

Northwest Atlantic Fisheries Organization

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In all correspondence please refer to:

NAFO/23-099

03 April 2023

TO: Scientific Council Representatives; and Designated Experts for Stock Assessments

Dear Colleagues,

Subject: Provisional Agenda – *Meeting of the Scientific Council*, 02-15 June 2023

In accordance with Rule 4.2 of the *NAFO Rules of Procedure: Scientific Council*, the Provisional Agenda for the **Meeting of the Scientific Council**, **02-15 June 2023** is hereby circulated to all Contracting Parties.

Please find enclosed the following:

- General Information (Appendix I)
- Provisional Agenda (Appendix II)
 - \circ Requests for advice from the Commission (Annex 1),
 - o coastal State request for advice from Denmark (on behalf of Greenland) (Annex 2),
 - coastal State request from Canada (Annex 3).
- Provisional Timetable (Appendix III)
- Experts for Preliminary Assessment of Certain Stocks (Appendix IV)
- Meeting Venue (Appendix V)
- Accommodation and Travel Information (Appendix VI)

All relevant meeting documentation will be accessible on the NAFO Meetings SharePoint (<u>https://meetings.nafo.int/sc/2023/june</u>) as it becomes available. We kindly ask your assistance in providing this information to the members of your meeting delegation.

Yours sincerely,

Brynhildur Benediktsdóttir Executive Secretary

BB:dbm

APPENDIX I: GENERAL INFORMATION

Scientific Council Meeting, 02-15 June 2023

1. Agenda

In accordance with Rule 4 of the *NAFO Rules of Procedure: Scientific Council*, the Provisional Agenda for the **02-15 June 2023 Meeting of the Scientific Council** is hereby circulated to all Contracting Parties (Appendix I). This includes the requests for advice from the Commission (Annex 1), Denmark (on behalf of Greenland) (Annex 2) and Canada (Annex 3).

2. Time and Place

- a) The Scientific Council and its Standing Committees will meet at the Saint Mary's University, 903 Robie St., Halifax, NS, Canada from 02-15 June 2023. Registration will begin at 0900 hours on 02 June 2023 in the on-site Secretariat office. In anticipation of continuing travel restrictions resulting from the COVID pandemic, provisions will also be made to allow participation by Webex.
- b) The **Executive Committee** will meet at 0900 hours on 02 June 2023. The opening session of the **Scientific Council** will begin at 1000 hours on 02 June 2023.
- c) The Provisional Timetable for the Scientific Council and its Standing Committees is in Appendix II.

3. Documentation

Documentation concerning the June 2023 Meeting is also on the Scientific Council SharePoint site (<u>https://meetings.nafo.int/sc/2023/june</u> - please contact the Secretariat if login information is required).

Designated Experts

- a) Further to the Scientific Council nominations at its meetings in 2022, Designated Experts responsible for providing preliminary assessments for certain stocks to STACFIS are listed in Appendix IV.
- b) The Scientific Council has recommended that National Representatives to the Scientific Council take an active role in ensuring that all data (see item 4 below), including the STATLANT 21A reports for 2021, are prepared and submitted to the Secretariat in advance of the meeting. Special attention is required of them to ensure Designated Experts receive the necessary data for assessments and other relevant data by <u>12 May 2023</u>.
- c) Designated Experts are requested to forward their **assessment papers to reach the Secretariat before 26 May 2023**, for pre-meeting distribution. These preliminary assessments will be first issued as working papers and then will be revised as necessary before the end of the meeting for issue as formal documents. Papers sent to the Secretariat will be posted on the SC SharePoint site (see above).

Scientific Papers

- a) Scientists submitting papers (Research Documents (SCR Docs), Summary Documents (SCS Docs)), for consideration at the Meeting are requested to submit their papers in advance for pre-meeting distribution <u>before 26 May 2023</u>. Title, Author(s) and Abstract (250 words or less) must be submitted in order for documents to be assigned a number. The Scientific Council prescribed format guidelines for preparation of scientific papers (and assessment papers) are given on the SharePoint site. All papers being submitted are requested in electronic form (MS Word compatible format). Documents must be presented to the meeting in person or by a designate.
- b) Author(s) are requested to inform the Secretariat (personally or through the representative) at the time of submission, whether or not STACPUB should consider its suitability for publication in the *Journal of Northwest Atlantic Fishery Science* (information for preparing manuscripts for primary publications is given at https://jnafs.scholasticahq.com/for-authors).

4. Data Requirements

- a) In accordance with the *Rules of Procedure: Scientific Council* (Rule 4.4), **STATLANT 21A** data from Contracting Parties containing provisional nominal catches in 2022 for all species by Division, are required to reach the Secretariat before the deadline of <u>01 May 2023</u>.
- b) In accordance with the *Rules of Procedure: Scientific Council* (Rule 4.4), **STATLANT 21B** data from Contracting Parties containing final nominal catches and fishing effort in 2022 for all species by Division and Month, are required to reach the Secretariat before the deadline of <u>31 August 2023</u>.

Designated Experts should recognize that the STATLANT 21B returns for 2022 are not normally available for the June meeting.

This letter also serves as a reminder of other data requirements (NAFO/23-040):

- National Research Reports for 2022.
- Inventories of biological surveys in 2022 and planned for 2023 and early 2024.
- List of Biological sampling data for 2022.
- RV Surveys on a stock by stock basis by Designated Experts.

These should be submitted to reach the Secretariat by **<u>12 May 2023</u>**.

Similarly, environmental data to the Department of Fisheries and Oceans Canada, Oceans Science Branch, Marine Environmental Data Section (MEDS), formerly the Integrated Science Data Management (ISDM), to facilitate the work of the Standing Committee of Fisheries and Environment (STACFEN) should be submitted directly to MEDS (NAFO/23-033).

5. Representatives, Alternates, Experts and Advisers

In accordance with Rule 1 of the *Rules of Procedure: Scientific Council*, each Contracting Party shall notify the Executive Secretary of the <u>names of its representatives</u>, <u>alternates</u>, <u>experts and advisers</u> who will attend the meeting, before the commencement of the meeting.

6. Location

Information on the location (CLARI Hub (AT340), Atrium Building, Saint Mary's University, 903 Robie St., Halifax, NS, Canada) is given in Appendix V with additional travel information provided in Appendix VI.

APPENDIX II: PROVISIONAL AGENDA

Scientific Council Meeting, 02-15 June 2023

- I. Opening (Scientific Council Chair: Karen Dwyer)
 - 1. Appointment of Rapporteur
 - 2 Presentation and Report of Proxy Votes
 - 3. Adoption of Agenda
 - 4. Attendance of Observers
 - 5. Appointment of Designated Experts
 - 6. Plan of Work
 - 7. Housekeeping issues
- II. Review of Scientific Council Recommendations in 2022
- III. Fisheries Environment (STACFEN Chair: Miguel Caetano)
 - 1. Opening
 - 2. Appointment of Rapporteur
 - 3. Adoption of Agenda
 - 4. Review of Recommendations in 2022
 - 5. Invited speaker
 - 6. Department of Fisheries and Oceans Canada, Oceans Science Branch, Marine Environmental Data Section (MEDS) Report for 2022
 - 7. Review of the physical, biological and chemical environment in the NAFO Convention Area during 2022
 - 8. Formulation of recommendations based on environmental conditions during 2022
 - 9. Other Matters
 - 10. Adjournment
- IV. Publications (STACPUB Chair: Rick Rideout)
 - 1. Opening
 - 2. Appointment of Rapporteur
 - 3. Adoption of Agenda
 - 4. Review of Recommendations in 2022
 - 5. Review of Publications
 - a) Annual Summary
 - i) Journal of Northwest Atlantic Fishery Science (JNAFS)
 - ii) Scientific Council Studies
 - iii) Scientific Council Reports
 - 6. Other Matters
 - a) Deadlines for report drafting
 - 7. Adjournment

V. Research Coordination (STACREC Chair: Diana González-Troncoso)

- 1. Opening
- 2. Appointment of Rapporteur
- 3. Review of Recommendations in 2022
- 4. Fishery Statistics
 - a) Progress report on Secretariat activities in 2022/2023
 - i) Presentation of catch estimates from the CESAG, daily catch reports and STATLANT 21A and 21B
- 5. Research Activities
 - a) Biological sampling
 - i) Report on activities in 2022/2023
 - ii) Report by National Representatives on commercial sampling conducted

- iii) Report on data availability for stock assessments (by Designated Experts)
- b) Biological surveys
 - i) Review of survey activities in 2022 and early 2023 (by National Representatives and Designated Experts)
 - ii) Surveys planned for 2023 and early 2024
- c) Tagging activities
- d) Other research activities
- 6. Review of SCR and SCS Documents
- 7. Other Matters

a) Update on Canadian survey comparative fishing and conversion factors for new vessels b) Update on inshore tagging of Greenland Halibut in 0A

- 8. Adjournment
- VI. Fisheries Science (STACFIS Chair: Mark Simpson)
 - I. Opening
 - II. General Review of Catches and Fishing Activity
 - III. Stock Assessments
 - 1. Greenland halibut (*Reinhardtius hippoglossoides*) in SA 0+1 offshore (evaluate new data/full assessment)
 - 2. Greenland halibut (*Reinhardtius hippoglossoides*) Div. 1A inshore Divs. 1BC inshore, Div. 1D inshore and Divs. 1EF inshore (monitor)
 - 3. Demersal redfish and deep-sea redfish (Sebastes spp.) in SA 1 (full assessment)
 - 4. Wolffish in SA 1 (full assessment)
 - 5. Golden redfish (Sebastes norvegicus aka S. marinus) in Div. 3M (monitor)
 - 6. Cod (*Gadus morhua*) in Div. 3M (full assessment)
 - 7. Redfish (Sebastes mentella and Sebastes fasciatus) in Div. 3M (full assessment)
 - 8. American plaice (*Hippoglossoides platessoides*) in Div. 3M (full assessment)
 - 9. Cod (Gadus morhua) in Divs. 3NO (monitor)
 - 10. Redfish (Sebastes mentella and Sebastes fasciatus) in Divs. 3L and 3N (monitor)
 - 11. American plaice (*Hippoglossoides platessoides*) in Divs. 3LNO (monitor)
 - 12. Yellowtail flounder (Limanda ferruginea) in Divs. 3LNO (full assessment)
 - 13. Witch flounder (Glyptocephalus cynoglossus) in Divs. 3NO (monitor)
 - 14. Capelin (Mallotus villosus) in Divs. 3NO (monitor)
 - 15. Redfish (Sebastes mentella and Sebastes fasciatus) in Div. 30 (monitor)
 - 16. Thorny skate (*Amblyraja radiata*) in Divs. 3LNO and Subdiv. 3PS (monitor)
 - 17. White hake (Urophycis tenuis) in Divs. 3NO and Subdiv. 3PS (full assessment)
 - 18. Roughhead grenadier (Macrourus berglax) in SA 2 and 3 (monitor)
 - 19. Greenland halibut (*Reinhardtius hippoglossoides*) in SA 2 + Divs. 3KLMNO (under management strategy: (monitor, COM request #2)
 - 20. Northern shortfin squid (*Illex illecebrosus*) in SA 3+4 (monitor)
 - 21. Splendid alfonsino (*Beryx splendens*) in SA 6 (monitor)

IV. Other Matters

- a) FIRMS Classification for NAFO Stocks
- b) Other Business
- V. Adjournment
- VII. Management Advice and Responses to Special Requests (See Annex 1)
 - 1. Fisheries Commission (Annex 1)
 - a) Request for Advice on TACs and Other Management Measures (Item 1, Annex 1) For 2024
 - cod in Div. 3M

<u>For 2024 and 2025</u> - redfish in Div. 3M - yellowtail flounder in Divs. 3LNO - white hake in Divs. 3NO <u>For 2024, 2025 and 2026</u> - American plaice in Div. 3M

- b) Monitoring of Stocks for which Multi-year Advice was provided in 2021 or 2022 (Item 1) golden redfish in Div. 3M
 - cod in Divs. 3NO
 - American plaice in Divs. 3LNO
 - redfish in Divs. 3LN
 - witch flounder in Divs. 3NO
 - capelin in Divs. 3NO
 - redfish (Sebastes mentella and Sebastes fasciatus) in Div. 30
 - alfonsino stocks in the NAFO Regulatory Area
 - roughhead grenadier in Subareas 2 and 3
 - thorny skate in Divs. 3LNO
 - Northern shortfin squid in SA 3+4
- c) Special Requests for Management Advice
 - i) Greenland halibut in SA2 + Divs. 3KLMNO: monitor, compute the TAC using the agreed HCR and determine whether exceptional circumstances are occurring (request #2, Commission priority)
 - ii) continue the evaluation of trawl surveys on VMEs (request #3)
 - iii) continue to advance work on the 2+3KLMNO Greenland halibut and 3LN redfish MSE processes (request #4, Commission priority)
 - iv) include summary information on TCI in stock summary sheets and ecosystem summary sheets. (request #5a)
 - v) work to support WG-EAFFM in exploring management considerations for occasions in which the 2TCI ecosystem reference point were to be exceeded and effective methods to communicate TCI-related information to the Commission, in particular for when 2TCI is, or expected to be exceeded (request #5b).
 - vi) complete the development of the 3LNO ecosystem summary sheet (ESS), advance as much as possible the development of the 3M ESS, and continue working, if capacity allows, toward undertaking a joint Workshop with ICES on reporting on North Atlantic ecosystems (request #5c).
 - vii) complete the re-assessment of previously recommended closures of 7a, 11a, 14a and 14b (request #6a)
 - viii) support the Secretariat in creating standardized data layers (request #6b)
 - ix) continue working with WG-EAFFM towards developing operational objectives for the protection of VMEs and biodiversity in the NRA (request #6c).
 - x) continue progression on the review of the NAFO PA Framework in accordance to the PAF review work plan (request #7, Commission priority)
 - xi) update the 3-5 year work plan (request #8)
 - xii) presentation of any new results from stock assessments and the scientific advice of pelagic *Sebastes mentella* (ICES Divisions V, XII and XIV; NAFO 1) (request #9)

- xiii) include any new Canadian stock assessments for cod 2J3KL (Canada), witch flounder 2J3KL (Canada) as an annex to the SC's annual report (request #10)
- xiv) ongoing analysis of the Flemish Cap cod fishery (request #11)
- xv) potential impact of activities other than fishing in the Convention Area (request #12, conditional on CPs providing appropriate additional expertise to SC).
- 2. Coastal States
 - a) Request by Denmark (Greenland) for Advice on Management in 2024 (Annex 2)
 - i) Golden redfish, demersal deep-sea redfish, Atlantic wolffish and spotted wolfish in Subarea 1
 - ii) Atlantic Wolffish and Spotted Wolffish in Subarea 1
 - iii) Monitoring of Stocks for which Multi-year Advice was provided in 2021 or 2022;
 - Greenland halibut, inshore, Northwest Greenland (Item 3)
 - b) Request by Canada and Greenland for Advice on Management in 2024 (Annex 2, Annex 3)
 - i) Greenland Halibut, offshore (evaluate whether the data collected in 2022 is sufficient to reconsider the harvest recommendation for 2024).
- VIII. Review of Future Meetings Arrangements
 - 1. Scientific Council shrimp meeting, 11 to 15 September 2023
 - 2. Scientific Council, 18 to 22 September 2023
 - 3. WG-ESA, 14 to 23 November 2023
 - 4. Scientific Council, June 2024
 - 5. Scientific Council (in conjunction with NIPAG), 2024
 - 6. Scientific Council, Sep. 2024
 - 7. WG-ESA, Nov. 2024
 - 8. NAFO/ICES Joint Groups
 - a) NIPAG
 - b) WG-DEC
 - c) WG-HARP
- IX. Arrangements for Special Sessions
 - 1. Topics for future Special Sessions
- X. Meeting Reports
 - 1. Working Group on Ecosystem Science and Assessment (WG-ESA), 15-24 Nov. 2022
 - 2. Report from ICES-NAFO Working Group on Deepwater Ecosystems (WG-DEC), 16-20 May 2022
 - 3. Meetings attended by the Secretariat
- XI. Review of Scientific Council Working Procedures/Protocol
 - 1. General Plan of Work for September 2023 Annual Meeting
 - 2. Priority actions for Scientific Council from the Performance Review Panel WG (adopted by the NAFO Commission in September 2019):
- XII. Other Matters
 - 1. Designated Experts
 - 2. Election of Chairs
 - 3. Budget items
 - 4. Other Business
 - a) NAFO internship program 2024
- XIII. Adoption of Committee Reports
 - 1. STACFEN
 - 2. STACREC

- STACPUB
 STACFIS

XIV. Scientific Council Recommendations to Commission

XV. Adoption of Scientific Council Report

XVI. Adjournment

ANNEX 1. COMMISSION'S REQUEST FOR SCIENTIFIC ADVICE ON MANAGEMENT IN 2024 AND BEYOND OF CERTAIN STOCKS IN SUBAREAS 2, 3 AND 4 AND OTHER MATTERS

(from SCS Doc. 23/01)

Following a request from the Scientific Council, the Commission agreed that items 1, 2, 4 and 7 should be the priority for the June 2023 Scientific Council meeting subject to resources and COVID-related restrictions.

1. The Commission requests that the Scientific Council provide advice for the management of the fish stocks below according to the assessment frequency presented below. In keeping with the NAFO Precautionary Approach Framework (FC Doc. 04/18), the advice should be provided as a range of management options and a risk analysis for each option without a single TAC recommendation. The Commission will decide upon the acceptable risk level in the context of the entirety of the SC advice for each stock guided and as foreseen by the Precautionary Approach.

Yearly basis	Two-year basis	Three-year basis
Cod in Div. 3M	Redfish in Div. 3M	American plaice in Div. 3LNO
Northern shrimp in Div. 3M	Thorny skate in Div. 3LNO	American plaice in Div. 3M
	Witch flounder in Div. 3NO	Northern shortfin squid in SA 3+4
	Redfish in Div. 3LN	Redfish in Div. 30
	White hake in Div. 3NO	Cod in Div. 3NO
	Yellowtail flounder in Div. 3LNO	
	Northern shrimp in Div. 3LNO	

Advice should be provided using the guidance provided in **Annexes A or B as appropriate**, or using the predetermined Harvest Control Rules in the cases where they exist (currently Greenland halibut 2+3KLMNO). However, for 3M shrimp supplementary advice in terms of fishing-days should also be considered to the extent feasible.

To implement this schedule of assessments, the Scientific Council is requested to conduct a full assessment of these stocks as follows:

- In 2023, advice should be provided for 2024 for Cod in Div. 3M and Northern shrimp in Div. 3M.
- With respect to Northern shrimp in Div. 3M, Scientific Council is requested to provide its advice to the Commission prior to the 2023 Annual Meeting based on the survey data up to and including 2023.
- In 2023, advice should be provided for 2024 and 2025 for: Redfish in Div. 3M, White hake in Div. 3NO, Yellowtail flounder in Div. 3LNO and Northern shrimp in Div. 3LNO.
- In 2023, advice should be provided for 2024, 2025 and 2026 for: American plaice in Div. 3M.

The Commission also requests the Scientific Council to continue to monitor the status of all other stocks annually and, should a significant change be observed in stock status (e.g. from surveys) or in bycatch in other fisheries, provide updated advice as appropriate.

- 2. The Commission requests the Scientific Council to monitor the status of Greenland halibut in Subarea 2 + Div 3KLMNO annually to compute the TAC using the agreed HCR and determine whether exceptional circumstances are occurring. If exceptional circumstances are occurring, the exceptional circumstances protocol will provide guidance on what steps should be taken.
- 3. The Commission requests that Scientific Council continue its evaluation of the impact of scientific trawl surveys on VME in closed areas and the effect of excluding surveys from these areas on stock assessments.

- 4. The Commission requests that Scientific Council continue to advance work on the 2+3KLMNO Greenland halibut and 3LN redfish MSE processes during 2022-2023, as per the approved 2023 workplan [COM-SC RBMS WP 22/07], in particular :
 - a. Review and finalize the data series to be used for the two MSEs;
 - b. For the Greenland Halibut MSE: (1) propose, review and finalize Operating Models (OMs) to be used; and (2) Test Candidate Management Procedures (CMPs) to support the RBMS recommendation of an HCR to the Commission; and
 - c. For the 3LN Redfish MSE: (1) Proposal of an initial review of Operating Models; and (2) work to support the development of performance statistics and CMPs.
- 5. The Commission requests that the Scientific Council continue to work on tiers 1 and 2 of the Roadmap, specifically to:
 - a. Include on a regular basis summary information on TCI in stock summary sheets (including indications of other NAFO managed stocks within the corresponding guild) and ecosystem summary sheets.
 - b. Work to support WG-EAFFM in exploring:
 - i. Management considerations for occasions in which the 2TCI ecosystem reference point were to be exceeded, similar to those when exceptional circumstances are triggered within MSE.
 - ii. Effective methods to communicate TCI-related information to the Commission, in particular for when 2TCI is, or expected to be exceeded.
 - c. Complete the development of the 3LNO ecosystem summary sheet (ESS), advance as much as possible the development of the 3M ESS, and continue working, if capacity allows, toward undertaking a joint Workshop with ICES (International Council for the Exploration of the Sea) on reporting on North Atlantic ecosystems.
- 6. In relation to the habitat impact assessment component of the Roadmap (VME and SAI analyses), the Commission requests that Scientific Council to:
 - a. Complete the re-assessment of its previously recommended closures of 7a, 11a, 14a and 14b, incorporating catch and effort data for fisheries of shrimp from 2020 and 2021 into the fishing impact assessments. This work is needed for the 2023 WG-EAFFM meeting;
 - b. Support the Secretariat in creating standardized data layers (using GIS), and products with supporting documentation (including metadata) for periodic reassessment purposes required to support the implementation of the NAFO Roadmap towards an Ecosystem Approach; and
 - c. Continue working with WG-EAFFM towards developing operational objectives for the protection of VMEs and biodiversity in the NRA.
- 7. The Commission requests Scientific Council to continue progression on the review of the NAFO PA Framework in accordance to the PAF review work plan approved in 2020 and revised in 2022 (NAFO COM-SC Doc. 20-04), specifically:
 - a. Develop a small set of revised PA frameworks based on the conclusions of the first PA Framework workshop to inform RBMS in proposing a draft revised framework in 2023; and

- b. Apply in an illustrative way the revised PA frameworks to selected NAFO stocks, and consider how the SC advice may have differed under the revised PA Frameworks to inform RBMS in proposing a draft revised framework in 2023
- 8. The Commission requests Scientific Council to update the 3-5 year work plan, which reflects requests arising from the 2022 Annual Meeting, other multi-year stock assessments and other scientific inquiries already planned for the near future. The work plan should identify what resources are necessary to successfully address these issues, gaps in current resources to meet those needs and proposed prioritization by the Scientific Council of upcoming work based on those gaps.
- 9. The Commission requests that any new results from stock assessments and the scientific advice of Pelagic Sebastes mentella (ICES Divisions V, XII and XIV; NAFO 1) to be presented to the Scientific Council, and request the Scientific Council to prepare a summary of these assessments to be included in its annual report.
- 10. The Commission requests that any new Canadian stock assessments for Cod 2J3KL and Witch flounder 2J3KL be included as an annex to the Scientific Council's annual report.
- 11. The Commission requests Scientific Council, jointly with the Secretariat, to conduct ongoing analysis of the Flemish Cap cod fishery data by 2023 in order to:
 - a. monitor the consequences of the management decisions (including the analysis of the redistribution of the fishing effort along the year and its potential effects on ecosystems, the variation of the cod catch composition in lengths/ages, and the bycatch levels of other fish species, benthos in general, and VME taxa in particular); and
 - b. carry out any additional monitoring that would be required, including Div. 3M cod caught as bycatch in other fisheries during the closed period.
- 12. The Commission requests Secretariat and the Scientific Council with other international organizations, such as the FAO and ICES to inform the Scientific Council's work related to the potential impact of activities other than fishing in the Convention Area. This would be conditional on CPs providing appropriate additional expertise to Scientific Council.

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

The 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
- Catch to relative biomass
- 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 with the following constant fishing mortality levels as appropriate:

- For stocks opened to direct fishing: 2/3 F_{msy}, 3/4 F_{msy}, 85% F_{msy}, 90% F_{msy},95% F_{msy}, F_{msy} 0.75 X F_{status} quo, F_{status} quo, F_{status} quo, F_{status} quo, F_{status} quo, 90% TAC Status quo, 95% TAC Status quo
- For stocks under a moratorium to direct fishing: F_{status quo}, F = 0.

The first year of the projection should assume a catch equal to the agreed TAC for that year.

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.

				LIIIILI	ererence	points				1							1	D(D
				P(F>F _{li}	m)		P(B <b<sub>li</b<sub>	m)			P(F>Fms	sy)		P(B <b<sub>m</b<sub>	isy)			P(B ₂₀₂₆ > B ₂₀₂₃)
F in 2023 and following years*	Yield 2023 (50%)	Yield 2024 (50%)	Yield 2025 (50%)	2023	2024	2025	2023	2024	2025		2023	2024	2025	2023	2024	2025		
2/3 F _{msy}	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
3/4 Fmsy	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
85% F _{msy} 90% F _{msy}	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
95% F _{msy}																		
F _{msy}	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
0.75 X F _{status quo}	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
Fstatus quo	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
1.25 X F _{status quo}	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
F=0	t	t	t	%	%	%	%	%	%		%	%	%	%	%	%		%
TAC _{status quo}																		
85% TACstatus quo 90% TACstatus quo																		
95% TACstatus quo																		

Limit reference points

- 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:
- 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 as appropriate:

- For stocks opened to direct fishing: F_{0.1}, F_{max}, 2/3 F_{max}, 3/4 F_{max}, 85% F_{max}, 75% F_{status quo}, F_{status quo}, 125% F_{status quo},
- For stocks under a moratorium to direct fishing: F_{status quo}, F = 0.
 The first year of the projection should assume a catch equal to the agreed TAC for that year.

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 F	eference	points										
				P(F.>Fı	im)		P(B <b)< th=""><th>lim)</th><th></th><th>P(F>F0</th><th>.1)</th><th></th><th>P(F>Fn</th><th>nax)</th><th></th><th>P(B₂₀₂₆ > B₂₀₂₃)</th></b)<>	lim)		P(F>F0	.1)		P(F>Fn	nax)		P(B ₂₀₂₆ > B ₂₀₂₃)
F in 2023 and following years*	Yield 2023	Yield 2024	Yield 2025	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025	
F0.1	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
F _{max}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
66% F _{max}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
75% F _{max}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
85% F _{max}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
0.75 X Fstatus quo	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
F _{status quo}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%
1.25 X F _{status quo}	t	t	t	%	%	%	%	%	%	%	%	%	%	%	%	%

Limit reference points

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.

ANNEX 2. DENMARK (ON BEHALF OF GREENLAND) REQUESTS FOR SCIENTIFIC ADVICE ON MANAGEMENT IN 2024 AND BEYOND OF CERTAIN STOCKS IN SUBAREA 0 AND 1 (from SCS Doc. 23/03)

Denmark (on behalf of Greenland) hereby requests for scientific advice on management in 2024 of certain stocks in NAFO Subareas 0 and 1. Denmark (on behalf of Greenland) requests the Scientific Council for advice on the following species:

1. Golden Redfish and Demersal Deep-Sea Redfish

Advice on Golden redfish (*Sebastes marinus*) and demersal deep-sea redfish (*Sebastes mentella*) in Subarea 1 was in June 2020 given for 2021-2023. The Scientific Council is requested to provide advice on appropriate TAC levels for 2024 to 2026.

2. Atlantic Wolffish and Spotted Wolffish

Advice on Atlantic Wolffish (*Anarhichas lupus*) and Spotted Wolffish (*Anarhichas minor*) in Subarea 1 was in June 2020 given for 2021-2023. The Scientific Council is requested to provide advice on appropriate TAC levels for 2024 to 2026.

3. Greenland Halibut, Offshore

Advice on Greenland Halibut, Offshore in Subareas 0 and 1 was in 2022 given for 2023 and 2024. The Scientific Council is requested to evaluate whether the data collected in 2022 is sufficient to reconsider the harvest recommendation for 2024. If so, the Scientific Council is requested to provide updated advice on appropriate TAC levels for 2024, taking the new data into account.

4. Greenland Halibut, Inshore, West Greenland

Advice on the inshore stocks of Greenland Halibut in Subarea 1 was in 2022 given for 2023-2024. The Scientific Council is requested to continue its monitoring of the above stocks and provide updated advice in the event of significant changes in stock levels. Scientific Council are also requested to evaluate the performance of an appropriate analytical assessment model and its perception of the stock trajectory.

5. Northern Shrimp, West Greenland

The Scientific Council is requested, before October, to provide advice on the scientific basis for management of Northern Shrimp (*Pandalus borealis*) in Subareas 0 and 1 in 2024. The advice is requested to be in line with Greenland's stated management objective of maintaining a mortality risk of no more than 35% in the first-year prediction and to provide a catch option table ranging with 5,000 tonne increments. Future catch options should be provided for as many years as data allows for.

6. Northern Shrimp, East Greenland

The Scientific Council is in cooperation with ICES requested to provide advice on the scientific basis for management of Northern Shrimp (*Pandalus borealis*) in Denmark Strait and adjacent waters east of southern Greenland in 2023 and for as many years ahead as data allows for.

ANNEX 3. REQUESTS FROM CANADA FOR ADVICE ON MANAGEMENT IN 2024 (from <u>SCS Doc. 23/04</u>)

Canada would like to submit its request to the Scientific Council for advice on the following species:

1. <u>Greenland halibut (Subarea 0 + 1 (offshore)</u>

In 2022, advice on Greenland Halibut in Subareas 0 and 1 (offshore) was given for 2023 and 2024. The Scientific Council is requested to evaluate whether the data collected in 2022 is sufficient to reconsider the harvest recommendation for 2024. If so, the Scientific Council is requested to provide an updated assessment of status and trends in the total stock area throughout its range and to advise on the 2024 TAC level.

2. <u>Shrimp (Subarea 1 and Division 0A)</u>

Canada requests the Scientific Council to consider the following options in assessing and projecting future stock levels for Shrimp in Subarea 1 and Division 0A:

The status of the stock should be determined and risk-based advice provided for catch options corresponding to Z_{msy} , in 5,000-10,000t increments (subject to the discretion of Scientific Council), with forecasts for 2024 to 2026. These options should be evaluated in relation to Canada's Harvest Strategy (2022 revised version attached) and NAFO's Precautionary Approach Framework, and presented in the form of risk analyses related to B_{msy} , 80% B_{msy} , B_{lim} (30% B_{msy}) and Z_{msy} .

Presentation of the results should include graphs and/or tables related to the following:

- Historical and current yield, biomass relative to B_{msy}, total mortality relative to Z_{msy}, and recruitment (or proxy) levels for the longest time period possible;
- Total mortality (Z) and fishable biomass for a range of projected catch options (as noted above) for the years 2024 to 2026. Projections should include both catch options and a range of effective cod predation biomass levels considered appropriate by the Scientific Council. Results should include risk analyses of falling below: B_{MSY}, 80% B_{msy} and B_{lim} (30% B_{msy}), and of being above Z_{msy} based on the 3-year projections, consistent with the Harvest Decision Rules in Canada's Harvest Strategy; and
- Total area fished for the longest time period possible.

Please provide the advice relative to <u>Canada's Harvest Strategy</u> as part of the formal advice (i.e., grey box in the advice summary sheet).

APPENDIX III: PROVISIONAL TIMETABLE

Scientific Council Meeting, 02-15 June 2023

Date	Time	Schedule
02 June (Friday)	0900	Registration, network connection
	0900-0930	SC Executive
	1000-1030	SC Opening
	1100-1200	STACFIS (Catch WG report, status of documentation, interim monitoring reports)
	1200-1300	Break
	1300-1800	STACFIS/STACFEN
03 June (Saturday)	0900-1200	STACFEN
	1300-1800	Scientific Council/STACFIS
	1830-2030	Scientific Council Reception/event
04 June (Sunday)	No meetings	
05 June (Monday)	0900-1200	STACPUB
	1300-1800	STACREC
06 June (Tuesday)	0900-1800	STACFIS/SC
07 June (Wednesday)	0900-1200	STACFIS/SC
	1300-1800	STACFIS/SC
08 June (Thursday)	0900-1800	STACFIS/SC
09 June (Friday)	0900-1800	STACFIS/SC
10 June (Saturday)	0900-1800	STACFIS Reports
11 June (Sunday)	No meetings	
12 June (Monday)	0830	Scientific Council Executive
	0900-1800	Scientific Council (Standing Committee Reports)
13 June (Tuesday)	0900-1800	Scientific Council
14 June (Wednesday)	0900-1800	Scientific Council
15 June (Thursday)	0900-1800	Scientific Council (advice and adoption of reports)

APPENDIX IV: EXPERTS FOR PRELIMINARY ASSESSMENT OF CERTAIN STOCKS

Designated Experts for 2023:

From the Science Branch, Northwest Atlantic Fisheries Centre, Department of Fisheries and Oceans, St. John's, Newfoundland & Labrador, Canada

Cod in Div. 3NO	Rick Rideout	rick.rideout@dfo-mpo.gc.ca
Redfish Div. 30	Laura Wheeland	laura.wheeland@dfo-mpo.gc.ca
Redfish Div. 3LN	Andrea Perreault	andrea.perreault@dfo-mpo.gc.ca
American Plaice in Div. 3LNO	Laura Wheeland	laura.wheeland@dfo-mpo.gc.ca
Witch flounder in Div. 3NO	Dawn Maddock Parsons	dawn.parsons@dfo-mpo.gc.ca
Yellowtail flounder in Div. 3LNO	Dawn Maddock Parsons	dawn.parsons@dfo-mpo.gc.ca
Greenland halibut in	Daul Dogular	noul regular@dfa_mpa_ga_a
SA 2+3KLMNO	Paul Regular	paul.regular@dfo-mpo.gc.ca
Northern shrimp in Div. 3LNO	Nicolas Le Corre	nicolas.lecorre@dfo-mpo.gc.ca

From the Instituto Español de Oceanografia, Vigo (Pontevedra), Spain

Roughhead grenadier in SA 2+3	Fernando Gonzalez-Costas	fernando.gonzalez@ieo.csic.es
Splendid alfonsino in Subarea 6	Fernando Gonzalez-Costas	fernando.gonzalez@ieo.csic.es
Cod in Div. 3M	Irene Garrido Fernández	irene.garrido@ieo.csic.es
Northern Shrimp in Div. 3M	Jose Miguel Casas Sanchez	mikel.casas@ieo.csic.es

From the Instituto Nacional de Recursos Biológicos (INRB/IPMA), Lisbon, Portugal

American plaice in Div. 3M	Ricardo Alpoim	ralpoim@ipma.pt
Golden redfish in Div. 3M	Ricardo Alpoim	ralpoim@ipma.pt
Redfish in Div. 3M	Ricardo Alpoim	ralpoim@ipma.pt

From the Greenland Institute of Natural Resources, Nuuk, Greenland

Greenland halibut in SA 0+1 Demersal Redfish in SA1 Wolfish in SA1	Adriana Nogueria Rasmus Nygaard Rasmus Nygaard	adno@natur.gl rany@natur.gl rany@natur.gl
Greenland halibut in Div. 1 inshore	Rasmus Nygaard	rany@natur.gl
Northern shrimp in SA 0+1	AnnDorte Burmeister	anndorte@natur.gl
Northern shrimp in Denmark Strait	Tanja B. Buch	TaBb@natur.gl

From Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Russian Federation

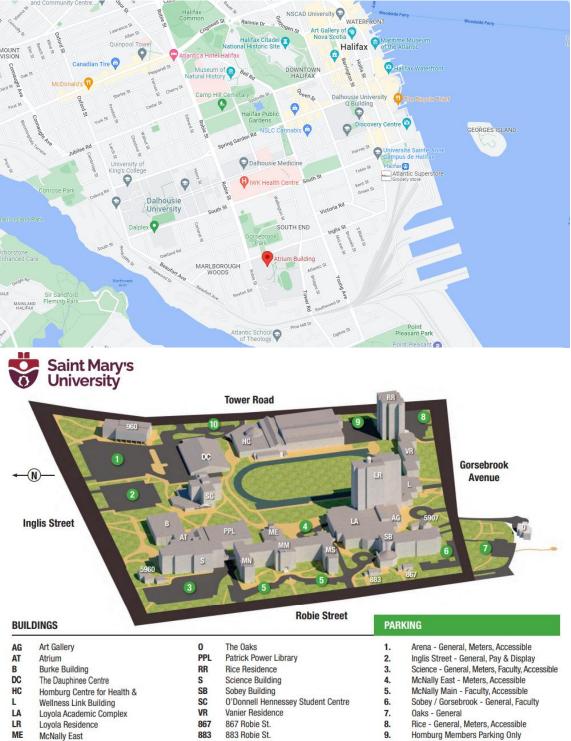
Capelin in Div. 3NO	Konstantin Fomin	fomin@pinro.ru	
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From National Marine Fisheries Service, NEFSC, Woods Hole, Massachusetts, United States of America

Northern Shortfin Squid in SA 3 & 4	Lisa Hendrickson	lisa.hendrickson@noaa.gov
Thorny skate in Div. 3LNO	Katherine Sosebee	katherine.sosebee@noaa.gov
White hake in Div. 3NO	Katherine Sosebee	katherine.sosebee@noaa.gov

APPENDIX V: MEETING VENUE

Map of Halifax showing Meeting Venue CLARI Hub (AT340), Atrium Building, Saint Mary's University, 903 Robie Street, Halifax, NS, Canada, B3H 3C3



MM

MN

MS

McNally Main

McNally North

McNally South

960

5907

5960

960 Tower Rd.

5907 Gorsebrook Ave. 5960 Inglis St.

- Homburg Members Parking Only
- 10. Tower Rd - Meters, Accessible

APPENDIX VI. ACCOMMODATION AND TRAVEL INFORMATION

Meeting Venue

The meeting will be held at:

CLARI Hub (AT340), Atrium Building, Saint Mary's University, 903 Robie Street, Halifax, NS, Canada, B3H 3C3

Hotel Accommodations

Saint Mary's University provides over 700 modern, comfortable and affordable residence beds to conference delegates and tourists from May to August. Rates include taxes, daily hot buffet breakfast, parking, wireless internet and athletic passes. Please note, housekeeping and kitchenware are not provided with the units. You can find more information about SMU accommodations on the University <u>website</u>.

Reservations

Reservations are to be made by participants directly with the University. Reservations can be made by telephone or email; please notify them you are with NAFO when booking:

Toll-Free:1-888-347-5555 (Canada and US only)Email:stay@smu.ca

Alternative Accommodations

There are a variety of hotels in close vicinity to the meeting venue including:

Hotel
Atlantica Hotel Halifax - <u>https://www.atlanticahotelhalifax.com/</u>
1980 Robie Street, Halifax, NS B3H 3G5
Ph: +1 (902) 423-1161
The Lord Nelson - <u>http://www.lordnelsonhotel.ca/</u>
1515 South Park Street, Halifax, NS B3J 2L2
Ph: +1 (902) 423-6331
The Westin - http://www.thewestinnovascotian.com
1181 Hollis Street, Halifax, NS B3H 2P6
Ph: +1 (902) 421-1000

Many people choose to stay in the downtown core of Halifax closer to a greater selection of restaurants and entertainment. You can find a list of accommodations and visitor information on our <u>website</u>.

For those participants choosing not to stay at the meeting venue, Saint Mary's University is conveniently located on several major bus routes.

On-campus dining options

Saint Mary's University has a variety of dining option. A full list of on campus dining options including open times and menus can be found <u>here</u>.

Travel to Canada: Testing and Borders

COVID-19

All federal border testing, quarantine, and isolation to enter Canada requirements ended on 01 October 2022. Be sure to visit the <u>COVID-19</u>: <u>Travel</u>, <u>testing and borders website</u>, to ensure you have the most up to date information.

Electronic Travel Authorization (eTA)

Most travellers need a visa or an <u>Electronic Travel Authorization (eTA)</u> to fly to, or transit through, a Canadian airport. The eTA can be completed online and costs CAD \$7.00. You can find more information about applying for an eTA <u>here.</u>