

**Report of the NAFO Joint Commission-Scientific Council
Working Group on Catch Reporting (WG-CR) and
NAFO Ad hoc Joint Commission-Scientific Council Catch Data Advisory Group (CDAG)
Meeting**

April, May and August 2017
via WebEx

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Report of the NAFO Joint Commission-Scientific Council Working Group on Catch Reporting (WG-CR) and NAFO Ad hoc Joint Commission-Scientific Council Catch Data Advisory Group (CDAG) Meeting

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1. Background

Following the February 2017 meeting of WG-CR/CDAG in London UK, it was decided to have a follow-up meeting of CDAG via WebEx in April. It was subsequently decided to hold additional WebEx meetings in May and August. The purpose of these follow-up meetings was to close agenda items 4b and 8 of the Feb 2017 meeting (FC-SC Doc 17-01).

Agenda Item 4b pertains to the work of the Secretariat in the application of the *Catch Estimation Strategy* for estimating the catch in the NAFO Regulatory Area: *4b. Work conducted by the Secretariat on the validation of the 2016 catch estimates*. The estimation focused on three priority stocks: 2+3KLMNO GHL, 3M COD, and 3LNO PLA. Agenda Item 8 pertains to recommendations to forward to SC and FC (now the Commission).

A progress report was circulated in May covering the April meeting (FC-SC CDAG WP 17-04). The present report covers the April, May and August meetings.

2. WebEx Meeting, April 2017

Katherine Sosebee (USA), co-Chair of the WG, opened the meeting at 09:00, Atlantic Daylight Time on 20 April 2017. Representatives from the following Contracting Parties were in attendance: Canada, Denmark (in respect of Faroe Island), European Union, Russian Federation, and United States of America (Annex 2)

The Secretariat presented updated and revised reported 2016 catches of the priority stocks (FC-SC CDAG-WP 17-01 and 17-02) calculated according to the method prescribed in the CDAG Catch Estimation Strategy. The update and revision were made in consideration of the challenges and issues identified in February 2017.

During the presentation, some data entry errors were spotted and corrected accordingly.

The quality of haul by haul data is expected to improve in the subsequent years and this can also be used an important source of fishing effort information.

The WG and CDAG suggested the following to improve the confidence in the estimates:

- For all priority stocks, estimates from observer reports be included, when possible, for comparison purposes,
- For all priority stocks, prepare a graphical representation of the difference in the estimates between the Daily catch reports (CATs) and Port State Control inspection reports (PSC3s) to facilitate the development of a threshold for footnote 2 of the Estimation Strategy
- Further scrutiny of PCS3 in which mis-recording AIs were issued.

3. WebEx Meeting, May 2017

Katherine Sosebee (USA), co-Chair of the WG, opened the meeting at 09:00, Atlantic Daylight Time on 18 May 2017. Representatives from the following Contracting Parties were in attendance: Canada, European Union, Russian Federation, and United States of America (Annex 2)

In response to the suggestions made in April, the Secretariat presented the updated 2016 catch estimates of the three priority stocks (FC-SC CDAG-WP 17-01 Rev and 17-02 Rev.). The update incorporates PSC3 reports that were received late and after the April WebEx meeting. The Secretariat has noted that there were some trips wherein the application of the any of the 3 methods specified in the *Strategy* was not possible. In these cases, the CATs (retained + rejected) were used to estimate the catches. The use of the CATs when PSC3 is not available was considered as the new fourth method.

The Secretariat also prepared and presented a graphical representation of the difference in the estimates between the CAT's and the PSC3s (FC-SC CDAG-WP 17-03). Four trips were identified to have >50% difference: three (3) trips in 3M cod estimates; 1 trip in PLA; and none in GHL. Of the four trips, one was issued with an Apparent Infringement (AI) of mis-recording of catches. It was decided to retain the 50%-threshold as prescribed in the footnote 2 of the *Strategy*. In cases where an AI on mis-recording is issued at sea or in port, PSC3 data should not be used.

The *Catch Estimation Strategy* was revised on the basis of the observations mentioned above (see Annex 1).

There were discussions about the limited application of the *Strategy* only to GHL. The limited application is due to the fact that:

- STACTIC requirement of only 15% port inspection coverage except when the landings contain is GHL which in this case the coverage is 100%,
- Many landed catch in PSC3 are reported by species and by combined divisions where the vessels fished during the trip, e.g. reporting the landed catch "RED 3LMNO" would constitute redfish species belonging to 3 different stocks.

On moving forward, ideas emerged concerning stock separation (in addressing the 2nd bullet above). For example, proportions using CAT data can be derived and applied as correction factors in the PSC3 data.

In the intersession, the Secretariat provided the SC, for its full fish stock assessment work in June 2017, the 2016 catch estimates which were derived by applying the *Strategy*, of the following stocks: 2+3KLMNO GHL, 3LNO PLA, 3M COD, 3NO COD, 3M PLA, 3M RED, 3NO WIT, and 3NO.

The EU proposal for a study on "Catch estimates methodologies" was also discussed. Canada questioned the role of the CDAG-WG, and the NAFO Secretariat in the study. The EU agreed on reviewing the Terms of reference accordingly. Canada suggested including "best practices" instead of "single approach" as it could be seen as too prescriptive. Canada offered to provide detailed comments on the proposal in writing to the EU following the meeting. The EU undertook to meet with the NAFO Secretariat during Scientific Council to discuss the way forward.

4. WebEx Meeting, August 2017

Katherine Sosebee (USA), co-Chair of the WG, opened the meeting at 09:00 hours on 24 August 2017. Representatives from the following Contracting Parties were in attendance: Canada, European Union, and United States of America (Annex 2)

Three Working Papers were presented by the Secretariat: 2016 catch estimates for all stocks that were fully assessed by SC in June 2017, GHL reporting by Division in PSC3s, and comparison of 2014 GHL estimates between CDAG and SC.

The Secretariat proposed minor amendments to the wording CDAG catch estimation strategy in order to correct potential ambiguity. Following some discussion, it was agreed to amend the wording. The revised text is included as annex 1.

It was agreed that The Secretariat will apply the CDAG method to all NAFO managed stocks for 2017 catches. WG-CR will review all analyses completed by the NAFO Secretariat of the 2017 catch estimates in early 2018 and consider forwarding PSC3 data as per recommendations 3 a) and 3b) to STACTIC for further consideration at their 2018 intersessional. In order for Scientific Council to complete their work, the catch

estimates from WG-CR should be made available to them no later than 01 May. This will only be possible if Contracting Parties take steps to ensure that reports are submitted in a timely fashion in order to facilitate the work of CDAG/CR.

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. Recommendations arising from the meetings

The CDAG recommends that:

- 1. in an effort to improve operating efficiency, the WG-CR and CDAG be merged into a single technical body with a revised terms of reference to address outstanding issues related to catch reporting; in particular oversight and implementation of the catch estimation strategy and possible ongoing refinement;**
- 2. The NAFO Secretariat apply the CDAG method to all NAFO managed stocks for 2017 catches to be reviewed by WG-CR or its successor in early 2018;**
- 3. to support the ongoing application and refinement of the catch estimate methodology, that the NAFO Secretariat would, in developing their estimates of 2017 catches:**
 - a. analyze the amount of coverage per species by weight of fish caught in the NAFO Regulatory Area that are inspected in port;**
 - b. calculate the availability of port inspection data on a division basis for all NAFO managed species;**
 - c. continue to evaluate the trips where there is a 50% or greater difference between reported CATs and PSC3 landings on a case by case basis;**
- 4. that the Commission request that STACTIC review the submission deadlines of haul by haul data (Article 28.8.b of the NAFO CEM) with the goal of reducing the timeframe for which information is made available for the generation of catch estimates and;**
- 5. that the Commission request that STATIC review current measures relating to reporting of catch by NAFO Division to identify and implement improvements which ensure the most reliable information is available for catch estimation, recognizing its importance in stock assessments.**

Annex 1. Revised *Catch Estimation Strategy* developed by CDAG

Available Data

In recent years, there have been many improvements in the data that vessel masters are required to provide when fishing in the NAFO Regulatory Area (NRA). To date, CDAG has assessed the utility of these data sources and concluded that some data sources, such as tow by tow data, are not in a usable condition for this year.

It is anticipated that with recent improvements to the NAFO Conservation and Enforcement Measures (NCEM), as well as the resolution of technical issues relating to the submission and utilization of tow by tow data that this data source will be ready for use for the validation/estimation of catch. In the case of observer data, further assessment is required of the availability and improvements required to make that data useful.

In evaluating the utility of the current sources of data, CDAG decided that the most complete and timely data available are the daily catch reports (CAT)¹ which are reported by vessel masters to the Secretariat.

Given the completeness and timeliness of the CAT data, it is suggested that this be used as the base data.

Catch weighed off and recorded by port inspection (PSC3) is considered the most accurate. Based on these two factors, the following estimation methodology is proposed:²

1. Where PSC3 data is available, this equivalent live weight (plus recorded discard weight from CATs) be used;
2. For trips where no PSC3 data is available, a correction factor be applied to the sum of the CATs for that trip. The correction factor is defined as follows: the average per cent difference (weighted by catch) between the CAT total and the PSC3 total for other trips by that same vessel;
3. If no PSC3 data is available at the vessel level, then a flag state factor be determined using the methodology in (2) using all vessels of that flag state;
4. If port inspection data³ other than PSC3 data can be made available by the flag State, use those or;
5. Where no port inspection data are available on a flag State level, the values from the CATs (CA + RJ) be used.

¹ In some instances, SC documents refer to this as DCR

² In instances where the difference between CAT and PSC3 is greater than 50%, it is suggested that the Secretariat follow up with the appropriate Fisheries Monitoring Centre to ensure there is no administrative error. If no error exists but the discrepancy is related to extenuating circumstances which cannot be reconciled by the Secretariat, or because an AI was issued that explains the difference, then the data from that trip should not be used in the development of any correction factor.

³ The CP should demonstrate that the data is of a comparable standard to PSC3

Annex 2: Participation List

April 2017	
Canada	Don Power Lloyd Slaney Bob Fagan Ray Walsh
European Union	Manuel Carmona-Yebra Sebastian Rodriguez-Alfaro Fernando Gonzales-Costas Diana Gonzalez-Troncoso Ricardo Alpoim
	Temur Tairov
United States of America	Katherine Sosebee (Chair)
Denmark (in respect of Faroe Islands + Greenland)	Elin Mortensen
Secretariat	Ricardo Federizon Tom Blasdale Jana Aker
May 2017	
United States of America	Katherine Sosebee (Chair)
European Union	Ricardo Alpoim Sebastian Rodriguez-Alfaro Fernando Gonzales-Costas Diana Gonzalez-Troncoso
Canada	Don Power Lloyd Slaney Bob Fagan Ray Walsh
Secretariat	Ricardo Federizon Tom Blasdale Jana Aker
August 2016	
United States of America	Katherine Sosebee (Chair)
Canada	Bob Fagan Don Powers Ray Walsh Lloyd Slaney
European Union	Raluca Ivanescu Fernando Gonzales-Costas
Secretariat	Tom Blasdale Jana Aker Fred Kingston