PART F: MISCELLANEOUS

AGENDA I. SCIENTIFIC COUNCIL MEETING 19 MARCH 2013

1. Welcome/introduction
2. Data availability and usability for catch estimation – status
   a) Contracting parties
   b) Secretariat (VMS, VTI)
   c) Alternative data sources/means of catch estimation?
3. Guidelines for June: How to do the assessment and provide advice
   a) Cod 3M
   b) GHL 2,3KLMNO
   c) A. Plaice 3LNO
   d) Other stocks
4. Discussion: Ways forward after June
   a) Catch review panel, any help?
   b) Initiatives from SC?
5. Other business

AGENDA II. SCIENTIFIC COUNCIL MEETING - 7-20 JUNE 2013

I. Opening (Scientific Council Chair: Carsten Hvingel)

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 2012

III. Fisheries Environment (STACFEN Chair: Gary Maillet)

1. Opening
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Review of Recommendations in 2012
5. Invited speaker
6. Integrated Science Data Management (ISDM) Report for 2012
7. Review of the physical, biological and chemical environment in the NAFO Convention Area during 2012
8. Interdisciplinary studies
9. An update of the on-line annual ocean climate status summary for the NAFO Convention Area
10 Formulation of recommendations based on environmental conditions during 2012
11. National Representatives
12. Other Matters
13. Adjournment

IV. Publications (STACPUB Chair: Margaret Treble)

1. Opening
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Review of Recommendations in 2012

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) Review of Historical ICNAF Documentation
   b) Review of the Format of SC Reports
   c) VME Indicator Species Guide
7. Adjournment

V. Research Coordination (STACREC Chair: Don Stansbury)

1. Opening
2. Appointment of Rapporteur
3. Review of Recommendations in 2012
4. Fishery Statistics
   a) Progress report on Secretariat activities in 2012/2013
      i) STATLANT 21A and 21B
5. Research Activities
   a) Biological sampling
      i) Report on activities in 2012/2013
      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 2012 (by National Representatives and Designated Experts)
      ii) Surveys planned for 2013 and early 2014
      iii) EU Flemish Cap survey manual
   c) Tagging activities
   d) Other research activities
6. Review of SCR and SCS Documents
7. Other Matters
   a) Review of the updated CWP Handbook
   b) Summary of progress on previous recommendations
   c) Stock Assessment Spreadsheets
   d) Historical catch data for publication in an SCS
8. Adjournment

VI. Fisheries Science (STACFIS Chair: Jean-Claude Mahé)

1. Opening
2. General Review
   a) Review of Recommendations in 2012
   b) General Review of Catches and Fishing Activity
3. Stock Assessments

a) Certain Stocks in Subareas 2, 3 and 4; as Requested by the Fisheries Commission with the Concurrence of the Coastal States (Annex 1)

i) Thoroughly assessed stocks (Item 2, Annex 1):
- Capelin in Div. 3LNO (for 2014 and 2015)
- Cod in Div. 3NO (for 2014, 2015 and 2016)
- Cod in Div. 3M (for 2014 and 2015)
- Redfish in Div. 3M (for 2014 and 2015)
- Redfish in Div. 3O (for 2014, 2015 and 2016)
- White hake in Div. 3NO (for 2014 and 2015)
- Yellowtail flounder in Div. 3LNO (for 2014 and 2015)
- Witch flounder in Div. 2J + 3KL (for 2014, 2015 and 2016)
- Northern shortfin squid in SA 3 + 4 (for 2014, 2015 and 2016)

ii) Monitored stocks (Item 2, Annex 1):

- American plaice in Div. 3M
- American plaice in Div. LNO
- Redfish in Div. 3LN
- Witch flounder in Div 3NO
- Thorny Skate in Div. 3LNO

b) Certain Stocks in Subareas 0 and 1, as Requested by Denmark (Greenland) (Annex 2):
   i) Monitored stocks:
      - Roundnose grenadier in SA 0 + 1
      - Golden redfish, Demersal deep-sea redfish, Atlantic wolfish, Spotted wolfish and American plaice in SA 1
      - Greenland halibut in inshore areas of Div. 1A

c) Stocks Overlapping the Fishery Zones in Subareas 0 and 1, as Requested by Canada and by Denmark (Greenland) (Annex 2, Item 1; Annex 2, Item 3):
   i) Thoroughly assessed stocks:
      - Greenland halibut in the offshore area of Divisions 0A+lAB
      - Greenland halibut in Divisions 0B+lC-F

d) Stocks by Scientific Council by its own accord
   i) Roundnose Grenadier in SA 2+3

4. Stocks under a Management Strategy Evaluation (FC Item 4a)
   a) Greenland halibut in SA 2 and Div. 3KLMNO
5. Other Matters
   a) FIRMS Classification for NAFO Stocks
   b) Other Business
6. Adjournment

VII. Management Advice and Responses to Special Requests

1. Fisheries Commission (Annex 1)
   a) Request for Advice on TACs and Other Management Measures (Item 2, Annex 1))
      For 2014 and 2015
      - Capelin in Div. 3NO
      - Cod in Div. 3M
      - Redfish in Div. 3M
      - White hake in Div. 3NO
      - Yellowtail flounder in Div. 3LNO
      For 2015, 2015 and 2016
      - Cod in Div. 3NO
      - Northern shortfin squid in SA 3 + 4
      - Redfish in Div. 3O
      - Witch flounder in Div. 2J + 3K
   b) Monitoring of Stocks for which Multi-year Advice was provided in 2011 or 2012 (Item 2)
      - American plaice in Div. 3M
      - American plaice in Div. LNO
      - Redfish in Div. 3LN
      - Witch flounder in Div 3NO
      - Thorny Skate in Div. 3LNO
   c) Special Requests for Management Advice
      i) Harvest Control Rules for Greenland halibut (Item 4a)
      ii) Exceptional circumstances in the Greenland halibut management strategy (Item 4b)
      iii) Consequences resulting from a decrease in mesh size in the mid-water trawl fishery for redfish in Div. 3LN to 90mm or lower (Item 5)
      iv) Provide B_{msy} and F_{msy} for cod in Div. 3M (Item 6)
      v) Encounter thresholds for VME indicator species (Item 7)
      vi) Productivity of Cod in Div. 3NO and define MSY reference points (Item 8)
      vii) Witch flounder in Div. 3NO reference points or proxies including B_{lim} (Item 9)
      viii) Reassessment of fishing activity with respect to SAI (Item 10)
      ix) Witch flounder in Div. 3NO exploitable biomass and spawning stock biomass (Item 11)

x) Consideration for reopening stocks under moratorium (Item 12a)
xi) Sustainable harvest rates for healthy stocks (Item 12b)
xii) Progress on the "Roadmap for EAF" (Item 13)
xiii) Stock interactions with Div. 3LNO shrimp (Item 14)
xiv) Sargasso Sea management measures (Item 15)
xv) Analysis of fishing effort (Item 16a)
xvi) Assessment of risk of SAI on VME indicator aggregations and VME elements (Item 16b)

2. Coastal States
   a) Request by Denmark (Greenland) for Advice on Management in 2014 (Annex 2)
      i) Roundnose grenadier in SA 0+1 (Item 1)
      ii) Golden redfish, Demersal deep-sea redfish, Atlantic wolfish, Spotted wolfish and American plaice in SA 1 (Item 2)
      iii) Greenland halibut in inshore areas of Div. 1A (Item 4)
      iv) *Pandalus borealis* east of Greenland and in the Denmark Strait (in conjunction with ICES). (Item 6)
   b) Request by Denmark (Greenland) and Canada for Advice on Management in 2014
      i) Greenland halibut in Div. 0A and the offshore area of Div. 1A, plus Div. 1B (Annex 2, Item 3.1; Annex 3, Item 1)
      ii) Greenland halibut in Div. 0B + Div. 1C-1F (Annex 2, Item 3.2, Annex 3, Item 1)
      iii) *Pandalus borealis* in SA 0 + 1 (Annex 2, Item 5; Annex 3, Item 2)
3. Scientific Advice from Council on its own Accord
   a) Roughhead grenadier in SA2+3 (full assessment)

VIII. Review of Future Meetings Arrangements

1. Scientific Council (in conjunction with NIPAG), 12 – 19 Sep 2013
2. Scientific Council, 23 – 27 Sep 2013
3. Scientific Council, Jun 2014
4. Scientific Council (in conjunction with NIPAG), Sep 2014
5. Scientific Council, Sep 2014
6. NAFO/ICES Joint Groups
   a) NIPAG, 12 – 19 Sep 2013
   b) NIPAG, 2014
7. WGEAFM
8. WGDEC
9. WGRP
10. WGHARP

IX. Arrangements for Special Sessions

1. Topics for future Special Sessions
   a) World Conference on Stock Assessment Methods, Boston, USA, July 2013
   b) Joint ICES – NAFO Gadoid Symposium, St. Andrews NB, Canada, October 2013
   c) ICES IMR Bottom Trawl Symposium, Tromsø, Norway 2014 – Effects of Fishing on Benthic Habitats, Tromsø, Norway, 16-19 June 2014

X. Meeting Reports

1. Working Group on EAFM, Dec 2012
2. Report from WGDEC, Mar 2013
3. Report from WGFMS-VME, Apr 2013
4. Meetings attended by the Secretariat:
   a) ASFA
   b) CWP
   c) FIRMS

XI. Review of Scientific Council Working Procedures/Protocol

1. General Plan of Work for September 2013 Annual Meeting

2. New procedure for reviewing FC requests for advice
3. New advice sheets and advice format with multiple options
4. Other Matters
    a) ICES invitation to participate in Greenland halibut benchmark meetings
    b) Documentation relating to STACFIS catch estimation methods and procedures (GC/FC Request)
    c) Terms of reference for joint SC/FC Groups
    d) Review of Performance Assessment Panel recommendations to SC and progress to date
    e) Implementation of Performance Assessment Panel recommendations

XII. Other Matters

1. Designated Experts
2. Stock Assessment spreadsheets
3. Meeting Highlights for NAFO Website
4. Scientific Merit Awards
5. Budget items
6. Other Business
    a) Review of exploratory fisheries report
    b) Oil and gas exploration in the NAFO Area
    c) Election of SC Officers

XIII. Adoption of Committee Reports

1. STACFEN
2. STACREC
3. STACPUB
4. STACFIS

XIV. Scientific Council Recommendations to General Council and Fisheries Commission

XV. Adoption of Scientific Council Report

XVI. Adjournment

AGENDA III – SCIENTIFIC COUNCIL MEETING - 12-19 SEPTEMBER 2013

I. Opening (Chair: Carsten Hvingel)

1. Appointment of Rapporteur
2. Adoption of Agenda[1]
3. Attendance of Observers
4. Plan of Work

II. Review of Recommendations in 2011 and in 2012

III. NAFO/ICES *Pandalus* Assessment Group (Co-chairs Jean-Claude Mahé and Peter Shelton)

IV. Formulation of Advice (see Annexes 1–3 of Appendix I)

1. Request from Fisheries Commission (Items 3, 4 and 5 of Annex I)
    a) Northern shrimp (Div. 3M)
    b) Northern shrimp (Div. 3LNO)
    c) Stock interactions in Div. 3LNO shrimp (FC Request 14)
    d) Reference points for Div. 3LNO shrimp (FC Request 4)
2. Requests from Coastal States (Items 1 and 2 of Annex II, item 5 of Annex IIIa, Annex IIIb and IIIc)
    a) Northern shrimp (Subareas 0 and 1)
    b) Northern shrimp (in Denmark Strait and off East Greenland)
    c) Harvest Control Rules and B_{msy}

V. Other Matters

1. Scheduling of Future Meetings
2. Topics for Future Special Sessions
3. Other Business

VI. Adoption of Scientific Council and NIPAG Reports

VII. Adjournment

AGENDA IV. NIPAG MEETING – 12-19 SEPTEMBER 2013

I. Opening (Co-chairs: Carsten Hvingel and Peter Shelton)

1. Appointment of Rapporteur
2. Adoption of Agenda[1]
3. Plan of Work

II. General Review

1. Review of Recommendations in 2011 and in 2012
2. Review of Catches

III. Stock Assessments

- Northern shrimp (Division 3M)
- Northern Shrimp (Divisions 3LNO)
- Northern shrimp (Subareas 0 and 1)
- Northern shrimp (in Denmark Strait and off East Greenland)
- Northern shrimp in Skagerrak and Norwegian Deep (ICES Divisions IIIa and IVa East)
- Northern Shrimp in Barents Sea and Svalbard area (ICES Sub-areas I & II)
- Northern shrimp in Fladen Ground (ICES Division IVa)

IV. Finalisation of the report of the Inter-Benchmark Protocol on Northern shrimp in Skagerrak and Norwegian Deep (ICES Div. IIIa and IVa East)

- Results from genetics study to delineate stocks
- Revision of survey length-data
- Re-run of length-based model
- Development of new *K*-prior and re-run of production model
- Documentation of input

IV. Other Business

- FIRMS Classification for NAFO Shrimp Stocks

V. Adjournment

AGENDA V. SCIENTIFIC COUNCIL MEETING, 23 – 27 SEPTEMBER 2013

I. Plenary Session

a) Opening
b) Appointment of Rapporteur
c) Adoption of Agenda
d) Plan of Work –
   i) Election of interim STACFIS chair
   ii) Joint FC-SC session

iii) Feedback on the new advice format

II. Review of SC Recommendations

III. Research Coordination

a) Opening
b) Fisheries Statistics
   i) Progress Reports on Secretariat Activities
      1. Historical Catch Data
   ii) Review of STATLANT 21
   iii) EUROSTAT Working Group
c) Research Activities
   i) Surveys planned for 2012 and early 2013
d) Other Matters
   i) Review of SCR and SCS Documents
   ii) Review of Survey SCS Document
   iii) Other Business
      1. FAO VME Database and ABNJ Project
      2. NAFOtools Package

IV. Fisheries Science

a) Opening
b) Nomination of Designated Experts
c) Other Matters
   i) Review of SCR and SCS Documents
   ii) Other Business

V. Requests from the Fisheries Commission

a) Requests deferred from the June meeting
   i) Mesh Size for Redfish in Div. 3LN
   ii) Sargasso Sea
b) Ad hoc requests from the current meeting

VI. Meeting Reports

a) Fisheries Commission WG-CPRS
b) World Conference on Stock Assessment Methods

VII. Review of future meeting arrangements

a) Future June meeting options

VIII. Future Special Sessions

a) ICES/NAFO Gadoid Symposium
b) Tromso Symposium

IX. Other Matters

a) Election of officers – STACFEN Chair
b) Matters arising from the NAFO Performance Assessment
c) Scientific Merit Awards
d) Awards to out-going Chairs
e) NAFO SC Representation at Central Arctic Ocean – Second Scientific Meeting, 28-31 October, Tromso, Norway

X. Adoption of Reports of STACFIS and STACREC

XI. Report of the Scientific Council

XII. Adjournment

Annex 1. Fisheries Commission's Request for Scientific Advice on Management in 2014 and Beyond of Certain Stocks in Subareas 2, 3 and 4 and Other Matters

1. The Fisheries Commission with the concurrence of the Coastal State as regards to the stocks below which occur within its jurisdiction ("Fisheries Commission") requests that the Scientific Council provide advice in advance of the 2013 Annual Meeting, for the management of Northern shrimp in Div. 3M, 3LNO in 2014. The advice should be provided as a range of management options and a risk analysis for each option (rather than a single TAC recommendation) in accordance to Annex A or B as appropriate.

2. Fisheries Commission requests that the Scientific Council provide advice for the management of the fish stocks below according to the assessment frequency presented below. The advice should be provided as a range of management options and a risk analysis for each option (rather than a single TAC recommendation).

Two year basis	Three year basis
American plaice in Div. 3LNO	American plaice in Div. 3M
Capelin in Div. 3NO	Cod in Div. 3NO
Cod in Div. 3M	Northern shortfin squid in SA 3+4
Redfish in Div 3LN	Redfish in Div. 3O
Redfish in Div. 3M	Witch flounder in Div. 2J+3KL
Thorny skate in Div. 3LNO	Witch flounder in Div. 3NO
White hake in Div. 3NO	
Yellowtail flounder in Div. 3LNO	

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

In 2013, advice should be provided for 2014 and 2015 for Capelin in Div. 3NO, Cod in Div. 3M, Redfish in Div 3M, White hake in Div. 3NO and Yellowtail flounder in Div. 3LNO and for 2014, 2015 and 2016, Cod in Div. 3NO, Northern shortfin squid in SA 3+4, Redfish in Div. 3O and Witch Flounder in div. 2J+3KL.

Advice should be provided using the guidance provided in Annexes A or B as appropriate.

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

3. The Fisheries Commission adopted in 2010 an MSE approach for Greenland halibut stock in Subarea 2 + Division 3KLMNO (FC Working Paper 10/7). This approach considers a survey based harvest control rule (HCR) to set a TAC for this stock on an annual basis. The Fisheries Commission requests the Scientific Council to:

a) Monitor and update the survey slope and to compute the TAC according to HCR adopted by the Fisheries Commission according to Annex 1 of FC Working Paper 10/7.

b) Advise on whether or not an exceptional circumstance is occurring.

4. With respect to Northern shrimp (*Pandalus borealis*) in Div. 3LNO, noting the NAFO Framework for Precautionary Approach and recognizing the desire to demonstrate NAFO's commitment to applying the precautionary approach, Fisheries Commission requests the Scientific Council to:

a) identify F_{msy}

b) identify B_{msy}

c) provide advice on the appropriate selection of an upper reference point for biomass (e.g. B_{buf})

5. Fisheries Commission requests the Scientific Council to examine the consequences resulting from a decrease in mesh size in the mid-water trawl fishery for redfish in Div. 3LN to 90mm or lower.

6. The Fisheries Commission requests the Scientific Council to provide B_{msy} and F_{msy} for cod in Div. 3M.

7. Recognizing the work accomplished by the Scientific Council in 2012 on sea pens and sponges, Fisheries Commission requests the Scientific Council to complete request 17 of 2011 by making recommendations for encounter thresholds and move on rules for small gorgonian corals, large gorgonian corals, sea squirts, erect bryozoans, crinoids and cerianthid anemone which are VME indicator species that meet the FAO Guidelines for VME and SAI. Consider thresholds for 1) inside the fishing footprint and outside of the closed areas and 2) outside the fishing footprint in the NRA, and 3) for the exploratory fishing area of seamounts if applicable. In the case of sea pens and sponges make recommendations for encounter thresholds and move on rules for the exploratory fishing area of seamounts.

8. In the medium term, the Fisheries Commission requests the Scientific Council to continue research on the productivity of 3NO Cod and define MSY reference points.

9. With regards to witch flounder in Div. 3NO, the Fisheries Commission requests the Scientific Council to provide reference points or proxies, including B_{lim}.

10. The Fisheries Commission requests the Scientific Council to use Annex 1.E.V of the NCEM to guide development of their workplan related to reassessment of fishing activity with respect to Significant Adverse Impact (SAI) on VME and would note that this assessment is a single component of the broader EAF Roadmap being developed separately by SC.

11. With regards to witch flounder in Div. 3NO, the Fisheries Commission requests the Scientific Council to provide estimates for exploitable biomass and for spawning stock biomass, or appropriate proxies, as well as smoothing, as appropriate.

12. With regards to stocks without reference points and that cannot be developed, the Fisheries Commission requests the Scientific Council to provide advice on:

a) considerations for reopening stocks under moratorium.

b) what would constitute a sustainable harvest rate for healthy stocks.

13. Report on the progress of the "Roadmap for developing an Ecosystem Approach to Fisheries for NAFO" regarding:

a) The general progress of the Roadmap;

b) Further developments on the stock interactions studies between cod, redfish and shrimp in the Flemish Cap by applying multi species models and by quantifying potential yield and biomass tradeoffs with different fishing mortalities in the multispecies context. The predation of cod over cod juveniles should be taken into account;

c) Developments on stock interaction studies for the Grand Banks (NAFO Divisions 3KL and 3NO). The spatial overlap between these stocks should be considered.

These developments should be considered as exploratory and be part of the progress on the "Roadmap for developing an Ecosystem Approach to Fisheries for NAFO".

14. The Scientific Advice for 3LNO shrimp is based on the assessment of fishable biomass and the trends of exploitation rates. The basic assumption is that exploitation levels are driving the dynamic of this stock. However, interactions between stocks are likely to occur and may substantially contribute to the total mortality of shrimp.

The Fisheries Commission requests the Scientific Council to incorporate as much as possible information on stock interaction between these stocks in the management advice of 3LNO shrimp and to provide sustainable exploitation rates on that basis.

15. The Fisheries Commission requests the Scientific Council to comment and advise on whether the Sargasso Sea provides forage area or habitat for living marine resources that could be impacted by different types of fishing;

and on whether there is a need for any management measure including a closure to protect this ecosystem. The polygon to be considered is the following:

-46.844711060999884 35.722427393000203,-46.32415425899984 35.369106151000096,-45.844178761598414 35.0,-62.202511155429988 35.0,-62.632567558331232 35.258234148636177,-63.272355558926961 35.512762148873321,-63.959640559567163 35.669259149019013,-64.673394560231941 35.722388149068536,-65.385178560894815 35.670316149019982,-66.072834561535274 35.514837148875188,-66.875051562282238 35.198759148580848,-67.211147449541443 35.0,-71.448964644661828 35.0,-71.377610283999786 35.483190472000047,-70.697710570999789 35.847831353000117,-69.781329499999856 36.285738255000183,-68.818622663999804 36.688934769000298,-67.810633268999936 37.057011529000135,-66.767771029999835 37.386320105000095,-65.000031260999833 37.838698970000223,-63.160524424999892 38.183166102000087,-61.276399190999882 38.41419272700017,-59.376124598999866 38.528701613000123,-57.575810995999859 38.528867480000258,-55.796226233999846 38.422925564000195,-54.062624079999807 38.211871163000239,-52.399638263999805 37.898770146000288,-50.826090381999791 37.487278854000067,-49.360484950999876 36.981801336000103,-48.028343332999839 36.39115303900013,-46.844711060999884 35.722427393000203

16. Assessment of risk of significant adverse impacts on VME indicator aggregations and VME elements in the NAFO RA

Fishing effort is not uniformly distributed throughout the NAFO Regulatory Area (NRA) and within the fishing footprint there is considerable variation in the intensity of fishing effort. Defining and mapping the high intensity fishing areas within the NRA would by definition represent low risk areas in terms of significant adverse impacts and therefore encounter protocols and move on rules would have little utility in these areas. Furthermore, an understanding of the relationship between the high intensity fishing areas and the environmental characteristics could be used to identify potential new low risk fishing areas. Further categories of risk should be assessed in relation to known and potential mapped VME areas and the maps of fishing intensity to support a risk based spatial management approach for all areas.

a) The Fisheries Commission requests the SC for an analysis of fishing effort (VMS data) in the NRA to define areas of different levels of fishing intensity (e.g a map of 90%, 80%, 70%... effort) and assess these in conjunction with habitat data in order to map out areas where fishing activities would therefore have no or little significant adverse impact on VMEs and where encounter protocols and move on rules would therefore have little utility. To achieve this, high resolution data is required, (derived from the 2003-present time series of VMS records and logbook records of fishing activity provided by the secretariat and NEREIDA data). The Fisheries Commission requests therefore to the Executive Secretary to provide to the Scientific Council anonymous VMS data and logbook records of fishing activity from 2003 to present.

b) In view of the area management currently implemented and to facilitate evaluation of the need for further protective measures in response to UNGA 61/105, the SC is requested to provide an assessment of risk of significant adverse impacts on VME indicator aggregations and VME elements in the NAFO RA. This assessment should consider spatial and temporal distribution of fishing activity (derived from the 2003-present time series of VMS records and logbook records of fishing activity provided by the secretariat), and the best available knowledge on the spatial distribution of VME indicators and VME indicator elements.

Annx 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:
  - o Projections based on constant fishing mortality at: 2/3 FMSY, 3/4 FMSY, 85% FMSY, FSQ (status quo);
  - o 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: FSQ, 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.

The Scientific Council might consider other projection options.

				Limit reference points													
				$F<F_{lim}$			$B>B_{lim}$			$F<F_{msy}$			$B>B_{msy}$			$B_{y+2}>B_{y-2}$**
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

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:
  - o Projections based on constant fishing mortality at: F0.1, FMAX, FMSY, FSQ;
  - o 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: FSQ, 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														
				$F<F_{lim}$			$B>B_{lim}$				$F<F_{0.1}$			$F<F_{max}$				$B_{y+2} > B_{y-2}$
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 projection 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 and include risk considerations as much as possible.

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. Requests for Advice from Denmark (on Behalf of Greenland)

1. For Roundnose grenadier in Subarea 0 + 1 advice was in 2011 given for 2012-2014. Denmark (on behalf of Greenland) requests the Scientific Council to continue to monitor the status of Roundnose grenadier in Subareas 0 and 1 annually and, should significant changes in the stock status be observed (e.g. from surveys), the Scientific Council is requested to provide updated advice as appropriate.

2. Advice for golden redfish (*Sebastes marinus*), demersal deep-sea redfish (*Sebastes mentella*) American plaice (*Hippoglossoides platessoides*), Atlantic wolfish (*Anarhichas lupus*), spotted wolfish (*A. minor*) in Subarea 1 was in 2011 given for 2012-2014. Denmark (on behalf of Greenland) requests the Scientific Council to continue to monitor the status of these species annually, and should significant change in stock status be observed, the Scientific Council is requested to provide updated advice as appropriate.

3. Subject to the concurrence of Canada as regards Subareas 0 and 1, the Scientific Council is requested to provide advice on appropriate TAC levels for 2014 separately for Greenland halibut in 1) the offshore area of NAFO Division 0A and Division 1A plus Division 1B and 2) NAFO Division 0B plus Divisions 1C-1F. The Scientific Council is also asked to advice on any other management measures it deems appropriate to ensure the sustainability of these resources.

Scientific Council is also requested to provide an adaptive advice on the impact on the Greenland halibut in NAFO Division 0A and Division 1A plus Division 1B in 2014 and beyond of an increase in TAC above the 2013 TAC.

4. Advice for Greenland halibut in Division 1A inshore was in 2012 given for 2013-2014. Denmark (on behalf of Greenland), requests the Scientific Council to continue to monitor the status of Greenland halibut in Subarea 1A inshore annually, and should significant change in stock status be observed, the Scientific Council is requested to provide updated advice as appropriate.

5. Subject to the concurrence of Canada as regards Subarea 0 and 1, Denmark (on behalf of Greenland) further requests the Scientific Council before December 2013 to provide advice on the scientific basis for mana¬gement of Northern shrimp (Pandalus borealis) in Subarea 0 and 1 in 2014 and for as many years ahead as data allows for.

In its advice, SC is also asked to report on whether the pending harvest control rules will be able to keep the stock at or above Bmsy.

6. Furthermore, 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 2014 and for as many years ahead as data allows for.

Annex 3. Requests for Advice From Canada

1. Greenland halibut (Subareas 0 and 1)

The Scientific Council has noted previously that there is no biological basis for conducting separate assessments for Greenland halibut throughout Subareas 0-3, but has advised that separate TACs be maintained for different areas of the distribution of Greenland halibut.

The Scientific Council is therefore requested, subject to the concurrence of Denmark (on behalf of Greenland) as regards Subarea 1, to provide an overall assessment of status and trends in the total stock area throughout its range and to specifically advise on TAC levels for 2014, separately, for Greenland halibut in Divisions 0A+1A (offshore) and 1B, and Divisions 0B+1C-F. The Scientific Council is also asked to advise on any other management measures it deems appropriate to ensure the sustainability of these resources.

Recognizing that only general biological advice 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 and include likely risk considerations and implications as much as possible, including risks of maintaining current TAC levels and any available details of observations that would support an increase or decrease in the TACs.

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

- historical catches;
- abundance and biomass indices;
- an age or size range chosen to represent the spawning population;
- an age or size range chosen to represent the exploited population;
- recruitment proxy or index for an age or size-range chosen to represent the recruiting population;
- fishing mortality proxy, such as the ratio of reported commercial catches to a measure of the exploited population;
- stock trajectory against reference points.

Any other information the Scientific Council feels is relevant should also be provided.

2. Shrimp (Divisions 0A and Subarea 1)

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

a) The status of the stock should be reviewed and management options evaluated in terms of their implications for fishable stock size, spawning stock size, recruitment prospect, catch rate and catch in both the short and long term. The implications of catch options ranging from 50,000 t to the catch corresponding to Z_{msy}, in 10 000 t increments, should be forecast for 2014 through 2017 if possible, and evaluated in relation to precautionary reference points of both mortality and fishable stock biomass. The present stock size and fishable stock size should be described in relation to those observed historically and those to be expected in the longer term under this range of fishing mortalities, and any other options Scientific Council feels worthy of consideration.

b) Management options should be provided within the Northwest Atlantic Fisheries Organization Precautionary Approach Framework. Uncertainties in the assessment should be evaluated and presented in the form of risk analyses related to the limit reference points of B_{lim} and Z_{MSY}.

c) Presentation of the results should include the following:

- a graph and table of historical yield and fishing mortality for the longest time period possible;
- a graph of biomass relative to B_{msy}, and recruitment levels for the longest time period possible.
- a graph of the stock trajectory compared to B_{lim} and/or B_{MSY} and Z_{MSY};
- graphs and tables of total mortality (Z) and fishable biomass for a range of projected catch options (as noted in 2 a) for the years 2014 to 2017 if possible. Projections should include both catch options and a range of cod biomass levels considered appropriate by SC. Results should include risk analyses of falling below B_{MSY} and B_{lim}, and of exceeding Z_{MSY};
- a graph of the total area fished for the longest time period possible; and
- any other graph or table the Scientific Council feels is relevant.

LIST OF RESEARCH AND SUMMARY DOCUMENTS, 2013

SCR Documents

Doc No.	Serial No	Author	Title
SCR 13/001	N6144	N. Campbell and R. Federizon	Estimating Fishing Effort in the NAFO Regulatory Area Using Vessel Monitoring System Data
SCR 13/002	withdrawn		
SCR 13/003	N6151	Mads Hvid Ribergaard	Oceanographic Investigations off West Greenland 2012
SCR 13/004	N6152	Boris Cisewski, Anna Akimova and Ismael Núñez-Riboni	Scientific Council Report about hydrographic conditions off West Greenland in 2012
SCR 13/005	N6154	Antonio Vázquez, José Miguel Casas, William B. Brodie, Francisco Javier Murillo, Mónica Mandado, Ana Gago, Ricardo Alpoim, Rafael Bañón, and Ángeles Armesto	List of Species as recorded by Canadian and EU Bottom Trawl Surveys in Flemish Cap
SCR 13/006	N6155	O.A. Jørgensen	Survey for Greenland Halibut in NAFO Divisions 1C-1D, 2012
SCR 13/007	N6156	O.A. Jørgensen, Ole Secher Tendal and Nanette Hammeken Arboe	Preliminary mapping of the ddistribution of corals observed off West Greenland as inferred from bottom trawl surveys 2010-2012
SCR 13/008	N6157	D. Hebert and R. G. Pettipas	Physical Oceanographic Conditions on the Scotian Shelf and in the eastern Gulf of Maine (NAFO areas 4V,W,X) during 2012
SCR 13/009	N6158	B. Casault, C. Caverhill, S. Fraser, G. Harrison, C. Johnson, H. Maass, G. Maillet, P. Pepin, S. Plourde, C. Porter, G. Redmond, T. Shears, J. Spry, M. Starr	Ocean Productivity Trends in the Northwest Atlantic During 2012
SCR 13/010	N6160	Diana González-Troncoso, Esther Román and Xabier Paz	Results for Greenland halibut, American plaice and Atlantic cod of the Spanish survey in NAFO Div. 3NO for the period 1997-2012
SCR 13/011	N6161	Diana González-Troncoso, Elena Guijarro-Garcia and Xabier Paz	Yellowtail flounder, redfish (*Sebastes* spp) and witch flounder indices from the Spanish Survey conducted in Divisions 3NO of the NAFO Regulatory Area
SCR 13/012	N6162	Diana González-Troncoso, Elena Guijarro and Xabier Paz	Biomass and length distribution for roughhead grenadier, thorny skate and white hake from the surveys conducted by Spain in NAFO 3NO
SCR 13/013	N6163	José Miguel Casas and Diana González Troncoso	Results from Bottom Trawl Survey on Flemish Cap of June-July 2012
SCR 13/014	N6165	Adriana Nogueira, Xabier Paz and Diana González-Troncoso	Ecological trend on demersal community in the Southern Grand Banks (NAFO Div. 3NO) from the Spanish Surveys: 2002- 2011

SCR 13/015	N6166	Heino Fock and Christoph Stransky	Stock Abundance Indices and Length Compositions of Demersal Redfish and Other Finfish in NAFO Sub-area 1 and near bottom water temperature derived from the German bottom trawl survey 1982-2012
SCR 13/016	N6167	Esther Román, Concepción González-Iglesias and Diana González-Troncoso	Results for the Spanish Survey in the NAFO Regulatory Area of Division 3L for the period 2003-2012
SCR 13/017	N6168	Esther Román, Ángeles Armesto and Diana González-Troncoso	Results for the Atlantic cod, roughhead grenadier, redfish, thorny skate and black dogfish of the Spanish Survey in the NAFO Div. 3L for the period 2003-2012
SCR 13/018	N6169	E. B. Colbourne, J. Craig, C. Fitzpatrick, D. Senciall, P. Stead and W. Bailey	An Assessment of the Physical Oceanographic Environment on the Newfoundland and Labrador Shelf in NAFO Subareas 2 and 3 during 2012
SCR 13/019	N6170	I. Yashayaev, E.J.H. Head, Z. Wang, W.K.W. Li, K. Azetsu-Scott, B.J.W. Greenan, J. Anning and S. Punshon	Environmental Conditions in the Labrador Sea during 2012
SCR 13/020	N6173	A.Pavlenko and A.Klyuev	Some Aspects of Possible Consequences After Decreasing a Minimal Mesh Size of Pelagic Trawls in Redfish Fishery in Divs. 3LN of the NAFO Regulatory Area
SCR 13/021	N6174	Antonio Vázquez, José Miguel Casas and Ricardo Alpoim	Protocols of the EU bottom trawl survey of Flemish Cap
SCR 13/022	N6175	Diana González-Troncoso	Different scenarios for choosing the prior over the catch in 2012 for 3M cod
SCR 13/023	N6176	M.J. Morgan, W.B Brodie and D. Power	Estimates of catch from the Canadian otter trawl fishery directed for yellowtail flounder based on observer data
SCR 13/024	N6177	W. Brodie, P.A. Shelton, E.Couture, and K.Dwyer	A Discussion of the NAFO Precautionary Approach Framework
SCR 13/025	N6178	Bruce Bradshaw, Luc Bujold, Jenny Chiu, Graham Glenn, Claude Guay, Mathieu Ouellet, Krista Sun, Anh Tran	Integrated Science Data Management NAFO Report 2013
SCR 13/026	N6179	Rasmus Nygaard and O.A. Jørgensen	Biomass and Abundance of Demersal Fish Stocks off West and East Greenland estimated from the Greenland Institute of Natural resources Shrimp Fish Survey, 1988-2012.
SCR 13/027	N6180	Fernando González-Costas	An assessment of NAFO roughhead grenadier Subarea 2 and 3 stock.
SCR 13/028	N6182	Valery V. Paramonov	Interannual changeability of hydrometeorological conditions in the beginning of 21st century and their connections with CPUE of redfish in North Atlantic
SCR 13/029	N6183	B. P. Healey	Greenland halibut (*Reinhardtius hippoglossoides*) in NAFO Subarea 2 and Divisions 3KLMNO: Stock Trends based on annual Canadian Research Vessel survey results during 1978-2012.
SCR 13/030	N6184	M.R. Simpson and C.M. Miri	An Assessment of White Hake (*Urophycis tenuis*, Mitchill 1815) in NAFO Divisions 3N, 3O, and Subdivision 3Ps

SCR 13/031	N6185	L. C. Hendrickson and M. A. Showell	Assessment of Northern Shortfin Squid (*Illex illecebrosus*) in Subareas 3+4 for 2012
SCR 13/032	N6186	Mónica Mandado and Antonio Vázquez	An index of retrospective pattern in VPA analysis
SCR 13/033 REV	N6187	M. A. Treble	Report on Greenland halibut caught during the 2012 trawl survey in NAFO Division 0A
SCR 13/034	N6188	A. Ávila de Melo, R. Petit, A. Pérez-Rodríguez, D. González Troncoso, R. Alpoim, F. Saborido-Rey, M. Pochtar and F. González-Costas	An Assessment of Beaked Redfish (*S. mentella* and *S. fasciatus*) in NAFO Division 3M (With a Revised Approach to Quantify the Increase on Redfish Natural Mortality Determined by the Increase on Cod Predation Observed Over Recent Years, 2006-2012)
SCR 13/035	N6189	O.A. Jørgensen and M. A. Treble	Assessment of the Greenland Halibut Stock Component in NAFO Subarea 0 + Division 1A Offshore + Divisions 1B-1F
SCR 13/036	N6190	D. W. Ings, D. Power and R.M. Rideout	An Assessment of the Status of Redfish in NAFO Division 3O
SCR 13/037	N6192	Dawn Maddock Parsons, Joanne Morgan, Bill Brodie and Don Power	Assessment of NAFO Div. 3LNO Yellowtail Flounder
SCR 13/038	N6193	Dawn Maddock Parsons	Divisions 3LNO Yellowtail Flounder (*Limanda ferruginea*) in the 2011 and 2012 Canadian Stratified Bottom Trawl Surveys
SCR 13/039	N6194	Dawn Maddock Parsons	Witch Flounder in NAFO Divisions 2J, 3K and 3L
SCR 13/040	N6195	Fernando González-Costas and Diana González-Troncoso	Biological Reference Points for Cod 3NO
SCR 13/041	N6196	Diana González-Troncoso, Carsten Hvingel, Brian Healey, Joanne Morgan, Fernando González-Costas, Ricardo Alpoim, Jean-Claude Mahé and Antonio Vázquez	Assessment of the Cod Stock in NAFO Division 3M
SCR 13/042	N6197	M. J. Morgan, P. A. Shelton and R. M. Rideout	Changes in productivity and reference points in Div 3NO Atlantic cod and Div 3LNO American plaice
SCR 13/043	N6198	R.M. Rideout, M.J. Morgan, D. González-Troncoso, Fernando González-Costas	A preliminary examination of differential survey trends in recent years between the Canadian Spring and EU-Spain surveys for 3NO cod
SCR 13/044	N6199	R.M. Rideout, E.F. Murphy, J. Brattey and D. Power	An Assessment of the Cod Stock in NAFO Divisions 3NO
SCR 13/045	N6200	K.S. Dwyer, S. E. Campana, and M.A. Treble	Bomb radiocarbon dating of Greenland halibut otoliths in the Northwest Atlantic: where do we go from here?
SCR 13/046	N6201	I.S. Tretyakov	Capelin Stock Assessment in NAFO Divisions 3NO Based on Data from Trawl Surveys
SCR 13/047	N6202	Antonio Vázquez, Alfonso Pérez-Rodríguez, and Mónica Mandado	On Variability of Survey Results
SCR 13/048	N6203	Rasmus Nygaard and Jesper Boje	Updated indices for the Greenland Halibut Stock Component in NAFO Division 1A Inshore

SCR 13/049	N6205	G.J.R. Dauphin, P.A. Shelton and M.J. Morgan	A preliminary study regarding a Management Strategy Evaluation for 3LNO American plaice
SCR 13/050	N6207	Diana González–Troncoso, Joanne Morgan and Fernando González-Costas	Biological Reference Points of 3M cod
SCR 13/051	N6209	W. Brodie	History of Catch Estimation
SCR 13/052	N6211	Fernando González-Costas	Method to estimate catches based on the Observers on board information
SCR 13/053	N6212	Ricardo Alpoim	Alternative Method to Estimate Catches Based on the Scientific Observers
SCR 13/054	N6215	M. C. S. Kingsley	A Provisional Assessment of the Shrimp Stock off West Greenland in 2013
SCR 13/055	N6216	M. C. S. Kingsley	A Naive Simulator for a Harvest Control Rule for the West Greenland fishery for *P. borealis*
SCR 13/056	N6217	AnnDorte Burmeister, Michael C.S. Kingsley and Helle Siegstad	The West Greenland trawl survey for *Pandalus borealis*, 2013, with reference to earlier results
SCR 13/057	N6218	Nanette Hammeken Arboe	Catch Table Update for the West Greenland Shrimp Fishery
SCR 13/058	N6219	Nanette Hammeken Arboe and Michael C.S. Kingsley	The Fishery for Northern Shrimp (*Pandalus borealis*) off West Greenland, 1970–2013
SCR 13/059	N6220	Helle Siegstad and Michael Kingsley	A preliminary estimate of Atlantic cod (*Gadus morhua*) biomass in West Greenland offshore waters (NAFO Subarea 1) for 2013 and recent changes in the spatial overlap with Northern shrimp (*Pandalus borealis*)
SCR 13/060	N6221	J. M. Casas	Northern Shrimp (*Pandalus borealis*) on Flemish Cap Surveys 2013
SCR 13/061	N6222	J. M. Casas	Assessment of the International Fishery for Shrimp (*Pandalus borealis*) in Division 3M (Flemish Cap), 1993-2013
SCR 13/062	N6224	Helle Siegstad	Assessment of the International Fishery for Shrimp (*Pandalus borealis*) in Division 3M (Flemish Cap), 1993-2013
SCR 13/063	N6225	Casas, J.M., E. Román, J. Teruel, and G. Ramilo	Northern Shrimp (*Pandalus borealis*, Krøyer) from EU-Spain Bottom Trawl Survey 2013 in NAFO Div. 3LNO
SCR 13/064	N6226	D.C. Orr and D.J. Sullivan	The 2013 assessment of the Northern Shrimp (*Pandalus borealis*, Kroyer) resource in NAFO Divisions 3LNO
SCR 13/065	N6227	Denis V. Zakharov	Russian Shrimp Fishery in the eastern Barents Sea in 2013
SCR 13/066	N6228	G. Søvik and T. Thangstad	The Norwegian Fishery for Northern Shrimp (*Pandalus borealis*) in Skagerrak and the Norwegian Deep (ICES Divisions IIIa and IVa east), 1970-2013
SCR 13/067	N6229	Nanette Hammeken Arboe And Helle Siegstad	The Fishery for Northern Shrimp (*Pandalus borealis*) in Denmark Strait / off East Greenland 1978 - 2013
SCR 13/068	N6230	Sten Munch-Petersen, Mats Ulmestrand, Guldborg Søvik and Ole Eigaard	Discarding in the shrimp fisheries in Skagerrak and the Norwegian Deep (ICES Divs. IIIa and IVa east)
SCR 13/069	N6231	D. Stansbury	Bayesian surplus production model of Div. 3LNO shrimp stock.
SCR 13/070	N6232	Carsten Hvingel	An assessment of the North Sea shrimp stock using a Bayesian surplus production model

SCR 13/071	N6233	G. Søvik and T.H. Thangstad	Results of the Norwegian Bottom Trawl Survey for Northern Shrimp (*Pandalus borealis*) in Skagerrak and the Norwegian Deep (ICES Divisions IIIa and IVa east) in 2013
SCR 13/072	N6234	M. Ulmestrand, S. Munch-Petersen, G. Søvik and O. Eigaard	The Northern shrimp (*Pandalus borealis*) Stock in Skagerrak and the Norwegian Deep
SCR 13/073	N6237	Fernando González-Costas, Diana González-Troncoso, Joanne Morgan, Hilario Murua and Dorleta García	Robustness of the Greenland Halibut MSE to different S/R functions and different Reproductive Potential indices
SCR 13/074	N6259	A. Nielsen, S. Munch-Petersen. O. Eigaard, S. Guldborg and M. Ulmestrand	A stochastic length-based assessment model for the *Pandalus* stock in Skagerrak and the Norwegian Deep
SCR 13/075	N6273	Mariano Koen-Alonso, Michael Fogarty, Pierre Pepin, Kimberley Hyde, and Robert Gamble	Ecosystem production potential in the Northwest Atlantic
SCR 13/076	N6274	L.I. Beazley, L.J. Anstey, and E.R. Kenchington	Summary of the location of VME indicators on the Flemish Cap slope based on in situ benthic imagery analysis
SCR 13/077	N6275	C. González-Iglesias, F.J. Murillo, V. Wareham, M. Sacau and E. Román	New data on deep-water corals and large sponges from bottom trawl groundfish surveys in the NAFO Regulatory Area
SCR 13/078	N6276	A. Knudby, C. Lirette, E. Kenchington, and F. J. Murillo	Species Distribution Models of Black Corals , Large Gorgonian Corals and Sea Pens in the NAFO Regulatory Area

SCS Documents

Doc. No.	Serial No.	Author(s)	Title
SCS Doc. 13-001	N6140		Fisheries Commission Request for Advice
SCS Doc. 13-002	N6141		Report of the March Scientific Council Meeting
SCS Doc. 13-003	N6142	E. Rosing	Greenland Request for Advice
SCS Doc. 13-004	N6143		Canadian Request for Advice
SCS Doc. 13-005	N6145	J. Vargas, R. Alpoim, E. Santos and A. M. Ávila de Melo	Portuguese Research Report for 2012
SCS Doc. 13-006	N6146	Odd Aksel Bergstad	Report to the NAFO Scientific Council - ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC)
SCS Doc. 13-007	N6150	F. González-Costas, D. González-Troncoso, G. Ramilo, E. Román, J. Lorenzo, M. Casas, C. Gonzalez, A. Vázquez, and M. Sacau	Spanish Research Report for 2012
SCS Doc. 13-008	N6153	Greenland Institute of Natural Resources	Denmark/Greenland Research Report for 2012

SCS Doc. 13-009	N6159	M. Pochtar, K. Fomin, V. Zabavnikov	Russian Research Report for 2012
SCS Doc. 13-010	N6164	K.A. Sosebee	United States Research Report for 2012
SCS Doc. 13-011	N6171	NAFO Secretariat	Biological Sampling for 2012
SCS Doc. 13-012	N6172	NAFO Secretariat	Tagging
SCS Doc. 13-013	N6181	D. Richards et al	Canadian Research Report for 2012
SCS Doc. 13-014	N6191	H. O. Fock and A. Akimova	German Research Report for 2012
SCS Doc. 13-015	N6204	S.Sirp & T.Tõrra	Estonian Research Report for 2012
SCS Doc. 13-016	N6206	E. Colbourne, D. Hebert, G. Maillet and C. Hvingel	Environmental Impacts – NAFO Advisory Sheets
SCS Doc. 13-017	N6208		Report of the June Scientific Council Meeting
SCS Doc. 13-18	N6223	NAFO Secretariat	Available Data from the Commercial Fisheries Related to Stock Assessment (2012) and Inventory of Biological Surveys Conducted in the NAFO Area in 2012 and Biological Surveys Planned for 2013 and Early-2014
SCS Doc. 13/19	N6235		NIPAG Report
SCS Doc. 13/20	N6236		Report of the Scientific Council Report for Shrimp assessments
SCS Doc. 13-21	N6260		Report of the Scientific Council, Annual Meeting, September 2013
SCS Doc. 13-22	N6268	T. Reilly and N. Campbell	NAFOTools
SCS Doc. 13-23	N6269	NAFO Secretariat	Year-to-year survey information by stock
SCS Doc. 13-24	N6277		Report of the SC WG on Ecosystem Stock Assessment (WGESA) (formerly (WGEAFM) 19-29 November 2013

LIST OF REPRESENTATIVES, ADVISERS, EXPERTS AND OBSERVERS, 2013

Meetings Definition	
A – 1-14 Jun	C – 17-21 Sep
B – 27 Aug – 7 Sep	D – 17-24 Oct

		Meetings*			
CANADA					
Representatives:					
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Colbourne, Eugene B.	Science Br., Fisheries & Oceans Canada, P.O. Box 5667, St. John's, NL. A1C 5X1 Phone: +709-772-6106 – E-mail: eugene.colbourne@dfo-mpo.gc.ca		B		
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Dwyer, Karen	Science Br., Fisheries & Oceans Canada, P.O. Box 5667, St. John's, NL. A1C 5X1 Phone: +709-772-0573 – E-mail: karen.dwyer@dfo-mpo.gc.ca	A	B		
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MERIT AWARDS

Year	Recipient	Institute
2009	Ralph Mayo	NMFS Woods Hole, MA, USA
2010	Dr. Manfred Stein	Institut fur Seefischerei, Hamburg, Germany
2011	Dr. Vladimir Rikhter	AtlantNIRO, Kaliningrad, Russian Federation
2013	Bill Brodie	DFO, St. John's, NL, Canada
2013	Jean-Claude Mahé	IFREMER Lorient, France

LIST OF RECOMMENDATIONS IN 2013

Scientific Council 7-20 June 2013

Fisheries Environment

STACFEN **recommends** that *consideration of support for one invited speaker to address emerging issues and concerns for the NAFO Convention Area during the June Meeting.*

Publications

STACPUB **recommends** *that the Secretariat compile information regarding the timelines from article submission to publication and present the data to Scientific Council in June 2014*.

STACPUB **recommends** that *the Secretariat print the Scientific Council Reports upon request using spiral binding.*

STACPUB **recommends** that *the Summary Sheets be made more easily accessible on the website.*

STACPUB **recommends** that *the Coral and Sponge Guides be updated to include the additional VME species that are listed in the CEM.*

STACPUB **recommends** that *the new design for the cover be implemented for regular issues of the Journal and the current Journal cover design be used for special symposia editions with a unique picture chosen to reflect the theme of the meeting.*

Research Coordination

The Secretariat presented: "Estimating fishing effort in the NAFO Regulatory Area using vessel monitoring system data". STACREC found this work to be a useful contribution to the understanding of variation in catches and **recommends** that *the Secretariat continue to develop this work by incorporating target species and making the data available via a web extraction tool.*

Fisheries Science

6. Cod in Div. 3M

STACFIS **recommended** that *an age reader comparison exercise be conducted*.

STACFIS **recommends** that *the most recent catch at age figures be revised*.

STACFIS **recommends** to *investigate the retrospective pattern*.

7. Redfish in Div. 3M

STACFIS **recommends** that, *in order to quantify the most likely redfish depletion by cod on Flemish Cap, and be able to have an assessment independent approach to the magnitude of such impact by species and to the size structure of the redfish most affected by cod predation, the existing feeding data from the past EU surveys be analyzed on a refined scale*.

STACFIS also **recommends** that *this important line of ecosystem research based on the feeding sampling routine of the EU survey catch be done on an annual basis*.

9. Cod in Div. 3NO

STACFIS **recommends** *continuing to monitor the consistency in trends between the Canadian and EU-Spain surveys.*

18. Roughhead grenadier in Subareas 2+3

STACFIS **recommends** that *further investigation on recruitment indices for roughhead grenadier in Subareas 2 and 3 will be carried out. It was analysed the surveys length distribution and it was decided establish as recruitment index the abundance of length less than 9 cm (AFL). This length is equivalent to individuals less than four years old (1-3) and should be equivalent to the recruitment indices for age 3 based on ages.*

21. Northern shortfin squid in Subareas 3+4

STACFIS **recommends** that *gear/vessel conversion factors be computed to standardize the 1970-2003 relative abundance and biomass indices from the July Div. 4VWX surveys.*

NIPAG

1. Northern Shrimp in Div. 3M

NIPAG **recommends** that *further exploration of the relationship between shrimp, cod and the environment be continued in WGESA and NIPAG encourages the shrimp experts to be involved in this work.*

3. Northern shrimp off West Greenland (NAFO Subareas 0 and 1)

NIPAG **recommends** that *the relationship between estimated numbers of small shrimps and later estimates of fishable biomass should be investigated anew*.