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[Adopted]

39th ANNUAL MEETING OF NAFO - SEPTEMBER 2017

Catch Estimates Methodology Study

1. Background and justification

A large amount of the data used by NAFO, especially by the Scientific Council in undertaking assessment, comprises catch, effort and biological data for commercially-exploited and assessed stocks.

The 2011 NAFO Performance Review¹ expressed concerns about the accuracy and quality of data submitted, particularly data used by the Scientific Council in its catch estimation procedures.

A Peer Review Expert Panel (PREP) was created in June 2012 to peer-review the STACFIS catch estimation methodology for some NAFO stocks. The PREP comprised three scientists/experts from Canada, European Union, and USA². At the 35th NAFO Annual Meeting, the PREP presented its 2013 Final Report and NAFO recommendations at the General Council (GC Doc 13-4 Revised)³.

The PREP recommended that "*NAFO (Scientific Council and Fisheries Commission working together) and Flag States document and test (for accuracy) methods used by scientific observers and NAFO observers for estimating catch on a tow-by-tow basis. **Discrepancies between tow-by-tow estimates represent the leading candidate for explaining the discrepancy between scientific estimates and STATLANT reports.** In examining the accuracy of tow-by-tow estimates by NAFO observers, it is important to understand the relationship of these estimates to vessel logs and the accuracy of vessel logs⁴.*

Obtaining accurate estimates of commercial catch from fisheries in the NAFO area is critical to the assessment and management of most NAFO stocks. The quality and completeness of haul by haul catch data are expected to improve in future years and it is likely that the Catch Estimation Strategy will further rely on these data as a source of input for validation ⁵.

The quality of scientific estimates depends primarily on the quality of the input data, where one of the areas of uncertainty is the estimation of catches made by the scientific observers⁶.

In examining the accuracy of catch estimates by scientific observers (who, as opposed to compliance observers, do not have a formal role in the NAFO conservation and management measures), it is important to understand the relationship of these estimates to vessel logs and the accuracy of vessel logs.

¹ NAFO Performance Review, August 5, 2011.

² NAFO FC-SC CR WP 14/4.

³ Report of the FC-SC WG-CR, 3-4 February 2014.

⁴ NAFO/GC Doc. 13/4 REV. Assessment of the methodology used by NAFO scientific council to estimate catches for NAFO stocks: 2013 progress report.

⁵ NAFO COM-SC Doc. 17-08

⁶ NAFO/GC Doc. 13/4 REV. Assessment of the methodology used by NAFO scientific council to estimate catches for NAFO stocks: 2013 progress report.



Observed catch discrepancies, as pointed out by the PREP, are due to differences in estimates of the tow catch found in different sources such as logbooks data, scientific observer's data, compliance observer's data and inspection on board reports data on a tow-by-tow basis (See Figure 1). Therefore it is important to address the methodology behind the tow catch estimates leading to the catch discrepancies observed in some stocks.

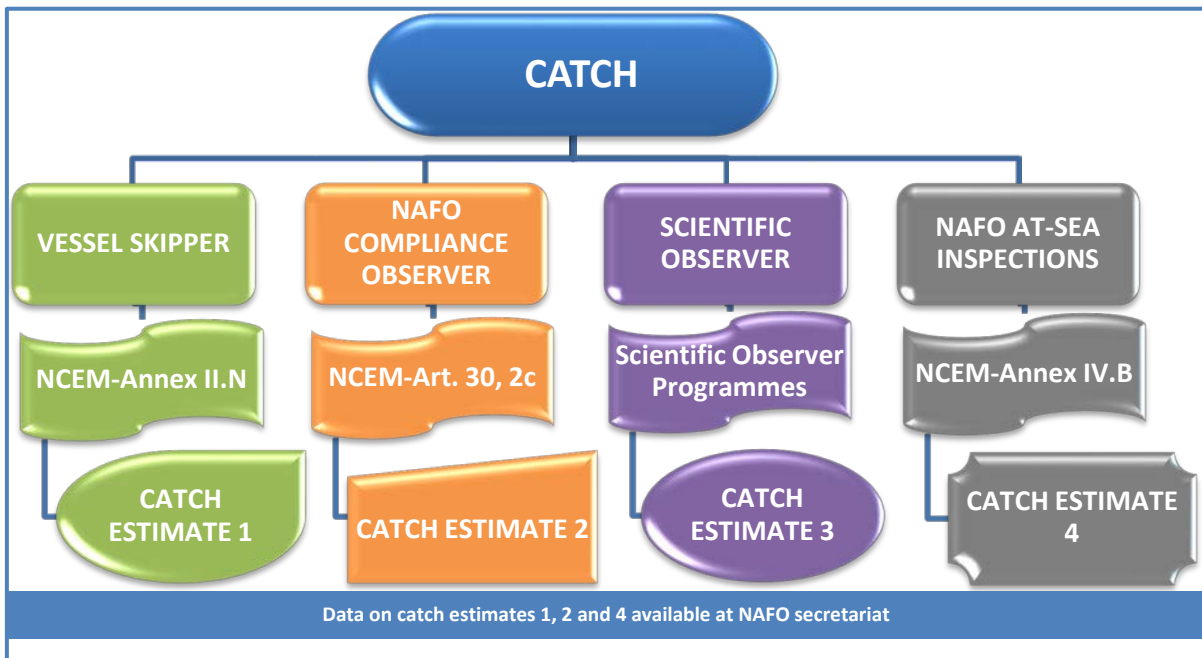


Figure 1 Catch estimates discrepancies

At the 35th Annual Meeting, NAFO (NAFO/FC Doc. 13/24) it was established the ad hoc technical working group on Catch Reporting (WG-CR) to inter alia:

- a. address any outstanding recommendations of the Peer Review,
- b. evaluate potential approaches and data sources (e.g., daily catch data, tow by tow data, log books, etc.) to validate STATLANT 21 data and/or provide catch estimates.

At the 37th Annual Meeting, following the recommendation of the WG-CR, NAFO adopted (NAFO/FC-SC Doc 15/06) that the Ad hoc Working Group on Catch Reporting continues, with the same goals and objectives for at least another year and the establishment of the Catch Data Advisory Group (CDAG) with the following objectives:

- to identify and provide guidance to the NAFO Secretariat on specific data inputs, gaps and parameters, in particular ensuring the representativeness of data for validating catch and/or developing catch estimates; and
- to provide oversight and endorsement of catch estimate methodology prepared by NAFO Secretariat.

An estimation strategy was developed by the CDAG and presented in FC-SC Doc.16-02 reflecting the improvement achieved in the catch estimation at NAFO level.

2. Scope of the study

A fully documented description of the methodologies in place by all actors involved in the process of obtaining tow catch estimates in the four data-gathering processes identified, together with the development of common best practices to estimate catches.

3. Tasks to be performed

- 3.1. Description and aggregate assessment of tow catch estimates methodologies and total catch estimates methodologies by actor and by contracting party while maintaining their confidentiality.
- 3.2. Development of guidance on realistic standard best practices to estimate tow catches.
- 3.3. Assessment on catch estimates resources needs: technical (equipment, computer technologies...), human (professional standards, training needs...) and methodological (standardization of protocols, independence of information sources, observer schemes synergies...).
- 3.4. Identification of margin of potential sources of error for tow catch estimates by species, if applicable.

4. Methodology

The study should consider the PREP, WG-CR and CDAG work and building upon it, together with research literature supporting the assessment methodology and the identification of common standard protocols for catch estimates.

Furthermore, due to the exploratory nature of the study, information should be collected also through personal interviews.

5. Roles and Responsibilities

5.1. NAFO Secretariat

- To support WG-CESAG (Catch Estimation Strategy Advisory Group) in its role and responsibilities,
- To manage the selection procedure:
 - Obtaining quotes from potential contractors,
 - To circulate to WG-CESAG names of potential contractors for review and selection of firms/consultants as possible contractor.
- To set and manage the contract with contractor.

5.2. CESAG

- To develop the evaluation criteria for the identification of a contractor to perform the study,
- To identify a contractor to perform the study,
- To facilitate the contractor work (interviews, discussions, data needs, etc.),
- To review findings of interim and final report and provide comments/advise.

5.3. STACTIC & Scientific Council

- To facilitate the contractor work (interviews, discussions, data needs, etc.)
- To review findings of interim and final report and provide comments/advise.

6. Duration

The project will be concluded for a period of 9 months with effect from the date on which it is signed by NAFO Secretariat.

The timeline to complete the tasks to be performed should take into consideration meeting dates of the NAFO groups.

7. Deliverables and meetings

Reporting will be in English and submitted electronically (with paper copies of the final versions) and shall include a summary for non-specialists as well as an executive summary.

Any IT materials (Data bases, software and programming routines, etc.) produced or developed in the course of the study shall be provided in electronic format.

An interim report shall be submitted 4 months after the signature of the project. A final report shall be submitted by the end of the 9 months period. Both reports must be approved by the (CESAG). A final presentation should be provided by the contractor to the CESAG.

8. Payment scheme

The total budget allocated for financing this study is estimated at 100 000 € (one hundred thousand euros).