in Agenda Item 5.

#### **5. Discussion on the Interim Measures on VMEs and Marine Species**

Japan described the notification letter that states Japan implemented its additional voluntary-based interim measures for North Pacific armorhead starting from January 1<sup>st</sup> 2014 based on recent scientific analyses (SWG/WP5/J). The USA noted that there was high data variability in Japan's depletion model analysis (summarized in section 4) and questioned the forecasted biomass level. The USA also noted that removing outliers and using the precautionary principle would result in a lower catch target.

As a voluntary interim measure, Korea is expanding its closed season from October-December to October-February for conserving spawning stocks (SWG12/WP6/K). Japan asked Korea for catch and effort data availability for C-H seamount in 2013. Korea agreed to provide the scientific data to Japan and the SWG. Compliance issues are separate and would be discussed at TCWG meeting.

Russia offered to join Korea and Japan in assessing the biomass of this species by providing data Russia has collected (e.g., aging, lifecycle, etc.).

To improve stock assessment of the North Pacific armorhead, SWG requests to the PrepCon to form a small WG under the SWG consisting of scientific experts in order to:

- Investigate the methodology and data needs of a more appropriate and

practical stock assessment for North Pacific armorhead

- Evaluate the interim measures and voluntary measures suggested by participants of SWG 12 for North Pacific armorhead (see Section 4 of this report)
- Explore the interim management measures including evaluation of their effect for sustainable use and recovery of North Pacific armorhead (i.e. time-closures, area-closures, catch limits, and any other single and/or combination of measures).

Canada noted the role that fishery management objectives, targets, risk tolerances, and timelines could have for subsequent advice by SWG based on stock assessments. The subsequent discussion noted that the NPFC Convention identifies overarching objectives.

Japan presented on their bottom environmental survey efforts which studied the distribution and density of corals on the Emperor Seamount (SWG12/WP7/J). Collecting general information like species distribution, depth, bottom type, fishing locations, etc. will help to develop area-specific VME processes. All participants expressed great appreciation to Japan for their research.

## **6. Discussion on the Pelagic Fish Stocks**

The Coordinator of the International Symposium for Pacific saury reported a summary of the Symposium which started discussions on Pacific saury stock assessments (See Attachment 4). The SWG discussed the recommendations from the Symposium and presented to PrepCon, as stated below:

1. Calls for NPFC Participants to submit their fisheries and research data for stock assessments and to better understand the historical and present fisheries in the Convention Area (CA) and national waters adjacent to the CA.
2. Calls for appointment of a small working group under SWG to comprehensively assess the status and outlook of entire Pacific saury resource in the North Pacific Ocean.
3. The small working group shall integrate their analyses of all relevant research and commercial fisheries data to:
  - a. Determine the distributional range and biomass of the resource and seasonal details,
  - b. Estimate the recruitment of year classes into the resource, particularly of age 1 fish in light of environmental factors,
  - c. Determine the threshold of spawning stock biomass,
  - d. Evaluate harvesting strategies for the resource in light of fishing

strategies by NPFC Participants,

- e. Estimate the amount of fishing effort relevant to harvesting for the resource,
- f. Estimate biological reference points of the resource, and
- g. Evaluate uncertainties of the estimation procedures and limitations of data in the assessments above.

Serious concerns were expressed over stock status of Pacific saury by some participants based on the Symposium Report. Therefore, the SWG:

[4] Calls for PrepCon to discuss and consider developing interim measures to manage Pacific saury in the entire North Pacific based on the stock assessment of a proposed small Working Group (WG) by the SWG for the Pacific saury.

Or,

[4] Calls for PrepCon to discuss and consider developing interim measures to manage Pacific saury and control fishing effort for this species in the entire North Pacific.

Participants agreed to discuss squid at SWG13, commencing with Neon flying squid.

## **7. Discussion on the Progress of the SWG**

### **(1) Development of data system and standards (Korea);**

Korea stated that there is no consistent data format amongst member countries in NPFC and suggested the data format (such as use of CCAMLR's and other available sources) as the first step for the development of data systems and standards (SWG12/WP12). Korea suggested a WG to set up the data fields and data sheet; Japan recommended a species-specific WG. The Chair noted that further discussions are merited.

### **(2) Development of a systematic approach to stock assessment (Japan)**

Japan recalled that North Pacific armorhead, Splendid alfonsino, Pacific saury, and squids were identified as priority species by the SWG at a prior meeting. Its supposed basic approach of stock assessment includes: (1) Collection of data and information; (2) Preliminary assessment and tentative management advice; (3) Data accumulation; (4) Development and improvement of assessment methods; and (5) Stock assessment, management strategy evaluation and management advice. Japan summarized the past achievement, current status and future tasks of stock assessments in the four priority species. Japan recommended forming a WG to pursue the stock assessment for each of the species. The USA

recommended collaborative data collection and analysis.

**(3) Modification and Development of a five-year research plan that includes the identification of near-time priorities (Canada)**

Canada stated that this version of the research plan has not changed substantively since the prior version, but incorporates direction on priorities from PrepCon4. Priorities are in bold text of the report (SWG12/WP10). The USA stated the plan (as written) is ambitious and recommended the integration of performance measures to ensure that NPFC is on track for implementation. Canada requested additional input from participants and will circulate an updated version for feedback.

**(4) Development of encounter protocols for VMEs (USA)**

The USA reported on the status of the SWG9 assignment to develop encounter protocols for trawl fisheries from significant adverse impact on VMEs. The participants had designated a VME Encounter WG to develop encounter protocols to protect four orders of corals: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia. Four tasks were specifically assigned: (1) Determine the distribution of encounters in fishing and survey operations with the four orders of corals as primary indicators of VMEs, (2) Estimate catch rates of corals brought up by fishing gear, (3) Estimate catch rates of corals encountered but not brought up by the fishing gear, and (4) Estimate catch rates encountered in directed fisheries on corals and catch rates of encounters not brought up by the fishing gear. The USA reported that the VME Encounter WG was awaiting guidance from the FAO VME workshop to begin its work.

The SWG recommended authorizing the existing VME Encounter WG to meet to develop encounter protocols according to decisions made in SWG9. The recommendation includes using the Interim Secretariat's assistance in hosting the event at their facility, potentially in summer 2014.

**8. Other Matters (VMEs)**

**(1) Report of the FAO Regional Workshop on VMEs in the North Pacific Ocean**

The "FAO Regional Workshop on Vulnerable Marine Ecosystems (VMEs) in the North Pacific Ocean" was held in Tokyo, Japan, on 11-13 March 2014. This was the third of a series of workshops to discuss regional issues on deep-sea fisheries and the protection of benthic habitats. Information was presented for the North Pacific and other ocean regions, and discussed in relation to relevant aspects of the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (the FAO Deep-sea Guidelines; FAO 2008). A wide range of topics

were discussed including fishing areas, surveys, exploratory fishing and impact assessments. Data entry for the North Pacific region for the FAO global database of information on VMEs was discussed. Collaborative opportunities uniting scientists across the North Pacific region and among other regions, as well as between experts from different disciplines, were discussed.

**(2) Other Matters**

Nothing was discussed.

**9. Planning of the next SWG meeting**

A proposal was to meet prior to the PrepCon, or the Commission meeting possibly in March 2015. Exact timing is to be decided by the PrepCon. If there are no other invitations- the Interim Secretariat will organize the meeting in Tokyo, Japan.

**10. Adoption of the Record of the Meeting**

Participants approved the meeting record.

**11. Closing of the Meeting**

The meeting adjourned at 17:15 on 18 March.