INFORMATION PAPER: NAFO EXCEPTIONAL CIRCUMSTANCES PROTOCOL

This paper is intended to provide an example of an exceptional circumstances protocol that could be informative to ICCAT's management strategy evaluation (MSE) process for North Atlantic albacore. To further the MSE process in 2020, the criteria for determining exceptional circumstances should be agreed. The SCRS initiated the process in 2018 but further work is required.

The SCRS Working Group on Stock Assessment Methods (WGSAM) as well as the Dialogue Group developed and discussed a set of potential principles that could inform the development of criteria for exceptional circumstances. These groups identified two general principles that would signal the possibility of exceptional circumstances:

1.   When there is evidence that the stock is in a state not previously considered to be plausible in the context of the MSE; and/or,

2.   When there is evidence that the data required to apply the HCR are not available or are no longer appropriate.

These principles are general in nature and can be modified for use with any stock. In the case of North Atlantic albacore tuna, the Committee adopted the following table that identifies the list of indicators that could be used to judge whether exceptional circumstances exist.

Principle	*Indicator*	*Frequency of estimation*	*Normal range criterion*	*Frequency of evaluation of Exceptional Circumstances*
System state	Stock biomass	Each Full Assessment	As defined by full range of values in the OMs used in the MSE	Each full Assessment
	Fishing Mortality			
	Growth	After completion of new study		After completion of new study
	Maturity			
	Natural Mortality			
Application of the HCR	CPUE	Potentially annually	As defined by full range of values in the OMs used in MSE	Each time MP is to be applied
	Catch	Annually		

The Northwest Atlantic Fisheries Organization (NAFO) has completed its development of exceptional circumstances process. Similar to the work outlined above in ICCAT, NAFO agreed on the conditions that would constitute exceptional circumstances, associated indicators, and how these were to be employed. This became known as the NAFO Exceptional Circumstances Protocol.

The NAFO Exceptional Circumstances Protocol was developed as part of the organization's MSE for Greenland halibut and was adopted at its 2019 annual meeting. The Protocol clearly identifies the criteria which constitute exceptional circumstances and whether these are occurring.

In addition to the criteria for identifying exceptional circumstances and determining whether they are occurring, NAFO has developed a decision tree to illustrate the actions required by various NAFO bodies when an exceptional circumstance has been determined.

The NAFO Exceptional Circumstances Protocol is laid out in **Annex 1** to this paper and has been shared with the sole intent of provoking discussion in the context of the North Atlantic albacore MSE.

NAFO Exceptional Circumstances Protocol

The following criteria constitute Exceptional Circumstances:
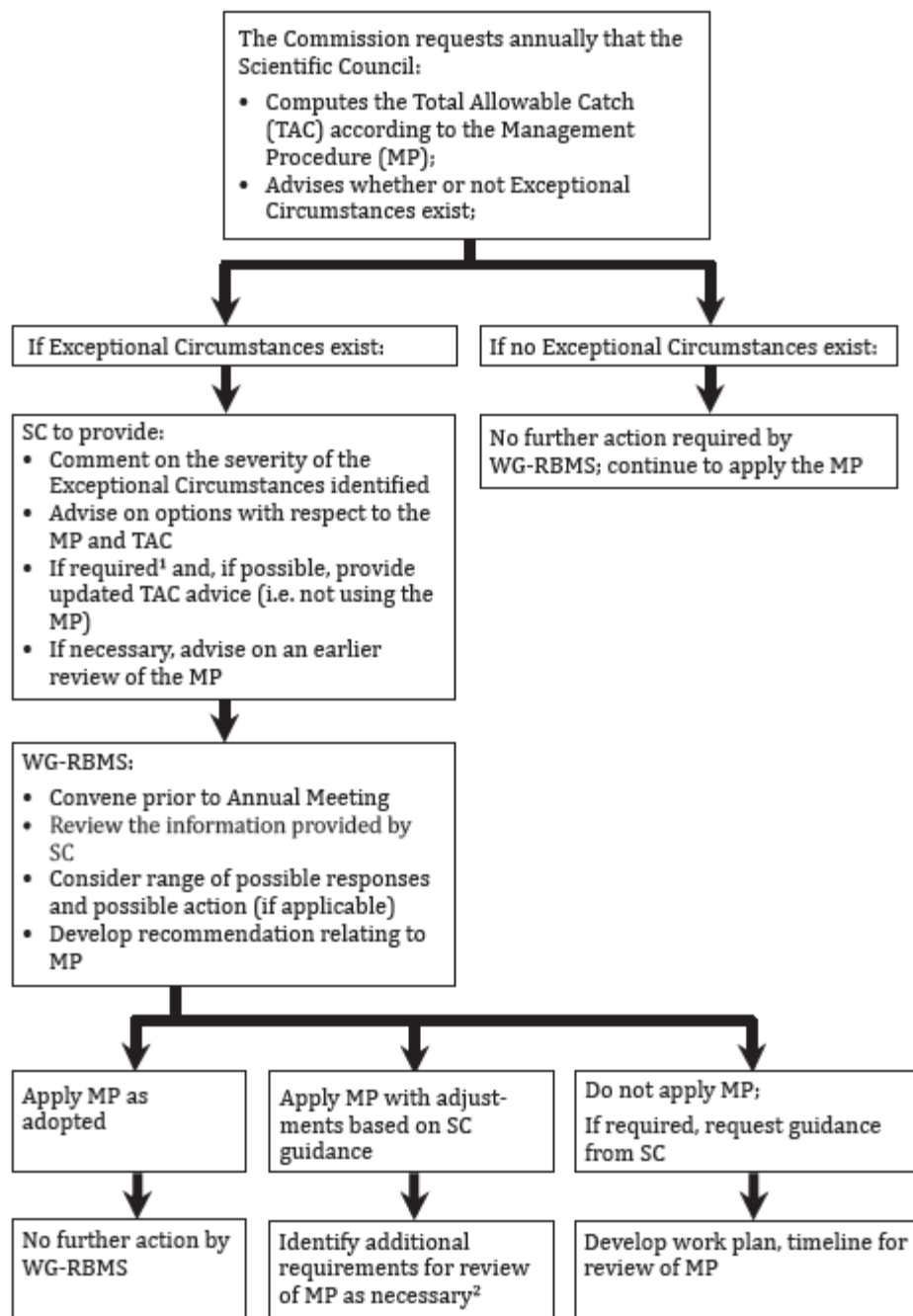
1. Missing survey data:

    –   More than one value missing, in a five-year period, from a survey with relatively high weighting in the Harvest Control Rule (HCR) (Canadian Fall 2J3K, Canadian Fall 3LNO, and EU 3M surveys);

    –   More than two values missing, in a five-year period, from a survey with relatively low weighting in the HCR (Canadian Spring 3LNO and EU-Spain 3NO surveys);

2. The composite survey index used in the HCR, in a given year, is above or below the 90 percent probability envelopes projected by the base case operating models from SSM and SCAA under the MS; and/or,

3. TACs established that are not generated from the Management Procedure.

The following elements will require application of expert judgment to determine whether Exceptional Circumstances are occurring:

1. The five survey indices relative to the 80, 90, and 95 percent probability envelopes projected by the base case operating models (SSM and SCAA) for each survey;

2. Survey data at age four (age before recruitment to the fishery) compared to its series mean to monitor the status of recruitment; and,

3. Discrepancies between catches and the TAC calculated using the MP[1].

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[1] Noting that 10% exceedance of TAC was tested during MSE.

The Commission requests annually that the Scientific Council:

- Computes the Total Allowable Catch (TAC) according to the Management Procedure (MP);
- Advises whether or not Exceptional Circumstances exist;

If Exceptional Circumstances exist:

If no Exceptional Circumstances exist:

SC to provide:
- Comment on the severity of the Exceptional Circumstances identified
- Advise on options with respect to the MP and TAC
- If required[1] and, if possible, provide updated TAC advice (i.e. not using the MP)
- If necessary, advise on an earlier review of the MP

No further action required by WG-RBMS; continue to apply the MP

WG-RBMS:
- Convene prior to Annual Meeting
- Review the information provided by SC
- Consider range of possible responses and possible action (if applicable)
- Develop recommendation relating to MP

Apply MP as adopted

Apply MP with adjustments based on SC guidance

Do not apply MP;

If required, request guidance from SC

No further action by WG-RBMS

Identify additional requirements for review of MP as necessary[2]

Develop work plan, timeline for review of MP

Figure 1. Decision tree illustrating actions to be taken in the event of Exceptional Circumstances.

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[1] For example, where the SC determines that, in the light of identified exceptional circumstances, the application of the TAC generated by the MP may not be appropriate.

[2] This review may include updated assessment, sensitivity analysis, etc.