Northwest Atlantic Fisheries Organization

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(Adopted)

34th ANNUAL MEETING – SEPTEMBER 2012

Proposal for the updated framework for the presentations of Scientific Advice based on risk

The NAFO Contracting Parties:

Mindful of the NAFO Performance Assessment Review, in particular the recommendation to enhance the application of risk-based assessment approaches when evaluating management strategies;

Recalling the 2011 Plan of Action developed by the General Council Working Group for the Implementation of the Recommendation of the NAFO Performance Review Panel;

Acting upon the Recommendation number 25 of the aforementioned Plan of Action;

Noting the distinct separation of competencies between the Scientific Council and the Fisheries Commission;

Noting the usefulness and importance of the presentation of scientific advice in a tabled risk based approach to managers in order to enable them to take well informed decisions based on best available science;

Request the Scientific Council to present the Scientific Advice for the stocks assessed in 2013 and after following the guidelines indicated as Annex A and B below. These guidelines should replace the current Annex 1 of the Fisheries Commission request for scientific advice.

These guidelines shall be reviewed and adjusted as appropriate based on the experience of its application at the latest in 2016.

ANNEX A: Guidance for providing advice on Stocks Assessed with an Analytical Model

The Fisheries Commission request the Scientific Council to consider the following in assessing and projecting future stock levels for those stocks listed above. These evaluations should provide the information necessary for the Fisheries Commission to consider the balance between risks and yield levels, in determining its management of these stocks:

1. For stocks assessed with a production model, the advice should include updated time series of:

- Catch and TAC of recent years
- Relative Biomass
- Relative Fishing mortality
- Stock trajectory against reference points
- And any information the Scientific Council deems appropriate.

Stochastic short-term projections (3 years) should be performed under the following conditions:

- For stocks opened to direct fishing:
    - Projections based on constant fishing mortality at: 2/3 F_{MSY}, 3/4 F_{MSY}, 85% F_{MSY}, F_{SQ} (*status quo*);
    - Projections based on constant yield at: Current TAC and relevant percentage above and/or below the current TAC;
- For stocks under a moratorium to direct fishing: F_{SQ}, F = 0.

Results from stochastic short term projection should include:

- The 10%, 50% and 90% percentiles of the yield and total biomass;
- The risks of stock population parameters increasing above or falling below available biomass and fishing mortality reference points. The table indicated below should guide the Scientific Council in presenting the short term projections.

				Limit reference points													
				F<Flim			B>Blim				F<Fmsy			B>Bmsy			By+2 > By-2**
Constant fishing mortality levels or yield as indicated above**	Yield in y* (50%)	Yield in y+1 (50%)	Yield in y+2 (50%)	y	y+1	y+2	y	y+1	y+2		y	y+1	y+2	y	y+1	y+2	
F or Yield Options																	
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%
	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%	%

*y = First year of the projections

** y-2 = Last year of the stock assessment

The Scientific Council might consider other projections options.

2. For stock assessed with an age-structured model, information should be provided on stock size, spawning stock sizes, recruitment prospects, historical fishing mortality. Graphs and/or tables should be provided for all of the following for the longest time-period possible:

- Catch and TAC of recent years
- historical yield and fishing mortality;
- spawning stock biomass and recruitment levels;
- Stock trajectory against reference points

And any information the Scientific Council deems appropriate

Stochastic short-term projections (3 years) should be performed with the following constant fishing mortality levels:

- For stocks opened to direct fishing:
    - Projections based on constant fishing mortality at: $F_{0.1}$, F_{MAX}, F_{MSY}, F_{SQ};
    - Projections based on constant yield at: Current TAC and relevant percentage above and/or below the current TAC;
- For stocks under a moratorium to direct fishing: F_{SQ}, F = 0.

Results from stochastic short term projection should include:

- The 10%, 50% and 90% percentiles of the yield, total biomass, spawning stock biomass and exploitable biomass for each year of the projections
- The risks of stock population parameters increasing above or falling below available biomass and fishing mortality reference points. The table indicated below should guide the Scientific Council in presenting the short term projections.

				Limit reference points														
				F<Flim			B>Blim			F<F0.1			F<Fmax			By+2 > By-2
Constant fishing mortality levels or yield as indicated above*	Yield in y	Yield in y+1	Yield in y+2	y	y+1	y+2	y	y+1	y+2	y	y+1	y+2	y	y+1	y+2	
F or Yield Options	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%
	t	t	T	%	%	%	%	%	%	%	%	%	%	%	%	%

*y = First year of the projections

** y-2 = Last year of the stock assessment

The Scientific Council might consider other projections options.

ANNEX B: Guidance for providing advice on Stocks Assessed without a Population Model

For those resources for which only general biological and/or catch data are available, few standard criteria exist on which to base advice. The stock status should be evaluated in the context of management requirements for long-term sustainability and the advice provided should be consistent with the precautionary approach.

The following graphs should be presented, for one or several surveys, for the longest time-period possible:

a) time trends of survey abundance estimates
b) an age or size range chosen to represent the spawning population
c) an age or size-range chosen to represent the exploited population
d) recruitment proxy or index for an age or size-range chosen to represent the recruiting population.
e) fishing mortality proxy, such as the ratio of reported commercial catches to a measure of the exploited population.
f) Stock trajectory against reference points

And any information the Scientific Council deems appropriate.

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