

**PART A: SCIENTIFIC COUNCIL MEETING – 19 MARCH 2013**

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## **1. Introduction**

At their September 2012 meeting, Scientific Council recommended that Designated Experts and the Chairs of STACREC, STACFIS and SC meet by correspondence before the June 2013 meeting to address outstanding issues regarding the lack of alternate sources of information for catch estimates, the consequences this would have for assessment and advice, and to propose solutions to these problems.

As a consequence, a meeting was held by WebEx on 19<sup>th</sup> March 2013, chaired by Carsten Hvingel, Scientific Council chair, with participation by representatives of Canada, Denmark (in respect of Greenland), the European Union (France, Portugal and Spain) and Norway. The Scientific Council Coordinator, Neil Campbell, was also in attendance.

The meeting was called to order at 9AM AST. The Chair welcomed participants and set out the scope of the problem – namely, that over time, fewer and fewer sources of data have been available to Scientific Council for the purpose of estimating catches for use in stock assessments, until the situation in 2012, where the only available source of information on catches in 2011 was STATLANT 21A. The group was asked to address two questions; what position Designated Experts will be in, with respect to catch data, for producing assessments at the June meeting, and, if further information is not available, what is their proposal for a way forwards.

The Chair opened the floor for comments. The feeling of the group was that the focus of this meeting should not only be to address the data problem in the current year, but also to address the lack of a catch figure for 2011 in those stocks where this will be problematic. The agenda (Appendix I) was adopted without modification. The List of Participants is at Appendix II.

## **2. Data availability and usability for catch estimation – status**

Prior to the meeting, participants were asked to assess the sources of information available to them which may be useful in estimating levels of catches, other than the official catch statistics.

### **a) Contracting Parties**

As in 2012, it was noted that there would be no information available to Scientific Council from the scientific observer schemes or from surveillance estimates of Contracting Parties. It may be possible, by the June meeting, to examine figures from Canadian observers in two Grand Banks fisheries (Div. 3NO Cod and Div. 3LNO American plaice), as these are the most intensively observed, however it was noted that coverage only extends to approximately 5% of the fleet and any figure derived should be treated with caution.

### **b) Secretariat**

The Secretariat holds information derived from the Vessel Monitoring System (VMS – speed and position and heading of vessels operating in the NAFO regulatory area) and Vessel Transmitted Information (daily reports of catches and discards). While it is clear that Scientific Council has access to VMS data for the purposes of providing advice to Fisheries Commission, the situation regarding access to the VTI reports, which would be needed to examine catches per unit effort, remains unclear. It was felt that this would be a useful point to raise in future discussions with the Fisheries Commission.

Scientific Council requested the Secretariat to prepare a summary of VMS effort data, by flag State, Division and year, stratified into four depth categories (<200m, 200m – 400m, 400 – 700m and 700m+), for circulation in advance of the June meeting, in order that the scale of any changes in effort distribution be quantified.

## **3. Guidelines for June**

Prior to the meeting, the Chair circulated a spreadsheet to Designated Experts to identify those stocks where the discrepancy between STATLANT and STACFIS figures was greatest, and where the absence of a reliable STACFIS estimate would pose serious problems to the current assessment method. This exercise identified three stocks which gave cause for concern, Div. 3M Cod, Greenland halibut in Div. 2J3KLMNO and American plaice in Div. 3LNO.

**a) Cod in Div. 3M**

This stock is assessed using a Bayesian Extended Survivors Assessment (XSA) method. In 2012 this model was applied without an agreed estimate of catch by placing a prior on the size of catch in 2011 and allowing the model to estimate the value. In the 2013 assessment, two approaches were proposed; in the first, the model would be allowed to estimate catch in both 2011 and 2012, in the second, the model would initially estimate catch at age in 2011, which would then be fixed and these values used to predict the catch in 2012. It was noted that the first method would produce an assessment with higher uncertainty. It was also noted that this was not a long-term solution, each year for which catches are estimated increases the uncertainty in the model outputs, and an assessment with appropriate catch data is still the goal.

**b) Greenland halibut in Div. 2J3KLMNO**

The group noted that the TAC for this stock is still set under the survey-based harvest control rule, therefore in the short term, the lack of catch estimates means that Scientific Council will lack one of the agreed primary indicators when advising on the existence of exceptional circumstances. This harvest control rule is due to be reviewed in 2014, and the exploration of alternative methods which are robust to uncertain or missing catch data (such as a Bayesian XSA) should be explored. It was noted that an invitation has been extended to Scientific Council from ICES to participate in a benchmark working group on Greenland halibut, and that this would be discussed in further detail during the June meeting.

**c) American Plaice in Div. 3LNO**

Although this stock was identified amongst the most problematic, a full assessment is not due this year. At the 2012 Scientific Council meeting two approaches were proposed, comparing a five-year ratio of STATLANT to STACFIS catch estimates as a raising factor for the official data, or using a more country-specific approach to raise the 2011 and 2012 figures. Neither of these was accepted by Scientific Council as the basis for an assessment. It was agreed to explore alternative methods and examine the outcomes of the VMS data analysis for further consideration in June.

**d) Other stocks**

The other stocks assessed by Scientific Council are detailed in the table attached as Appendix III. Of these, the status of Div. 3O Redfish was discussed. This stock does not at present have an agreed assessment model; therefore the group felt that it was somewhat robust to uncertainty in catch levels.

**4. Discussion – ways forward after June**

The group felt that creating a document describing the methods used by Scientific Council to estimate catch would be a valuable exercise, which could exist as a separate annex, in a manner similar to the current descriptions of surveys. Furthermore, a document outlining the reasons for using alternative catch estimates in assessments would be a valuable contribution to both the understanding of the Fisheries Commission and to the work of the independent peer-review group, in terms of expressing the implications a switch to lower catches will have on perceptions of stock biomass and reference points. It was also suggested that a standard methodology could be developed describing the work of scientific observers and requiring such information to be submitted to Scientific Council from all Contracting Parties.

**5. Other business**

The group discussed the issue of the regular Scientific Council *Ad hoc* Catch Working Group, and whether there was any value in it meeting by correspondence this year. After discussion with the chair of STACREC, it was agreed that he would liaise with the Secretariat on the level of submission of STATLANT 21 data in advance of the June meeting to produce a spreadsheet of catches for assessment purposes, and a meeting can be arranged at a later date to discuss any issues if required.

The Chair thanked all participants for their work and thanked the Secretariat for their support. The meeting was adjourned at 11.20 AST.



## ANNEX I

	Species	Catch estimate		Comment	Alternative solution for 2013 assessment
		2011	2012		
RED	GHL 2+3KLMNO	no	no	Canada may analyse ancillary information on catch, EU will not have data, other nations: unknown.	1. Use statistical assessment models that can cope with uncertainty in catches (could be biomass dynamic as the one in NWWG). 2. Can VMS provide estimates? 3. ?
GR.	GHL SA 0+1	STATLANT	STATLANT	STATLANT $\approx$ STACFIS	NA
RED	A. Plaice 3LNO	no	no	Canada may analyse ancillary information on catch, EU will not have data, other nations: unknown.	1. Use statistical assessment models that can cope with uncertainty in catches. 2. Can VMS provide estimates? 3. ?
GR	A. Plaice 3M			STATLANT $\approx$ STACFIS; catch low	NA
YELLOW	Cod 3M	yes	yes	Canada may analyse ancillary information on catch, EU will not have data, other nations: unknown.	Incorporate uncertainty in catches in assessment model
GREEN	Cod 3NO	STATLANT	STATLANT	Effect of discrepancy between STATLANT and STACFIS likely small due to low catches.	NA (if catches were to increase in future, we might have a problem)
GREEN	Red 3NO	STATLANT	STATLANT	Assessment method robust to some uncertainty in catch estimates	NA
YELLOW	Red 3M	?	?	Moderate discrepancy between STATLANT and STACFIS	Catch uncertainty can be incorporated or ignored(?)
YELLOW	Red 3LN	?	?	Large discrepancies between STATLANT and STACFIS	Problems ahead?

GREEN	Witch 2L3KL	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; Assessment method robust to some uncertainty in catch estimates	NA
GREEN	Witch 3NO	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; Assessment method robust to some uncertainty in catch estimates	NA
GR	Yellowtail 3LNO	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; stock high, catch low	NA
GREEN	T Skate 3LNOPs	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; Assessment method robust to some uncertainty in catch estimates	NA
GREEN	White Hake 3NOPs	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; Assessment method robust to some uncertainty in catch estimates	NA
GR	Shrimp 3M	STATLANT	STATLANT	STATLANT $\approx$ STACFIS	NA
GR	Shrimp 3LNO	STATLANT	STATLANT	STATLANT $\approx$ STACFIS	NA
GREEN	RHG (Fernando's)	STATLANT	STATLANT	STATLANT $\approx$ STACFIS; Assessment method robust to some uncertainty in catch estimates	NA
GR	RHG SA0+1	STATLANT	STATLANT	STATLANT $\approx$ STACFIS	NA

