

November 2015



منظمة الأغذية
والزراعة للأمم
المتحدة

联合国
粮食及
农业组织

Food and
Agriculture
Organization
of the
United Nations

Organisation des
Nations Unies
pour
l'alimentation
et l'agriculture

Продовольственная и
сельскохозяйственная
организация
Объединенных
Наций

Organización
de las
Naciones Unidas
para la
Alimentación y la
Agricultura

REGIONAL COMMISSION FOR FISHERIES

Ninth Meeting of the Working Group on Fisheries Management

Kuwait, State of Kuwait, 24-26 November 2015

Joint appraisal of the Kingfish stock in the RECOFI area: preparatory work before the assessment workshop

Executive Summary

The purpose of this paper is to provide information on the FAO/RECOFI regional workshop on the joint Kingfish stock assessment including on the availability and status of the information required, as well to confirm the dates for the proposed workshop.

The WGFM is invited to:

- take note that the Commission ranked the cooperative regional Kingfish assessment as the activity of highest relevance planned for implementation during the 2015-2016 intersession period;
- decide how to proceed with the implementation of the regional joint assessment of the Kingfish stock in the RECOFI area.

BACKGROUND INFORMATION

The seventh session of the Regional Commission for Fisheries (May 2013) acknowledged that the joint assessment bringing together GCC work on narrow-barred Spanish mackerel (*Scomberomorus commerson*) and that of the other RECOFI members such as Iran (Islamic Republic of) and Iraq, and possibly also Pakistan and Yemen would be the first essential step toward establishing effective management for the stock of this species in the RECOFI region and adjacent areas, with a special emphasis on the importance of good communication and information sharing prior to the workshop.

The Commission underlined the joint assessment of narrow-barred Spanish mackerel will require a full commitment by all RECOFI members in submitting relevant data and information in a timely manner. The Commission reaffirmed at the sixth, seventh and eighth sessions of RECOFI the request made for the Secretariat to invite Pakistan and Yemen to this regional meeting. The Commission ranked the implementation of the kingfish stock assessment as the first priority in the intersessional (2015-2016) workplan and acknowledged the kind offer of the Sultanate of Oman to host the meeting.

The workshop on the regional joint assessment of kingfish stock is planned in early 2016 in Muscat, Oman. At the eighth session of RECOFI, the Commission was informed that the GCC Permanent Fisheries Research Council was formulating joint management plans for the management of narrow-barred Spanish mackerel and shrimp resources.

The Commission noted the importance of genetic typing studies to be included in the future programme of work. The Commission recognized that it was important that data on shrimp and narrow-barred Spanish mackerel also be incorporated and considered in regional datasets used in the stock assessment of these species for regional management purposes.

OBJECTIVES OF THE KINGFISH WORKSHOP

The objectives of the kingfish (narrow-barred Spanish mackerel) regional stock assessment are:

- To provide fishery scientists, managers and decision-makers of the RECOFI countries with an opportunity to meet and discuss the common issues related to narrow-barred Spanish mackerel fisheries from data collection, research, management strategy and regulations;
- To provide a platform for scientists to work together on real narrow-barred Spanish mackerel data, conduct stock assessment and develop science-based management strategy for the long term sustainability of the fishery and the social and economic benefits of the region;
- To discuss and develop a cost-effective and practical institutional arrangement and a regional plan for cooperation and collaboration in the sustainable management of the shared narrowbarred Spanish mackerel resource.

ACTIVITIES

The seventh meeting of the WGFM (5-7 November 2013, Kuwait) reviewed the preparatory work to the regional kingfish stock assessment. In particular:

The WGFM acknowledged that the joint assessment bringing together GCC work on narrow-barred Spanish mackerel (*Scomberomorus commerson*) and that of the other RECOFI members such as Iran (Islamic Republic of) and Iraq, and possibly also Pakistan and Yemen would be the first essential step toward establishing effective management for the stock of this species in the RECOFI region and adjacent areas, with a special emphasis on the importance of good communication and information sharing prior to the workshop. Regarding a possible underestimation of juvenile mortality exerted by shrimp trawling, the WGFM was informed about the recent work (2013) by KISR 'Estimating 111

tonnes of narrow-barred Spanish mackerel by-catch of average 67 gram in the period from September 2010 to January 2011'. The WGFM recognized such information could be vital to understand the current situation of this species and all Members were requested to provide any materials to the Secretariat that could have relevance for stock assessment and consideration of management of the fisheries exploiting this RECOFI priority species. The meeting approved the objectives of the workshop, the agenda, and the data and participant skill requirements.

Data and skills requirement of the Kingfish Workshop

Data requirements of the workshop

Each country should bring:

1. Length frequency data over a certain time period;
2. Full catch statistic time series data;
3. Fishing effort data or data on numbers of fishing vessels and fishermen engaged in the fishery;
4. Any other data available for example types of gear and vessels, fishing locations, market price.

Skill requirements

1. Knowledge of the narrow-barred Spanish mackerel fishery;
2. Knowledge of basic stock assessment theory and models as this is not a training course, but a workshop;
3. Numerical skills, using Excel (better competent in R or other programming languages);

Draft Agenda of the narrow-barred Spanish mackerel stock assessment workshop

I Presentation from country

- Landings and trends
- Current state of the narrow-barred Spanish mackerel fishery
- Concerns and issues require management attention
- Research projects and their results if there is any
- Potential challenges to implement a kingfish regional management plan

II Review of the existing published results

- Growth estimation
- Mortality rate estimation
- Models applied
- Conclusions achieved

III Estimation of growth equation from length frequency data

- The von Bertalanffy growth equation
- Data requirements for fitting the equation
- Using software to estimate the equation from lengthy frequency data

IV Estimation of total mortality from length frequency data

- The theory behind the estimation of total mortality from time series length frequency data
- Using a software to estimate total mortality from time series length frequency data

- Estimation of natural mortality
- Estimation of exploitation rate based on natural mortality, fishing mortality and total mortality rates

V Catch only methods for stock assessment

- Yield per recruit model
- Surplus production model
- How to fit these models to data
- Key parameters from the modelling that can be used for determining stock status and for management purposes

VI Designing management

- Management objectives
- Designing regulations to achieve the objectives

Current situation

The Commission, at its seventh session in May 2013, regarded the implementation of the regional assessment of the Kingfish stock as the first priority to be undertaken by the WGFM during the 2013-2014 intersessional period. The Secretariat proposed that the host country (Sultanate of Oman) could hold the workshop in November 2013. The proposed period date was not convenient for the host country and it was agreed with the Secretariat to postpone the meeting to 2014. Meanwhile the Secretariat had contacted Pakistan that confirmed the interest to participate in the regional stock assessment exercise. The first week of November 2014 was identified with the host country as a convenient period to organize the workshop. Eventually, in September 2014, upon request of the host country, the regional Kingfish stock assessment was postponed again. At the eighth session of RECOFI in May 2015, the Commission again endorsed the cooperative regional Kingfish assessment as the first ranked (and only) priority activity for implementation during the 2015-2016 intersessional period. Currently, the workshop on the regional joint assessment of kingfish stock is planned in early 2016 in Muscat, Sultanate of Oman.