Northwest Atlantic Fisheries Organization

Serial No. N6589 **NAFO SCS Doc. 16/15**

SCIENTIFIC COUNCIL MEETING – MARCH 2016

NAFO Scientific Council Precautionary Approach Working Group

Chair: Kathy Sosebee (USA) **Rapporteurs: Neil Campbell & Tom Blasdale**

A subgroup of Scientific Council met via webex at 0800 AST on 3 March 2016 to discuss a plan of work for the revision to the NAFO Precautionary Approach (PA) Framework. The meeting was attended by representatives from Canada, EU (France, Portugal & Spain) and the USA, as well as the ICES and NAFO Secretariats. The meeting was chaired by the SC Chair, Kathy Sosebee (USA). The Chair welcomed participants, particularly the new SC Coordinator, Tom Blasdale, to the meeting and introduced the terms of reference for the review as requested by Fisheries Commission (FC Doc. 15/19). The outgoing and incoming SC Coordinators, Neil Campbell and Tom Blasdale, were appointed as rapporteurs. The chair noted that the terms of reference were ambitious but not unachievable, and expressed the view that this was the first step in a process of dialogue between SC and FC which may require several further sessions. The agenda was accepted without amendment.

Review of current PA Framework

The chair presented the current NAFO Precautionary Approach Framework (FC.Doc 04/18). The group noted several areas where the framework is poorly aligned with current practice, such as the lack of defined B_{buf} values, lack of a clear definition of "low probability" for each stock, the absence of a biological basis for F_{lim} in the NAFO framework, and the inconsistency between B_{lim}, F_{lim} and F_{msy}.

Review of Terms of Reference

Terms of reference for the review of the PA Framework were established by Fisheries Commission in September 2015 (FC. Doc. 15/19). As a first step, the group reviewed these to establish their suitability.

In terms of review and confirming the NAFO PA reference point definitions on page 3 of FC Doc. 04/18, the group expressed a strong desire to learn from previous work carried out both in the adoption of the current framework, and in support of its implementation, and felt this was key to making progress on ToRs 1a-b. It was recognized that the framework is a precautionary approach to management, and takes a quantitative approach which may not be appropriate to all stocks.

It was noted that in recent time, decisions on TACs were far more likely to be taken in line with the scientific advice than in the period when the PA framework was being developed, and that this change in ethos reflects a move towards the more risk-aware environment in which we now operate. It was felt that an important part of this work was to look at the advice provided as well as the actions taken as a result in order to determine whether or not SC and FC were communicating successfully on the issues of risk about stock status and reference points.

On the topic of management strategies, risks and courses of action in relation to the various zones of the PA framework, the group noted the work carried out in this regard for various stocks by FC-WGCPRS and FC-SC WGRBMS. It was felt that clarification of the roles of SC and FC in the process

would be beneficial, with FC specifying objectives and performance metrics, and SC developing harvest control rules to test against these.

The misalignment between the way in which advice is requested in Annex I of the FC requests (e.g. SC Doc. 16/01) and the specifications of the PA framework was discussed. Projections at a range of *F* values are requested, to provide a range of catch options, rather than projections at a value of *F* which gives a low (~20%) risk of exceeding F_{lim}. The group noted these tables were developed jointly by FC and SC, and it would be beneficial to restructure them in a similar collaborative manner. An alternative proposal was to replace the risk table with advice based on a range of *F* options, with risk being expressed as the likelihood of a stock falling below B_{buf} or B_{lim} under each option, the size of B_{buf} being proportional to the degree of uncertainty in the assessment.

As regards management actions taken in the various zones of the framework, the group considered it difficult to generalize management actions from a single framework which will be applicable to the diverse range of species, life-histories and statuses for the stocks on which Scientific Council advises.

On the distinction between MSY and limit/target related reference, it was noted that the creation of this working group was recommended by WG-RBMS in 2015 after a presentation from a co-chair of the group on the inconsistency between F_{lim} and B_{lim}, and the shortcomings in implementation of the current framework in both the provision of advice and the setting of TACs. It was suggested that an approach along the lines used in ICES whereby stocks are classified on the quantitative nature of their assessment (analytical, survey trends, catch only, etc.) and different "frameworks" applied which may be more appropriate than the "one size fits all" model. For the 22 stocks on which NAFO advises, two frameworks may be sufficient – one for those for which risk can be computed, and one for those for which it cannot.

As a means to gauge the current position of stocks with regard to the PA framework, as well as to understand how this information has been communicated to FC and the management decisions which have been enacted as a result, the STACFEN chair agreed to draft a template for circulation to Designated Experts which they would be requested to fill with information on their stock.

On the subject of how a revised PA framework can fit within an Ecosystem Approach, the group noted the work carried out by WG-ESA in the development of catch ceilings and multispecies models. In general, this work has suggested that the summation of MSY values for single species assessments is higher than that obtained from multispecies ecosystem models, and this needs to be born in mind in any revised framework. In ICES similar work on development of multispecies models has been carried out, however it has been difficult to establish the trade-offs they require for implementation in management advice.

In conclusion, it was felt that in general the terms of reference were appropriate and could be addressed by Scientific Council; however the consideration of the PA framework as part of the Ecosystem Approach is a large task and should be deferred until after the review of bottom fisheries is completed and approached in conjunction with WG-ESA.

Timeline of future meetings

It was noted that although this group is a working group of Scientific Council and any formal recommendations need to be reviewed by that body, an interim report could be made to the joint FC-SC Working Group on Risk Based Management Strategies, meeting in early April. It was agreed that a further meeting of the PAWG immediately prior to the WG-RBMS was necessary, to review any work which is to be presented. The chair agreed to circulate a poll to participants to determine the best date and time for this meeting, and a proposed timeline for the work of this group.

Other matters

The STACFIS chair presented a summary of intersessional progress on the presentation of risk. This issue arose from the questions from FC in September regarding the interpretation of the overlap of the distributions around the values of F and F_{msy}.

Unless there was evidence to the contrary, it was proposed that Scientific Council would assume normality of distribution of these variables. It was further noted that there is a potential for overestimating risk for stocks which have a distribution about their parameters, compared to those with only point values.

The issue of correlation between distribution of reference point and current F estimates was raised. Assessments which incorporate correlation in their estimation of F and F_{msy}, such as ASPIC, are likely to be more conservative than assessment methods which estimate F, F_{msy}, and their associated uncertainty independently, on the basis of the same data. It was felt that while this may be an important thing to take into account, it is difficult to get estimates of uncertainty about reference points for many NAFO stocks, and the incorporation of F/F_{msy} correlations would be secondary to developing a consistent approach across stocks, either by taking out the uncertainty and using the point estimates to communicate risk, or making assumptions about the distributions of F and F_{msy} in assessments where they are unknown.

Adoption of Report

The rapporteurs agreed to circulate a report to the Chair and participants, for adoption by correspondence.

Adjournment

The chair thanked participants for their hard work, particularly those for whom it was early in the day, and wished the departing SC Coordinator well in his new position. The meeting adjourned at 1000 AST.

Annex I – List of Participants

Canada
Peter Shelton

USA
Paul Rago
Fred Serchuk
Kathy Sosebee (chair)

EU
Ricardo Alpoim
Fernando Gonzalez
Diana Gonzalez
Joel Vigneau

ICES Secretariat
Carmen Fernandez

NAFO Secretariat
Tom Blasdale
Neil Campbell

Annex II - Terms of Reference

1. To clarify the following elements:
    a. To confirm/review the NAFO PA reference points definition in page 3 of FC Doc. 04/18.
    b. To confirm/review the NAFO Management strategies and courses of action, including risk levels, on page 3 of FC Doc. 04/18
    c. Distinction between MSY and limit/target related reference points.
    d. Analysis in support of the development of other reference points (e.g. targets, buffers).
    e. To review the methods for the calculation and interpretation of risk and the quantification and qualification of uncertainties related to them.
    f. For stocks where risk analyses are not possible, provide options on how to establish buffer reference points on a stock by stock basis.
    g. Determine the conditions for when/if reference points should change and / or be reevaluated.
2. Consider how a revised PA can fit within an Ecosystem Approach.
3. In reviewing the NAFO PAF the WG will also take into consideration other Precautionary Approach Frameworks with a focus in the North Atlantic.