SECTION III
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Report of the Fisheries Commission and its Subsidiary Body (STACTIC), 32nd Annual Meeting 20-24 September 2010 Halifax, Nova Scotia, Canada

PART I

Report of the Fisheries Commission
(FC Doc. 10/29)

32nd Annual Meeting, 20-24 September 2010
Halifax, Nova Scotia, Canada

I. Opening Procedure (*Agenda items 1-6*)

1. Opening by the Chair, Kate Sanderson (Denmark in respect of the Faroe Islands and Greenland)

The meeting was opened by the Chair, Kate Sanderson (Denmark in respect of the Faroe Islands and Greenland), at 1400 hrs on Monday, September 20, 2010. Representatives from the following Contracting Parties were in attendance: Canada, Cuba, Denmark (in respect of the Faroe Islands and Greenland), the European Union (EU), France (in respect of St. Pierre et Miquelon), Iceland, Japan, Republic of Korea, Norway, Russian Federation, Ukraine, and the United States of America (USA) (Annex 1).

With regards to attendance by observers, FAO was present, CCAMLR was represented by the EU, NEAFC was represented by Denmark (in respect of the Faroe Islands and Greenland), and NAMMCO was represented by Iceland.

The presence of the following NGOs which had been granted observer status was also acknowledged: the Ecology Action Centre (EAC), the International Coalition of Fisheries Association (ICFA), the Sierra Club of Canada (SCC) and World Wildlife Fund (WWF).

2. Appointment of Rapporteur

Ricardo Federizon, Fisheries Commission Coordinator (NAFO Secretariat), was appointed. The summary of decisions and actions taken by the Fisheries Commission is presented in Annex 2.

3. Adoption of Agenda

Sub-items 10.11 “American plaice in Divisions 3LNO”, 10.12 "Northern shortfin squid in Subareas 3 + 4" and 15.2 "Conservation and Management of Sharks" were inserted (Annex 3).

4. Election of Vice-Chair

Sylvie Lapointe (Canada) was elected Vice-Chair.

5. Review of Commission Membership

The review of the Commission membership was conducted at the General Council session. It was noted that the membership of the Fisheries Commission is currently twelve (12). All Contracting Parties have voting rights in 2010.

6. Guidance to STACTIC necessary for them to complete their work

The Chair of the Standing Committee on International Control (STACTIC), Mads Trolle Nedergaard (Denmark, in respect of the Faroe Islands and Greenland) presented the results of STACTIC May 2010 intersessional meeting (FC Doc 10/6). He reported on the progress of the NAFO Conservation and Enforcement Measures Editorial Review Drafting Group, brought forward for clarification the issue of whether it should be permitted to charter fishing possibilities from shared quotas, and outlined the pending proposals which would be further discussed in this meeting.

In response to a request made by the United States, STACTIC was instructed to look into the compliance of the Contracting Parties with Article 17 of the NAFO Conservation and Enforcement Measures (NCEM) concerning the management and conservation of sharks. It was noted that it has been five years now since these management measures came into force.

The recommendations from the intersessional meeting would be forwarded to the Fisheries Commission together with the recommendations from this Annual Meeting (see item 15).

II. Scientific Advice *(Agenda items 7-8)*

7. Presentation of scientific advice by the Chair of the Scientific Council

7.1 Scientific advice on fish stocks

The Scientific Council (SC) Chair, Ricardo Alpoim (EU), presented a summary of scientific advice to the Fisheries Commission. He urged the Fisheries Commission to consult the relevant SCS documents for the detailed comments of the SC when considering management and conservation measures of the fish stocks. Details of the scientific advice for fish stocks are contained in SCS Doc 10/18 from the June 2010 Scientific Council meeting.

Updated advice for 2011 on shrimp, as well as responses to some other outstanding requests were finalized by the SC after the commencement of the Fisheries Commission meeting and made available to the meeting as addenda to FC Working Paper 10/1.

The following stocks were fully assessed. Below is the summary of the scientific advice and recommendations for 2011:

- **Shrimp in Division 3M**. The 2009-2010 survey biomass index indicates the stock is around the Blim proxy and remains in a state of impaired recruitment. To favour future recruitment, Scientific Council reiterates its October 2009 recommendation for 2011 that the fishing mortality be set as close to zero as possible.
- **Shrimp in Divisions 3LNO.** Based on the average fishable biomass, the following table shows exploitation rates at various catch levels in 2011, including the last three catch options requested by Fisheries Commission:

Catch options (t)	12,000	17,000	24,000	27,000	30,000
Exploitation rates	10%	14%	20%	22.5%	25%

At TACs of 24,000 t and above, the exploitation rate is estimated to be 20% or higher, which is well beyond the range of previous exploitation rates in this fishery. Given recent declines in stock biomass, catches at levels of 24 000 t and above are likely to result in further declines. Exploitation rates over the period 2006 – 2008 have been near 14% and were followed by stock decline. Scientific Council considers TAC options at 14% exploitation rate or higher to be associated with a relatively high risk of continued stock decline. TACs lower than that will tend to reduce this risk in proportion to the reduction in the exploitation rate. Scientific Council is not able to quantify the absolute magnitude of the risk associated with alternative TAC options.

- **Greenland halibut in Subarea 2 + Divisions 3KLMNO**. SC noted that all year-classes which will recruit to the exploitable biomass in the short-term are weak. Projections at the F0.1 level indicate about 10% growth in exploitable biomass over 2010-2014. Therefore, SC recommends that fishing mortality in 2011 be no higher than the F0.1 level (median catch of 14 600 t in 2011).
- **American plaice in Divisions 3LNO**. At F = 0 spawning stock biomass is estimated to increase and there is a 50% probability that SSB will surpass Blim by 2012. Under Fcurrent and F0.1 the population is estimated to grow more slowly and there is a less than 50% probability that SSB will reach Blim by 2015. There should be no directed fishing on American plaice in Divs. 3LNO in 2011. Bycatches of American plaice should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directing for other species.

- **Cod in Division 3M**. Considering the relatively low number of mature individuals currently in the stock, SC advises that a TAC lower than 10 000 t (approximate catch at F0.1), appears not to be damaging the SSB that is currently well above Blim.

The following stocks were fully assessed including elaboration of scientific advice for 2011 and 2012:

- **Redfish in Divisions 3LN**. SC recommends that an appropriate TAC for 2011-2012 could be around 1/6 of Fmsy corresponding to a catch level of 6 000 t.
- **Thorny skate in Divisions 3LNO**. To promote recovery of thorny skate, SC recommends that catches in 2011 and 2012 should not exceed 5 000 t (the average catch during the past three years) in NAFO Divs. 3LNO.

The following stocks were fully assessed including elaboration of scientific advice for 2011, 2012, and 2013:

- **Cod in Divisions 3NO**. There should be no directed fishing for cod in Div. 3N and Div. 3O in 2011-2013. Bycatches of cod should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directed for other species.
- **Redfish in Division 3O**. The SC noted there is insufficient information on which to base predictions of annual yield potential for this resource. SC is unable to advise on an appropriate TAC for 2011, 2012, and 2013.
- **Witch flounder in Divisions 2J + 3KL**. No directed fishing on witch flounder is recommended in the years 2011 to 2013 in Divs. 2J, 3K and 3L to allow for stock rebuilding. Bycatches of witch flounder in fisheries targeting other species should be kept at the lowest possible level.
- **Northern shortfin squid in Subareas 3+4**. SC advises that the TAC for 2011 to 2013 be set between 19 000 and 34 000 t.

On the following stocks, multi-year scientific advice was provided. The Scientific Council reviewed the status of these stocks at the June 2010 meeting, and found no significant basis to alter the advice. Accordingly, the Scientific Council reiterates the previous advice as follows:

- **American plaice in Division 3M**. SC recommended that there should be no directed fishery on this stock in 2009, 2010 and 2011. Bycatch should be kept at the lowest possible level.
- **Yellowtail flounder in Divisions 3LNO**. SC recommended any TAC option up to 85% Fmsy for 2010 and 2011. SC noted that the yellowtail flounder fishery takes cod and American plaice as bycatch. Hence, in establishing the TAC for yellowtail flounder, the impacts on Divs. 3NO cod and Divs. 3LNO American plaice of any increase in yellowtail flounder TAC should be considered.
- **Witch flounder in Divisions 3NO**. No directed fishing on this stock in 2009, 2010 and 2011 to allow for stock rebuilding. Bycatches in fisheries targeting other species should be kept at the lowest possible level.
- **White hake in Divisions 3NO**. Catches in Divs. 3NO for 2010 and 2011 should not exceed the 2006-2008 average annual catch level of 850 t. Catches in Subdivision 3Ps for 2010 and 2011 should not exceed the 2006-2008 average annual catch level of 1 050 t.
- **Capelin in Divisions 3NO**. SC recommended no directed fishery in 2010-2011.

The SC Chair also presented advice on ***Sebastes mentella*** **(oceanic redfish)** which was formulated by SC of its own accord**:** In June 2010, SC reviewed the ICES 2010 Advice to NEAFC for 2011 and supported the conclusion and advice. The SC recognizes that the catches in the NAFO area will be taken from the shallow pelagic stock, for which ICES advises no directed fishery.

On the following topics, the SC Chair referred to the specific sections of the SCS Doc 10/18 regarding the SC response to the Special Request for Management Advice:

- **The Precautionary Approach** (Page 33 of SCS Doc 10/18)

- **Evaluation of Rebuilding and Recovery Plans** (Pages 33-34 of SCS Doc 10/18)
- **Measures to Reduce Bycatch** (Page 34 of SCS Doc 10/18)

On the topic of **Mesh Size in 3M Redfish Fishery**, the SC concluded that the reduction of mesh size from 130 mm to not less than 90 mm for the pelagic redfish fishery appears not to be harmful to the Division 3M redfish stock.

7. 2 Vulnerable Marine Ecosystems (VMEs) and other ecosystem considerations

- **On fishing plans and initial assessments for evaluating Significant Adverse Impacts (SAIs) on VMEs**. The SC Chair referred to the specific sections of the SCS Doc 10/18 regarding the SC response to the Special Request for Management Advice (pages. 34 – 36 of the SCS Doc 10/18).
- **On closed seamounts**. SC concludes that the available information supports the designation of some seamounts referred to in Article 15 of the NCEM as VMEs (pages 34-38 of SCS Doc 10/18).

7.3 Other issues (as determined by Scientific Council Chair)

There was no other issue presented.

7.4 Feedback to the Scientific Council regarding its work during this Meeting

Questions and enquiries for further clarification arose in response to the Scientific Council Chair's presentation, to which the Scientific Council prepared responses during the meeting. The questions from the Fisheries Commission and the responses from the Scientific Council are compiled in Annex 4. The questions concerned the designation of the six closed seamounts as VMEs vis-à-vis the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, and exploitation rates in other shrimp fisheries.

8. Formulation of Request to the Scientific Council for Scientific Advice on the Management of Fish Stocks in 2012 and on other matters

The Fisheries Commission **adopted** FC WP 10/19 (Revision 2) containing its request to the Scientific Council for scientific advice on management in 2012 and beyond of certain stocks in Subareas 2, 3, and 4 and on other matters (Annex 5).

III. Conservation of Fish Stocks in the Regulatory Area (*Agenda items 9-10*)

The Quota Table for 2011 and the Effort Allocation Scheme for the Shrimp Fishery in NAFO Division 3M can be found in Annex 6 of this Report. Allocation schemes on the following stocks are the same as in 2010.

9. Management and Technical Measures for Fish Stocks in the Regulatory Area, 2011

9.1 Cod in Division 3M

It was **agreed** to set the Total Allowable Catch (TAC) at 10 000 t. FC WP 10/20 concerning bycatch requirements on re-opened fisheries was **adopted** (Annex 7).

9.2 Redfish in Division 3M

It was **agreed** to set the TAC at 10 000 t, the same level as in 2010.

9.3 Shrimp in Division 3M

It was **decided** that fisheries for shrimp in this area shall not be permitted in 2011.

A footnote was inserted in Annex 1B of the NCEM: When the scientific advice estimates that the stock shows sign of recovery, the fishery shall be re-opened in accordance with the effort allocation key in place for this fishery at the time of the closure.

Iceland expressed that notwithstanding the closure of the fishery in 2011, it maintains its position against the effort allocation scheme applied to this stock.

Japan expressed that it is in favour of retaining the current management measures for 2011 because shrimp in division 3M could not decline considering that the re-opened cod fishery in division 3M would decrease the predation pressure on the shrimp.

Denmark (in respect of the Faroe Islands and Greenland) reserved its position on this decision, noting that although they were willing to support a considerable decrease in fishing days, closing the fisheries for 3M shrimp completely was considered too drastic a decision given that the fishery was at an all time low, the cod quota in 3M was increasing, and data from the fishery was useful in the development of scientific advice.

10. Management and Technical Measures for Fish Stocks Straddling National Fishing Limits, 2011

10.1 Cod in Divisions 3NO

It was **agreed** that there shall be no directed fishery in 2011, 2012 and 2013. The bycatch provisions of Article 12, § 1.b) of the NCEM shall apply.

FC WP 10/14 Revised was **adopted**, creating a new Working Group of Fishery Managers and Scientists on Conservation Plans and Rebuilding Strategies (Annex 8). One of its terms of reference is to conduct a comprehensive review of the existing 3NO Cod Conservation Plan and Re-building Strategy.

10.2 Redfish in Divisions 3LN

It was **agreed** to set the TAC at 6 000 t applicable in 2011 and 2012. FC WP 10/20 concerning bycatch requirements on re-opened fisheries was **adopted** (Annex 7).

10.3 Redfish in Division 3O

It was **agreed** to set the TAC at 20 000 t, the same level as in 2010.

10.4 Pelagic *Sebastes mentella* (oceanic redfish) in the NAFO Convention Area

It was **decided** that the management measures applied to this stock in 2010 shall continue in 2011.

There were different views among Contracting Parties as to how existing management measures for this stock should best be adapted with respect to the latest scientific advice and in the light of the fact that the relevant Coastal States and NEAFC are endeavouring to develop appropriate management measures for oceanic redfish.

Norway referred to the Scientific Council's recognition of the ICES advice for 2011 for oceanic pelagic redfish and in particular to the recommendation relating to shallow pelagic redfish. Norway recalled that ICES had advised that no directed fishery should be conducted on this stock, and that bycatches in non-directed fisheries should be kept as low as possible since the stock is at a very low state. Norway expressed the view that management in the NAFO Regulatory Area should reflect this advice.

The Russian Federation tabled a statement (FC WP 10/16) reiterating its views regarding the need for further scientific research to ensure scientific consensus on the stock structure of pelagic *Sebastes mentella* in the Irminger Sea and adjacent waters, including the NAFO Convention Area.

10.5 Yellowtail flounder in Divisions 3LNO

It was **agreed** to set the TAC at 17 000 t, the same level as in 2010.

10.6 Witch Flounder in Division 3L

It was **agreed** that there shall be no directed fishery in 2011, 2012 and 2013. The bycatch provisions of Article 12, § 1.b) of the NCEM shall apply.

10.7 White hake in Divisions 3NO

It was **agreed** to set the TAC at 6 000 t, the same level as in 2010.

10.8 Thorny skate in Divisions 3LNO

It was **decided** to set the TAC at 12 000 t, the same level as in 2010. The TAC will be reviewed at the next meeting.

Following consultations with the United States, the EU tabled a proposal aimed at limiting the catch of this stock in line with scientific advice, and Canada shared similar concerns. However, given that no agreement could be reached amongst NAFO Contracting Parties on this issue, the EU, Canada and the United States committed to continue efforts to ensure that catches do not exceed the scientific advice, to develop measures to achieve this goal at the next Annual Meeting, and to request the NAFO Scientific Council to advance and deepen the assessment of this stock.

10.9 Greenland halibut in Subarea 2 and Divisions 3KLMNO

The TAC for 2011 was set at 17 185 t (12 734 t in Divisions 3LMNO) following the recommendation of the FC Working Group on Greenland Halibut Management Strategy Evaluation (WGMSE).

10.9.1 Reports of the FC Working Group on Greenland Halibut Management Strategy Evaluation

The Co-Chair of the WGMSE Sylvie Lapointe (Canada) presented the recommendations of the working group which met in January in Brussels and in May and September in Halifax (FC WP 10/7 Revision 2, Annex 9). The recommendations concern Management Strategy Evaluation approach in establishing the TAC. The Fisheries Commission **adopted** the recommendations, and specifically **agreed** on *Management Strategy 2* with a starting TAC input value of 17 500 t in the Harvest Control Rule, which resulted in the TAC of 17 185 t for 2011.

The Fisheries Commission commended the working group and expressed its thanks for the hard work and accomplishments it made on the highly technical subject of Management Strategy Evaluation.

10.10 Shrimp in Divisions 3LNO

It was **agreed** to set the TAC at 19 200 t. Fishing is confined to Division 3L. The allocation scheme of 2010 would be continued in 2011. The reservation of Denmark (in respect of the Faroe Islands and Greenland) to the division of shares, which it does not recognize as an appropriate allocation, was noted.

A footnote in Annex IA of the NCEM (Quota Table) was inserted: For 2012, the TAC will be reduced to 17 000 t. This TAC will be reviewed based on the available Scientific Council advice on this stock.

10.11 American plaice in Divisions 3LNO

The Fisheries Commission **agreed** on an interim Conservation Plan and Rebuilding Strategy for this stock (FC WP 10/13 Revised, Annex 10).

FC WP 10/14 Revised was **adopted**, creating a new Working Group of Fishery Managers and Scientists on Conservation Plans and Rebuilding Strategies (Annex 8). One of its terms of reference is to conduct a comprehensive review of the interim 3LNO American plaice Conservation Plan and Re-building Strategy.

10.12 Northern shortfin squid in Subareas 3 + 4

It was **agreed** to continue existing measures until at least 2013, with a TAC of 34 000 t.

IV. Ecosystem Considerations (*Agenda items 11 -13*)

During deliberations on ecosystem considerations, reference was made to the side-event during the meeting which featured a joint presentation by Canada and Spain on research results of the ongoing "NAFO Potential Vulnerable Marine Ecosystem-Impacts of Deep-sea Fisheries" (NEREIDA) programme. The NEREIDA conducts multidisciplinary research surveys on vulnerable ecosystems and the effects of fishing activities. The survey is funded by EU-Spain, Canada, EU-United Kingdom and the Russian Federation. Specific objectives include identifying organisms that constitute Vulnerable Marine Ecosystems (VMEs), describing ecology of deep-sea habitats studying distinct features in the area and developing a Geographic Information Systems (GIS) database. Deep-sea Remotely Operated Vehicles (ROVs) took video footage of both pristine coral areas and areas where corals had been impacted by bottom contact gears.

The Contracting Parties expressed their appreciation of the significance of this programme in NAFO’s response to the UNGA Resolution 61/105. Scientists and personnel involved in the programme were applauded for their work.

Under this agenda item, the European Union proposed a resolution concerning the promotion of scientific research on climate change and its potential effects on NAFO fishery resources. While the proposed text garnered general support in principle, some Contracting Parties indicated that, given its late submission during the meeting, more time was required to reflect on the specific aims and appropriate wording of such a proposal. It was agreed to return to the matter at the next annual meeting.

11. Review of seamounts closure

It was **agreed** to roll over for four years the existing measures on seamounts as stipulated in Article 15 of the NAFO Conservation and Enforcement Measures (NCEM). This means that the six identified seamounts will continue to be closed to all bottom fishing activities until December 31, 2014.

The Fisheries Commission **instructed** the Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems to review Article 15 § 5-8 in conjunction with the review and update of Chapter Ibis of the NCEM.

12. Report of the Ad Hoc Working Group of Fishery Managers and Scientists on VMEs (WGFMS)

The Fisheries Commission noted the report of the Ad Hoc WGFMS which met in May 2010 (FC Doc 10/4).

12.1 Recommendations from the May 2010 Meeting

Bill Brodie (Canada), Chair of the Ad Hoc Working Group, presented the recommendations from the May 2010 meeting for adoption or consideration (FC WP 10/2, Revised, Annex 11):

a) revised Exploratory Fishery Data Collection Form
b) revised Article 5bis of the NCEM on Interim Encounter Provision
c) map of existing fishing areas in the NAFO Regulatory area
d) updated Chapter Ibis of the NCEM
e) revised Article 4bis on Assessment of Bottom Fishing

The Fisheries Commission **adopted** Recommendations a) – d) and **considered** Recommendation e).

Regarding Recommendation a), the revised Exploratory Fishery Data Collection Form would be intended for use during exploratory fishery in accordance with Article 5bis § 2(b) of the NCEM. The form captures all the information required as stipulated in the template Data Collection Plan described in Annex XXV of the NCEM.

Regarding Recommendation b), the amendment of Article 5bis enhances the reporting requirements on Interim Encounter Provisions in existing fishing areas and new fishing areas.

Regarding Recommendation c), the map of existing fishing areas (footprint) is to be used and interpreted according to Article 2bis of the NCEM.

Regarding Recommendation d), the update is a “housekeeping” task to remove or update out-dated provisions in Chapter Ibis. The update did not include substantial changes in the Chapter.

Regarding Recommendation e), the Fisheries Commission considered the issues identified by the working group concerning the requirements for the assessment of bottom fishing as provided in Article 4bis. A proposal by the United States to amend the Article (FC WP 10/8 Revision 2, Annex 12) was brought forward and **adopted** by the Fisheries Commission. The amended article elaborates what the assessment should address.

Denmark (in respect of the Faroe Islands and Greenland) urged that in the further refinement of assessment procedures, attention should be given to ensuring that their implementation is practical, both for the relevant national authorities and for the industry.

In adopting the proposals, the Fisheries Commission commended the working group and expressed its thanks for the hard work and accomplishments. It also expressed its appreciation and thanks to the Secretariat which undertook the complex task of preparing the composite footprint map based on the submissions from the Contracting Parties.

12.2 Future of the Ad Hoc WGFMS

The Fisheries Commission **agreed** that the working group should continue. In adopting FC WP 10/10 Revised (Annex 13), the "ad hoc" nature of the working group was removed and new terms of reference were defined.

13. Multi-species interactions

13.1 Sea turtle – fisheries interactions

At the 2006 Annual Meeting, the Fisheries Commission adopted "Resolution to Reduce Sea Turtle Mortality in NAFO Fishing Operations". A progress report was submitted to FAO in December 2008 on NAFO's implementation of the Resolution.

The Secretariat presented a summary of the submissions of the Contracting Parties on their progress on the implementation since the last report (FC WP 10/6 Revised and Addendum). It was noted that either the fleets of the Contracting Parties did not encounter sea turtles in their fishing operations over the last two years, or the Contracting Parties did not have any new significant information to report. It was decided to send a progress report to FAO only when new significant information becomes available. The Contracting Parties were urged to update the Secretariat on this matter.

13.2 Marine mammal – fisheries interactions

Denmark (in respect of the Faroe Islands and Greenland) referred to the report of the NAFO observer to the NAMMCO 19th meeting (GC WP 10/2) and in particular drew attention to the on-going work through the NAMMCO Scientific Committee to develop ecosystem models which can better describe the interactions between marine mammals and fish as a basis for improved management of all relevant marine resources. This work is likely to represent a major step forward in this field on a global scale. It will run over 2-3 years to progress work towards using ecosystem-based management of marine resources, including marine mammals, in the North Atlantic region. Four different models will be applied in two geographical regions: the Barents Sea and the waters around Iceland.

It was agreed that this item will be retained on the agenda for future meetings.

V. Conservation and Enforcement Measures (*Agenda items 14 -15*)

14. Review of Chartering Arrangements

A report on chartering arrangements was presented by the NAFO Secretariat (FC WP 10/3). There were five charter arrangements made during 2009 and three arrangements during January-September 2010. The Secretariat noted full compliance with all the chartering requirements stipulated in Article 19 of the NCEM.

15. Reports of STACTIC (from May 2010 intersessional meeting and current Annual Meeting)

The May 2010 intersessional meeting report was presented under item 6. The STACTIC Chair presented the results of the STACTIC Report (see Part II of this Report). As instructed, STACTIC also evaluated Contracting Parties' compliance with Article 17 concerning shark management.

15.1 Charter of fishing possibilities from quota allocations shared by other Contracting Parties

On the clarification sought by STACTIC (see item 6), the Fisheries Commission confirmed that chartering of fishing possibilities from quota allocations shared by other Contracting Parties should not be allowed.

15.2 Conservation and Management of Sharks

STACTIC advised that there were no identified compliance issues related to the provisions of NAFO CEM Article 17 on sharks and that it would reflect further on potential reporting improvements with the view to enhancing the provisions of Article 17.

15.3 Recommendations

The following recommendations from the May 2010 intersessional meeting and this Meeting were forwarded to the Fisheries Commission:

a) Duration of Inspection (STACTIC 09/20, Annex 14)

b) Inspection Party Composition (STACTIC WP 09/21 Revised 2, Annex 15)
c) Chartering Arrangements (STACTIC WP 10/8 Revision 2, Annex 16)
d) Daily Communication of Catches (STACTIC WP 10/9 Revision 5, Annex 17)
e) Notification Requirements (STACTIC WP 10/10, Annex 18)
f) Report on Infringements – Article 42 (STACTIC WP 10/11 Revised 2, Annex 19)
g) Report on Infringements – Template (STACTIC WP 10/19 Revised, Annex 20)
h) PSC 3 Form (STACTIC WP 10/23, Annex 21)
i) Shrimp Strengthening Bag (STACTIC WP 10/24 Revised, Annex 22)
j) Delisting Procedure for IUU Vessels (STACTIC WP 10/36 Revised, Annex 23)
k) Product Labelling (STACTIC WP 10/37, Annex 24)

The Fisheries Commission **adopted** all recommendations. In addition, the Fisheries Commission **accepted** the Annual Compliance Review 2010 (STACTIC WP 10/26, Annex 25).

VI. Closing Procedure (*Agenda items 16 - 18*)

16. Time and Place of the Next Meeting

This decision was deferred to the General Council.

17. Other Business

The Fisheries Commission expressed serious concerns about the delay in the provision of updated advice on shrimp from the Scientific Council. The updated advice was provided in the afternoon on the second day of the meeting, resulting in inadequate time for Contracting Parties to consult their respective governments and stakeholders. While acknowledging that current schedules of SC and FC meetings and the timing of shrimp research surveys contributed to the delay, the Fisheries Commission strongly urged the Scientific Council to endeavour to make the updated advice available at the latest one week prior to the start of the Annual Meeting.

18. Adjournment

The meeting was adjourned at 1530 hrs on Friday, 24 September 2010.

Annex 1. List of Participants

NAFO President/GC Chair:

Lobach, Terje, Senior Legal Adviser, Directorate of Fisheries, P. O. Box 2009 Nordnes, NO-5817 Bergen, Norway
Phone: +47 55 23 80 00 / 8139 – Fax: +47 55 23 80 90 – E-mail: terje.lobach@fiskeridir.no

CANADA

Head of Delegation

Baird, James W., Regional Director General, Newfoundland and Labrador Region, Fisheries and Oceans Canada, P. O. Box 5667, St John's, NL A1C 5X1
Phone: +709 772 4417 – Fax: +709 772 6306 – E-mail: james.baird@dfo-mpo.gc.ca

Alternate

Pearson, Michael, Director General, International Affairs, Fisheries and Oceans Canada, 200 Kent St., Ottawa, OntarioK1A 0E6
Phone: +613 993 1914 – Fax: +613 990 9574 – E-mail: michael.pearson@dfo-mpo.gc.ca

Representatives

Baird, James W. (see address above)
Pearson, Michael (see address above)
McCurdy, Earle, President, Fishermen, Food and Allied Workers Union/CAW, P. O. Box 10, St. John's, NL A1C 5H5
Phone: +709 576 7276 – Fax: +709 576 1962 – E-mail: emccurdy@ffaw.nfld.net
Andrews, Ray, Andrews Port Services Limited, Fisheries and Community Consultants, 5 McPherson Avenue, St. John's, NL A1B 2B8
Phone: +709 754 0444 – Fax: +709 754 0444 – E-mail: raymondandrews@me.com

Advisers

Anderson, Kevin, Director, Conservation and Protection (C&P), NL Region, Fisheries and Oceans Canada, P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 4494 – Fax: +709 772 3628 – E-mail: kevin.anderson@dfo-mpo.gc.ca
Belle-Isle, Alain, Senior Communications Advisor, Fisheries and Oceans Canada, International Fisheries and Seals, 200 Kent Street, Ottawa, ON K1A 0E6
Phone: +613 990 0298 – Fax: +613 990 1866 – E-mail: alain.belle-isle@dfo-mpo.gc.ca
Boudreau, Cyril, Marine Adviser – Groundfish, Marine Services, Fisheries and Aquaculture Nova Scotia, 1741 Brunswick Street, 3rd Floor, P. O. Box 2223, Halifax, NS B3J 3C4
Phone: +902 424 2677 – Fax: +902 424 1766 – E-mail: boudrecy@gov.ns.ca
Brodie, Bill, Senior Science Coordinator/Advisor on NAFO, Science Br., NL Region, Fisheries and Oceans Canada, 80 East White Hills Rd., P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 3288 – Fax: +709 772 4105 – E-mail: bill.brodie@dfo-mpo.gc.ca
Chapman, Bruce, Executive Director, Groundfish Enterprise Allocation Council, 1362 Revell Dr., Manotick, ON K4M 1K8
Phone: +613 692 8249 – Fax: +613 692 8250 – E-mail: bchapman@sympatico.ca
Couture, Estelle, Senior Science Adviser, Fish Population Science, Fisheries and Oceans Canada, 200 Kent Street (Stn. 12S45), Ottawa, ON K1A 0E6
Phone: +613 990 0259 – Fax: +613 954 0807 – E-mail: couturee@dfo-mpo.gc.ca
Docherty, Verna, Senior Advisor, Fisheries and Oceans Canada, Resource Management, 176 Portland Street, P. O. Box 1035, Dartmouth, NS B2Y 4T3
Phone: +902 426 4669 – Fax: +902 426 9683 – E-mail: verna.docherty@dfo-mpo.gc.ca
Dooley, Tom, Director, Resource Policy, Dept. of Fisheries and Aquaculture, P. O. Box 8700, St. John´s, NL A1B 4J6
Phone: +709 729 0335 – Fax: +709 729 6082 – E-mail: tdooley@gov.nl.ca
Gilchrist, Brett, Senior International Fisheries Officer, International Fisheries Management Bureau, International Affairs Directorate, Fisheries and Oceans Canada, 200 Kent St., Ottawa, ON K1A 0E6
Phone: +1 613 991 0218 – Fax: +1 613 993 5995 – E-mail: brett.gilchrist@dfo-mpo.gc.ca

Greig, Neil, Department Head, Fisheries Division and Economic Development, Makivik Corporation, P. O. Box 179, Kuujjuaq, QC J0M 1C0
Phone: +819 964 2925 ext. 225 – Fax: +819 964 2613 – E-mail: n_greig@makivik.org
Jenkins, Randy, Director, Enforcement, Conservation and Protection (C&P), Fisheries and Oceans Canada, 200 Kent Street, Ottawa, ON K1A 0E6
Phone: +613 990 0108 – Fax: +613 941 2718 – E-mail: randy.jenkins@dfo-mpo.gc.ca
Kenchington, Ellen, Research Scientist, Fisheries and Oceans Canada, Bedford Institute of Oceanography, 1 Challenger Dr., P. O. Box 1006, Dartmouth, NS B2Y 4A2
Phone: + 902 426 2030 – E-mail: ellen.kenchington@dfo-mpo.gc.ca
Knight, Morley, Regional Director, Fisheries and Aquaculture Management, NL Region, Fisheries and Oceans Canada, P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 4543 – Fax: +709 772 2046 – E-mail: morley.knight@dfo-mpo.gc.ca
Lambert, Bob, Chief, Enforcement Operations, Conservation and Protection (C&P) NCR, NL Region, Fisheries and Oceans Canada, P. O. Box 5667, St. John's, NL A1X 5X1
Phone: +709 772 5482 – Fax: +709 772 3628 – E-mail: robert.lambert@dfo-mpo.gc.ca
Lester, Brian, Manager, Atlantic Fisheries, Fisheries and Oceans Canada, 200 Kent Street, Ottawa, ON K1A 0E6
Phone: +613 990 0090 – Fax: +613 990 7051 – E-mail: brian.lester@dfo-mpo.gc.ca
Koen-Alonso, Mariano, Science Br., NL Region, Fisheries and Oceans Canada, P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 2047 – Fax: +709 772 4105 – E-mail: bmariano.koen-alonso@dfo-mpo.gc.ca
Lapointe, Sylvie, Director, International Fisheries Management Bureau, International Affairs Directorate, Fisheries and Oceans Canada, 200 Kent Street, Ottawa, ON K1A 0E6
Phone: +613 993 6853 – Fax: +613 993 5995 – E-mail: sylvie.lapointe@dfo-mpo.gc.ca
McNamara, Brian, President, Newfound Resources Ltd., 90 O'Leary Ave., P. O. Box 13695, St. John's, NL
Phone: +709 726 7223 – E-mail: nrl@nfld.com
Napier, Brent, International Fisheries Officer, International Affairs Directorate, Fisheries and Oceans Canada, 200 Kent St., Ottawa, ON K1A 0E6
Phone: +613 998 3805 – Fax: +613 941 2718 – E-mail: napierb@dfo-mpo.gc.ca
O'Rielly, Alastair, Deputy Minister, Government of Newfoundland and Labrador, Fisheries and Aquaculture, P. O. Box 8700, St. John's, NL A1B 4J6
Phone: +709 729 3707 – Fax: +709 729 4219 – E-mail: aorielly@gov.nl.ca
Orr, Dave, Science Br., Fisheries and Oceans Canada, Newfoundland & Labrador Region, 80 East White Hills Rd., P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 7343 – E-mail: david.orr@dfo-mpo.gc.ca
Penney, Christine, Director of Corporate Affairs, Clearwater Seafoods Limited Partnership, 757 Bedford Highway, Bedford, Nova Scotia B4A 3Z7
Phone: +902 457 2348 – Fax: +902 443 8443 – E-mail: cpenney@clearwater.ca
Sheppard, Beverley, Manager, Harbour Grace Shrimp Co. Ltd., P. O. Box 580, Harbour Grace, NL A0A 2M0
Phone: +709 596 8000 – Fax: +709 596 8002 – E-mail: bsheppard@hgsc.ca
Singh, Jamie, International Fisheries Adviser, International Fisheries Management Bureau, International Affairs Directorate, Fisheries and Oceans Canada, 200 Kent St., Ottawa, ON K1A 0E6
Phone: +613 990 1733 – Fax: +613 993 5995 – E-mail: jamie.singh@dfo-mpo.gc.ca
Steinbock, Bob, Assistant Director, Straddling and Salmon Fish Stocks, International Affairs Directorate, Fisheries and Oceans Canada, 200 Kent St., Ottawa, ON K1A 0E6
Phone: +613 993 1836 – Fax: +613 993 5995 – E-mail: steinbob@dfo-mpo.gc.ca
Stirling, Roger, President, Seafood Producers Association of Nova Scotia, P. O. Box 991, Dartmouth, NS B2Y 3Z6
Phone: +902 463 7790 – Fax: +902 469 8294 – E-mail: spans@ns.sympatico.ca
Strowbridge, Leo, Director, International Programs and Corporate Services, Fisheries and Oceans Canada, P. O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 8021 – Fax: +709 772 2046 – E-mail: leo.strowbridge@dfo-mpo.gc.ca
Sullivan, Loyola, Ambassador, Fisheries Conservation (JLX), Suite 210, 354 Water Street, St. John's, NL A1C 5W8
Phone: +709 772 8177 – Fax: +709 772 8178 – E-mail: Loyola. Sullivan@international.gc.ca
Sullivan, Martin, President & CEO, Ocean Choice International L.P., 1315 Topsail Rd., P. O. Box 8274, Stn. A, St. John's, NL A1B 3N4
Phone: +709 782 6244 – Fax: +709 368 2260 – E-mail: msullivan@oceanchoice.com

Walsh, Ray, Resource Manager, Fisheries and Aquaculture Management Br., Fisheries and Oceans Canada, P.O. Box 5667, St. John's, NL A1C 5X1
Phone: +709 772 4472 – Fax: +709 772 3628 – E-mail: walshrp@dfo-mpo.gc.ca
Walsh, Rosalind, Executive Director, Northern Coalition, P. O. Box 6421, 189 Water St., Suite 301, St. John's, NL
Phone: +709 722 4404 – Fax: +709 722 4454 – E-mail: rwalsh@nfld.net
Ward, Jerry, Chief Executive Officer, Baffin Fisheries Coalition, P. O Box 6008, Iqaluit, NU XOA 0HO
Phone: +867 979 3066 – Fax: +867 979 3068 – E-mail: jward@bfcoalition.ca
Wareham, Alberto, Managing Director, Icewater Seafoods Inc., P. O. Box 89, Arnold's Cove, NL A0B 1A0
Phone: +709 463 2445 – Fax: +709 463 2300 – E-mail: awareham@icewaterseafoods.com

CUBA

Head of Delegation

Torres Soroa, Martha, International Relations Specialist, Ministry of the Food Industry, Municipio Playa, Havana
Phone: +53 7 207 9484 – Fax: +53 7 204 9168 – E-mail: marthat@minal.cu

Adviser

Pardinas Fernandez, Virginia, Directora General, Pesport, Avenida la Pesquera y Atares, Habana Vieja, La Habana
Phone: +53 7 862 4024 – Fax: +53 7 862 5794 – E-mail: virginia@pesport.telemar.cu

DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

Head of Delegation (FC)

Mortensen, Elin, Adviser, Department of Oceans and Environment, Ministry of Foreign Affairs, Tinganes, FO-110 Torshavn, Faroe Islands
Phone: + 298 306142 – Fax: +298 30 61 05 – E-mail: elinm@mfa.fo

Head of Delegation (GC)

Feldthaus, Sonja, Head of Unit, Ministry of Fisheries, Hunting and Agriculture, Government of Greenland, Postbox 269, DK-3900 Nuuk, Greenland
Phone: +299 34 53 15 – Fax: +299 32 52 87 – E-mail: sofe@nanoq.gl

Advisers

Fuglholt, Rasmus, Head of Section, Government of Greenland, Ministry of Fisheries, Hunting and Agriculture, Postbox 269, DK-3900 Nuuk, Greenland
Phone: +299 34 53 16 – Fax: +299 32 52 87 – E-mail: rafu@nanoq.gl
Gaardlykke, Meinhard, Adviser, Faroe Islands Fisheries Inspection, Yviri við Strond 3, P. O. Box 1238, FO-110 Torshavn, Faroe Islands
Phone: +298 311065 – Fax: +298 313981 – E-mail: meinhardg@fve.fo
Jørgensbye Hansen, Helle I. Ø. Head of Section, Gronlands Fiskerilicenskontrol, Government of Greenland, Postbox 501, DK-3900Nuuk, Greenland
Phone: +299 345000 – Fax: +299 324704 – E-mail: hhan@nanoq.gl
Joensen, Jóhan, Faroe Shipowners Association, Gongin 10, P.O. Box 361, FO-110 Torshavn, Faroe Islands
Phone: +298 311800 – Fax: +298 320380 – E-mail: shipown@post.olivant.fo
Joensen, Jogvan Martin F., Project Development Manager, P/F Thor, FO 420 Hosvik, Faroe Islands
Phone: +298 42 25 03 – Fax: +298 42 23 83 – E-mail: jm@thor.fo
Sanderson, Kate, (NAFO FC Chair), Director, Department of Oceans and Environment, Ministry of Foreign Affairs, Tinganes, FO-110 Torshavn, Faroe Islands
Phone: + 298 30 61 37 – Fax: +298 30 61 05 – E-mail: kates@mfa.fo
Trolle Nedergaard, Mads, Fiskerilicensinspektor, Head of Department, Gronlands Fiskerilicenskontrol, Postbox 501, DK-3900 Nuuk, Greenland
Phone: +299 345377 – Fax: +299 323235 – E-mail: mads@nanoq.gl

Wang, Ulla Svarrer, Special Adviser, Ministry of Fisheries, Heykavegur 6, P. O. Box 347, FO-110 Torshavn, Faroe Islands
Phone: + 298 35 32 42 – Fax: +298 35 30 37 – E-mail: ulla.svarrer.wang@fisk.fo

EUROPEAN UNION

Head of Delegation

Grimaud, Vincent, Head of Unit, International Affairs, Law of the Sea and Regional Fisheries Organisations, European Commission, Directorate-General for Maritime Affairs and Fisheries, Rue Joseph II, 99, B-1049 Brussels, Belgium
Phone: +32 2 296 3320 – Fax: +32 2 295 5700 – E-mail: vincent.grimaud@ec.europa.eu

Alternate

Kordecka, Aleksandra, International Relations Officer, International Affairs, Law of the Sea and Regional Fisheries Organizations, European Commission, Directorate-General for Maritime Affairs and Fisheries (DG MARE.B.1), 200 Rue de la Loi/Wetstraat, B-1049 Brussels, Belgium
Phone: +32 2 297 4070 – Fax: +32 2 295 5700 – E-mail: aleksandra.kordecka@ec.europa.eu

Advisers

Nielsen, Rikke, International Relations Officer, European Commission, International Affairs, Law of the Sea and Regional Fisheries Organisations, Directorate General for Fisheries and Maritime Affairs, Rue Joseph II, 99 (03/34), B-1049 Brussels, Belgium
Phone: + 32 2 299 9711 – Fax: +32 2 297 95 42 – E-mail: rikke.nielsen@ec.europa.eu
Gray, Alan, International Relations Assistant, International and Regional Agreements, European Commission, Directorate General for Fisheries and Maritime Affairs (DG MARE.B.1), Rue Joseph II, 99, BE-1000 Brussels, Belgium
Phone: +32 2 299 0077 – Fax: +32 2 295 5700 – E-mail: alan.gray@ec.europa.eu
Duarte, Rafael, European Commission, Directorate General for Fisheries and Maritime Affairs, Rue Joseph II, 79 (02/217), B-1049, Brussels, Belgium
Phone: +32 2 299 0955 – E-mail: rafael.duarte@ec.europa.eu
Lansely, Jon, European Commission, Directorate General for Fisheries and Maritime Affairs (DG MARE.B.1), Rue Joseph II, 99, BE-1000 Brussels, Belgium
Phone: + 32 2 – Fax: +32 2 – E-mail: jon.lansley@ec.europa.eu
Pagliarani, Giuliano, Administration Officer-NAFO Coordinator, Fisheries Control in International Waters, European Commission, Directorate-General for Maritime Affairs and Fisheries, Rue Joseph II, 99 (01/062), B-1049, Brussels, Belgium
Phone: +32 2 296 3834 – Fax: +32 2 296 2338 – E-mail: giuliano.pagliarani@ec.europa.eu
Spezzani, Aronne, European Commission, Directorate-General for Maritime Affairs and Fisheries, 99 Rue Joseph II, B-1049, Brussels, Belgium
Phone: +32 2 295 9629 – Fax: +32 2 296 2338 – E-mail: aronne.spezzani@ec.europa.eu
Kingston, Fred, Senior Adviser, Economic and Commercial Affairs Section, Delegation of the European Union to Canada, 1900-150 Metcalfe St., Ottawa, Ontario, Canada K2P 1P1
Phone: +613 563 6358 – Fax: +613 238 5191 – E-mail: fred.kingston@ec.europa.eu
de la Corte, Gloria, Council of the European Union, General Secretariat, DG-BIII-Fisheries, Rue de la Loi 175, B-1048 Brussels, Belgium
Phone: +32 2 281 6561 – Fax: +32 2 285 6910 – E-mail: gloria.delacorte@consilium.europa.eu
Babcionis, Genadijus, Desk Manager, CFCA, Apartado de Correos 771 – E-36200 – Vigo, Spain
Phone: +34 986 12 06 40 – E-mail: genadijus.babcionis@cfca.europa.eu
Roegiers, Barbara, European Policy Adviser, Department of Agriculture and Fisheries, Agriculture and Fisheries Policy Division, Flemish Government, Koning Albert II-laan 35 bus 40, B-1030 Brussels
Phone: +32 2 552 7956 – Fax: +32 2 552 7921 - E-mail: barbara.roegiers@lv.vlaanderen.be
Grosmann, Meit, Leading Inspector, Environmental Inspectorate, Dept. of Fisheries Protection, Kopli 76, 10416 Tallinn
Phone: +372 696 2218 – Fax: +372 696 2237 – Email: meit.grosmann@kki.ee

Martin, Kaire, Counsellor, Permanent Representation of Estonia to the European Union, Rue Guimard 11/13, 1040 Brussels, Belgium
Phone: +32 2 227 4356 – E-mail: kaire.martin.@mfa.ee
Sirp, Silver, Head of Observers Working Group, Estonian Marine Institute, University of Tartu, 10A Maealuse St., 12618, Tallinn
Phone: +372 529 5396 – E-mail: silver.sirp@ut.ee
Tamme, Toomas, Attorney –at-Law, Alvin, Rödl & Partner, Advokaadibüroo OÜ, Law Office, Roosikrantsi 2, 10119 Tallinn
Phone: +372 6 110 810 – Fax: +372 6 110 811 – E-mail: toomas.tamme@roedl.ee
Vilhjalmsson, Hjalmar, Estonian Long Distance Fishing Association, Veerenni 39, 10138 Tallin
Phone: +354 588 7663 – Fax: +354 588 7610 – E-mail: hjalmar@reyktal.is
Yngvason, Óttar, Director, Reyktal AS, Veerenni 39, 10138 Tallin
Phone: +372 6276 552 – Fax: +372 6276 555– E-mail: ottar@iec.is
Fairise, Nicolas, Chargé de mission, Affaires internationales, Ministère de l'alimentation, de l'agriculture et de la pêche, 3, place de Fontenoy 75700 Paris 07 SP
Phone: +33 1 49 55 53 55 – Fax: +33 1 49 55 82 00 – E-mail: nicolas.fairise@agriculture.gouv.fr
Mahé, Jean-Claude, IFREMER, Station de Lorient, 8, rue Francois Toullec, 56100 Lorient
Phone: +33 2 9787 3818 – Fax: +33 2 9787 3801 – E-mail: jcmahe@ifremer.fr
Renwrantz, Leonie, Federal Ministry of Food, Agriculture and Consumer Protection, Div. 614-Sea Fisheries Management and Control, IWC, Rochusstrabe 1, D-53123 Bonn
Phone: +49 228 99 529 4124 – Fax: +49 228 99 529 4084 – E-mail: leonie.renwrantz@bmelv.bund.de
Gretarsson, Haraldur, Geschaftsfuhrer, Deutsche Fischfang-Union GmbH & Co. KG, Bei der Alten Liebe 5, 27472 Cuxhaven
Phone: +47 21 7079 20 – Fax: +47 21 7079 29 – E-mail: hg@dffu.de
Riekstins,Normunds, Director of Fisheries Department, Ministry of Agriculture, 2, Republikas laukums, LV-1010 Riga
Phone: +371 6732 3877 – Fax: +371 6733 4892 – E-mail: normunds.riekstins@zm.gov.lv
Labanauskas, Aivaras, Deputy Director, Fisheries Department, Ministry of Agriculture, J. Lelevelio str. 6, LT-01031 Vilnius-25
Phone: +370 5 2398 403 – Fax: +370 5 2391 176 – E-mail: aivaras@zum.lt
Dybiec, Leszek, Counsellor to the Minister, Fisheries Dept., Ministry of Agriculture and Rural Development, 30, Wspolna St., 00-930 Warsaw
Phone: +48 22 623 2214 – Fax: +48 22 623 2204 – E-mail: leszek.dybiec@minrol.gov.pl
Szemioth, Bogslaw, North Atlantic Producers Organization, ul. Parkowa 13/17/123, 00-759 Warsaw
Phone: +48 22 840 8920 – Fax: +48 22 840 8922 – E-mail: szemioth@paop.org.pl
Apolinario, Jose, Director-General, Direccao-Geral das Pescas e Aquicultura, Avenida da Brasilia, 1449-030 Lisbon
Phone: +351 21 303 5886 – Fax: +351 21 303 5965 – E-mail: japolinario@dgpa.min-agricultura.pt
Batista, Emilia, Directora de Servicos, Departamento dos Recursos, Direccao Geral das Pescas e Aquicultura, Avenida da Brasilia, 1449-030 Lisbon
Phone: +351 742 3629 – Fax: +351 21 303 5922 – E-mail: ebatista@dgpa.min-agriculture.pt
Alpoim, Ricardo, Instituto Nacional dos Recuros Biológicos, I. P. INRB/IPIMAR, Av. de Brasilia, 1449-006 Lisbon
Phone: +351 21 302 7000 – Fax: +351 21 301 5948 – E-mail: ralpoim@ipimar.pt
Avila de Melo, Antonio, Instituto Nacional dos Recuros Biológicos, I. P. INRB/IPIMAR, Av. de Brasilia, 1449-006 Lisbon
Phone: +351 21 302 7000 – Fax: +351 21 301 5948 – E-mail: amelo@ipimar.pt
Franca, Pedro, Administrador, Grupo Miradouro, Av Pedro Alvares Cabral, Apart 9, 3834-908 Gafanha da Nazare, Ilhavo
Phone: +934 050 170 – Fax +934 364 450 – E-mail: pedrofranca@frip.pt
Schiappa Cabral, Antonio, Secretario-Geral, A.D.A.P.I., Rua General Gomes d'Araijo, Edificio Vasco da Gama, 1399-005 Lisbon
Phone: +351 21 397 2094 – Fax: +351 21 397 2090 – E-mail: adapi.pescas@mail.telepac.pt
Taveira da Mota, Jose, A.D.A.P.I., Rua General Gomes d'Araijo, Edificio Vasco da Gama, 1399-005, Lisbon
Phone: +351 21 397 2094 – Fax: +351 21 397 2090 – E-mail: adapi.pescas@mail.telepac.pt

Machado Paiao, Anibal, Director, A.D.A.P.I.-Associacao dos Armadores das Pescas Industriais, Docapesca, Edificio da Gama, Bloco-C, Piso 1, Rua General Gomes d'Araujo, Alcantara-Mar, 1399-005 Lisbon
Phone: +351 21397 2094 – Fax: +351 21397 2090 – E-mail: adapi.pescas@mail.telepac.pt.
Vaz Pais, Luis, A.D.A.P.I., Rua General Gomes d'Araijo, Edificio Vasco da Gama, 1399-005 Lisbon
Phone: +351 21 397 2094 – Fax: +351 21 397 2090 – E-mail: adapi.pescas@mail.telepac.pt
Augusto Vieira, César, Armador, Apartado 4, Gafanha da Nazare, 3834-908 Ilhavo
Phone: +351 234 364 355 – Fax: +351 234 364 350 – E-mail: gsv@sapo.pt
Polanco Mata, Alejandro, Director General de Recursos Pesqueros y Acuicultura, Secretaria General del Mar, C/Velázquez, 144, 28006 Madrid
Phone: +34 91 347 60 30 / 31 – Fax: +34 91 347 60 32 – E-mail: apolanco@marm.es
Alonso Frayle, Mercedes, Subdirectora General de Acuerdos y Organizaciones Regionales de Pesca, Direccion General de Recursos Pesqueros y Acuicultura, Velazquez, 144, 28006 Madrid
Phone: +34 91 347 6040 – Fax: +34 91 347 6042 – E-mail: malonsof@marm.es
Mancebo Robledo, C. Margarita, Jefa de Area de Relaciones Pesqueras Internacionales, S. G. de Acuerdos y Organizaciones Regionales de Pesca, Direccion General de Recursos Pesueros y Acuicultura, Secretaria General del Mar, C/Velázquez, 144, 28006 Madrid
Phone: +34 91 347 61 29 – Fax: +34 91 347 60 42 – E-mail: cmancebo@mapya.es
Chamizo Catalan, Carlos, Head of Fisheries Inspection Division, Secretariat General de Pesca Maritima, Ministerio de Medio Ambiente, y Medio Rural y Marino, Velázquez, 144, 28006 Madrid
Phone: +34 91 347 8313 – Fax: +34 91 347 1512 – E-mail: cchamizo@mapya.es
de Cardenas, Enrique, Secretariat General del Mar, Ministerio de Medio Ambiente y Medio Rural y Marino, Velázquez, 144, 28006 Madrid
Phone: +34 91 347 6110 – Fax: +34 91 347 6037 – E-mail: edecarde@mapya.es
Gonzalez-Costas, Fernando, Instituto Espanol de Oceanografia, Aptdo 1552, E-36280 Vigo (Pontevedra), Spain
Phone: +34 9 8649 2239 – E-mail: fernando.gonzalez@vi.ieo.es
Vazquez, Antonio, Instituto de Investigaciones Marinas, Eduardo Cabello 6, 36208 Vigo
Phone: +34 9 86 23 1930 – Fax: +34 9 86 29 2762 – E-mail: avazquez@iim.csic.es
Morales Vila, Jose, Subdirector General de Ordenacion de los Recursos Marinos, Xunta de Galicia, Conselleria do Mar, Rua do Vilino, 63-65, 15703 Santiago de Compostela
Phone: +34 981 957 036 – Fax: +34 981 545 025 – E-mail: jose.molares.vila@xunta.es
Fuertes Gamundi, Jose, Director Gerente, Cooperativa de Armadores de Pesca del Puerto de Vigo, S. Coop. Ltda., ANAMER-ANAVAR-AGARBA, Puerto Pesquero, Apartado 1.078, 36200 Vigo
Phone: +34 986 43 38 44 – Fax: +34 986 43 92 18 – E-mail: direccion@arvi.org
Liria Franch, Juan Manuel, Vicepresidente, Confederación Española de Pesca, C/Velázquez, 41, 4° C, 28001 Madrid
Phone: +34 91 432 34 89 – Fax: + 34 91 435 52 01 – E-mail: jmliria@cepesca.com
Lopez, Ivan, Pesquera Ancora S.L., C/Peru, 1-2B, 36202, Vigo
Phone: +34 986 441012 – Fax: +34 986 229343 – E-mail: ivan.lopez@pesqueraancora.com
Gandon Sotelo, Joaquin, Managing Director, Hermanos Gandon, S.A., Salgueiron, 9, 36940 Cangas
Phone: + 34 986 39 20 20 – Fax: +34 986 39 26 26 – E-mail: Joaquin@hermanosgandon.com
Iriondo, Miguel, Presidente, ARBAC, Tomas A. Alonso, 285 – 1, Apartado 2.037, 36208 Vigo
Phone: +34 986 202 404 – Fax: +34 986 203 921 – E-mail: ARBAC@mundo-r.com
Duran Gonzalez, Jose L., Secretario Gral. ARBAC, Tomas A. Alonso, 285 – 1, Apartado 2.037, 36208 Vigo
Phone: +34 986 202 404 – Fax: +34 986 203 921 – E-mail: ARBAC@mundo-r.com
Molares Montenergro, Jose Carlos, ARBAC, Tomas A. Alonso, 285 – 1, Apartado 2.037, 36208 Vigo
Phone: +34 986 202 404 – Fax: +34 986 203 921 – E-mail: ARBAC@mundo-r.com
Alvarez, Alejandro, Av. Camelias 52, 4ºA, 3621 Vigo, Spain
Phone: +34 636481100 – Fax: +34 986 209505 – E-mail: albri@albri.com
Carroll, Andy, Sea Fisheries Conservation Div., Dept. For Environment, Food and Rural Affairs, Area D, 2nd Floor, Nobel House, London SW1P 3JR
Phone: +44 (0)20 7238 4656 – Fax: +44 (0)20 7238 4699 – E-mail: andy.carroll@defra.gsi.gov.uk
Atkins, Nigel (info please)
E-mail: nigel.atkins@ukfisheries.net

FRANCE (in respect of St. Pierre et Miquelon)

Head of Delegation

Artano, Stéphane, President du Conseil Territorial de Saint-Pierre-et-Miquelon, B.P. 4208, Place Monseigneur-Maurer 97500 Saint Pierre et Miquelon
Phone: + 06 32 384378 – Fax: + 508 41 04 79 – E-mail: president@cg975.fr

Advisers

de Beauregard, Guillaume, Administrateur des affaires maritimes, Chef du service, 1, rue Gloanec, B.P. 4206, 97500 Saint Pierre et Miquelon
Phone: +508 41 15 36 – Fax: +508 41 48 34 – E-mail: guillaume.de-beauregard@developpement-durable.gouv.fr
Bigorgne, Matthias, Ministère de l'alimentation, de l'agriculture et de la pêche, 3 place de Fontenoy, 75700 Paris 07 SP
Phone: +33 1 49 55 53 55 – Fax: +33 1 49 55 82 00 – E-mail: matthias.bigorgne@agriculture.gouv.fr
Detcheverry, Bruno, Directeur General, S.N.P.M., 11, rue Georges Daguerre, BP 4262, 97500 St. Pierre et Miquelon
Phone: +508 41 08 80 – Fax: +508 41 0889 – E-mail: bruno.detcheverry@edcmiquelon.com
Goraguer, Herle, IFREMER, Station de St. Pierre, BP 4240, 97500 St. Pierre et Miquelon
E-mail: hgorague@ifremer.fr
Laurent-Monpetit, Christiane, Department of Agriculture and Fisheries, Ministere de l'Interieur, de l'Outre-Mer et Des Collectivites Territoriales, 27, rue Oudinot, 75358 Paris 07SP
Phone: +53 69 24 66 – Fax: +53 69 20 65 – E-mail: christiane.laurent-monpetit@outre-mer.gouv.fr
Deschamps, Frederique, Comite des 134urmansk134 halieutiques (CRH), BP 1748, 34, Rue Maréchal Foch, 97500 Saint-Pierre et Miquelon
Phone: +05 08 413697 – E-mail: freddeschamps2001@yahoo.fr

ICELAND

Head of Delegation

Freyr Helgason, Kristján, Special Advisor, Department of Resource Management, Ministry of Fisheries and Agriculture, Skulagata 4, 150 Reykjavik
Phone: +354 545 8300 – Fax: +354 552 1160 – E-mail: kristjan.freyr.helgason@slr.stjr.is

Advisers

Thormar, Anna, Quota Allocations Department, Directorate of Fisheries, Dalshrauni 1, 220 Hafnarfjordur
Phone: +354 569 7900 – Fax: +354 569 7991 – E-mail: annatho@fiskistofa.is
Geirsson, Gylfi, CDR Senior Grade, Icelandic Coast Guard, Skogarhlid 14, 105 Reykjavik
Phone: +354 545 2000/545 2071 – Fax: +354 545 2040 – E-mail: gylfi@lhg.is
Gíslason, Hjörtur, Federation of Icelandic Fishing Vessels Owners, Ögurvik Fishing Export Co. Ltd., Týsgata 1 – 101 Reykjavik
Phone : +354 552 5466 – Fax : +354 552 8863 – E-mail : hjortur@ogunvik.is

JAPAN

Head of Delegation

Iino, Kenro, Special Adviser to the Minister of Agriculture, Forestry and Fisheries, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8907
Phone: +81 3 3502 8460 – Fax: +81 3 3591 0571 – E-mail: keniino@hotmail.com

Advisers

Hatori, Tatsuya, Fisheries Inspection Officer, Far Seas Fisheries Division, Fisheries Agency, Ministry of Agriculture, Forestry and Fisheries, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8907
Phone: +81 3 3502 8111 ext. 6726 – Fax: + 81 3 3591 5824 – E-mail: tatsuya_hatori@nm.maff.go.jp
Onodera, Akiko, Fishery Division, Economic Affairs Bureau, Ministry of Foreign Affairs, 2-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8919
Phone: +81 3 5501 8000 ext. 3666; Fax: +81 3 5501 8332; email: akiko.onodera@mofa.go.jp

Takagi, Noriaki, Director, Executive Secretary, Japan Overseas Fishing Association, NK-Bldg., 6F, 3-6 Kanda Ogawa-cho, Chiyoda-ku, Tokyo 101-0052
Phone: +81 3 3291 8508 – Fax: + 81 3 3233 3267 – E-mail: noritakagi@jdsta.or.jp

REPUBLIC OF KOREA

Head of Delegation

Yang, Ho Seop, Deputy Director, Distant Water Fishery Industry Division, Ministry for Food, Agriculture, Forestry and Fisheries, 88, Gwanmum, Gwacheon-si, Gyeonggi-do, 427-719
Phone: +82 2 500 2400 – Fax: +82 2 503 9104 – E-mail: gksek@korea.kr

Advisers

Cho, Yang Sik, Assistant Manager, International Affairs Dept. 2, Korea Overseas Fisheries Association (KOFA), 6fl, Samho Center Bldg. A, 275-1, Yangja –Dong, SeoCho-Ku, Seoul
Phone: +82 2 589 1617 – Fax: +82 2 589 1630 – E-mail: mild@kosfa.org
Kim, Soo Jin, Senior Researcher, Fisheries Policy Research Dept., Korea Maritime Institute (KMI), BKS Media-Center 13F, #1652, Sangam-Dong, Mapo-Gu, Seoul, 121-270
Phone: +82 2 2105 2907 – Fax: +82 2 2105 2859 – E-mail: soojin@kmi.re.kr

NORWAY

Head of Delegation

Holst, Sigrun M., Deputy Director General, Ministry of Fisheries and Coastal Affairs, Dept. of Marine Resources and Coastal Management, P. O. Box 8118 Dep. NO-0032 Oslo
Phone: +47 22 24 65 76 – Fax: +47 22 24 95 85 – E-mail: sigrun.holst@fkd.dep.no

Advisers

Barstad, Webjørn, Head of Department, Norwegian Fishing Vessel Owners Association, P.O. Box 67 Sentrum, 6001 Aalesund
Phone: +47 70 10 14 60 – Fax: +47 70 10 14 80 – E-mail: webjorn@fiskebat.no
Hvingel, Carsten, Research Scientist, Institute of Marine Research, P. O. Box 6404, N-9294 Tromsø
Phone: +47 77 60 9750 – +47 77 60 9701 – E-mail: carstenh@imr.no
Johnsen, Stein-Aage, Senior Legal Adviser, Resource Management Dept., Directorate of Fisheries, P. O. Box 2009 Nordnes, NO-5817 Bergen
Phone: +47 55 23 80 00 / 8124 – Fax: +47 55 23 80 90 – E-mail: stein-age.johnsen@fiskeridir.no
Palmason, Snorri Runar, Adviser, Fisheries Regulations Section, Directorate of Fisheries, P. O. Box 2009 Nordnes, NO-5817 Bergen
Phone: +47 55 23 80 00 / 8394 – Fax: +47 55 23 80 90 – E-mail: snorri.palmason@fiskeridir.no
Pedersen, Richard, Royal Norwegian Embassy, 2720-34th Street NW, Washington, DC, 20008, USA
Phone: +47 9161 3157 – E-mail: richard.pedersen@mfa.no
Sira, Inger Helene, Higher Executive Officer, Ministry of Fisheries and Coastal Affairs, Dept. of Marine Resources and Coastal Management, P. O. Box 8118 Dep. NO-0032 Oslo
Phone: +47 22 24 64 68 – Fax: +47 22 24 95 85 – E-mail: ihs@fkd.dep.no

RUSSIAN FEDERATION

Head of Delegation

Terpelyuk, Grigoriy, Head of Fish Protection Dept., Russian Federation, Federal Agency for Fisheries, Rozhdestvensky blvd. 12, Moscow 107996
Phone: +7 495 621 3512 – Fax: +7 495 628 7644 – E-mail: terpelyuk@fishcom.ru

Advisers

Agalakov, Vadim, Chief State Inspector, State Port Control and Convention Areas Div., Barents-Belomorsk Territorial Directorate of the Federal Agency for Fisheries of the Russian Federation, str. Kominterna 7, 183038 Murmansk
Phone: +7 815 2 798 116 – Fax: +7 815 2 451 945 – E-mail: 136urmansk@bbtu.ru
Babayan, Vladimir, Head, Fisheries Bioresources System Analysis Research Laboratory, Russian Federal Research Institute of Fisheries and Oceanography (VNIRO), 17, V. Krasnoselskaya, Moscow 107140
Phone/Fax: +8 499 264 8974 – Fax: +8 499 264 8974 – E-mail: vbabayan@vniro.ru
Egochina, Victoria, Chief Interpreter, International Cooperation Dept., Polar Research Institute of Marine Fisheries and Oceanography (PINRO), 6, Knipovich Street, Murmansk 183031
Phone: + 7 815 247 4963 – Fax: + 7 8152 47 33 31 – E-mail: egochina@pinro.ru
Gorchinsky, Konstantin, Senior Expert, Barents-Belomorsk Territorial Directorate of the Federal Agency for Fisheries of the Russian Federation, str. Kominterna 7, 183038 Murmansk
Phone: +7 815 2 450 268 – Fax: +7 815 2 451 945 – E-mail: k_gor@rambler.ru
Mishin, Vasily, First Deputy Director, Polar Research Institute of Marine Fisheries and Oceanography (PINRO), 6, Knipovich Street, Murmansk 183038
Phone: +7 8152 47 36 66 – Fax: +7 8152 47 33 31 – E-mail: mishin@pinro.ru
Pavlenko, Alexander, Polar Research Institute of Marine Fisheries and Oceanography (PINRO), 6, Knipovich Street, Murmansk 183038
Sedykh, Olga, Deputy Head of International Law Division, International Cooperation Department, Russian Federation, Federal Agency for Fisheries, Rozhdestvensky blvd. 12, Moscow 107996
Phone: + 7 495 621 3180 – Fax: +7 495 621 9594 – E-mail: so@fishcom.ru
Skryabin, Ilya, Scientist, North Atlantic Laboratory, Polar Research Institute of Marine Fisheries and Oceanography (PINRO), 6 Knipovich St., Murmansk 183763
Phone: +7 8152 45 0568 – E-mail: skryabin@pinro.ru
Tairov, Temur, Representative of the Federal Agency for Fisheries of the Russian Federation in Canada, 47 Oceanview Drive, Bedford, NS, Canada B4A 4C4
Phone: +902 832 9225 – E-mail: rusfish@ns.sympatico.ca
Volkov, Victor, Deputy Head, Western Branch of FGU "Center for Fisheries Monitoring", Tralovaya str., 43, Murmansk, 183038
Phone: +7 8152 474626 – Fax: +7 8152 474852 – E-mail: volkov@mrcm.ru

UKRAINE

Head of Delegation

Saldo, Irina, Head of the International Integration Division, International Cooperation Dept., State Committee for Fisheries of Ukraine, 45A Artema str., Kyiv 04053
Phone/Fax: +38 044 482 0984 – E-mail: Irina.saldo@gmail.com

Advisers

Moshkola, Yaroslav, Second Secretary, Ministry of Foreign Affairs of Ukraine, Second Territorial Dept., Second North American Division, 1, Mykhaylivska sq., Kiev 01018
Phone: + 38 044 238 1696 – E-mail: y.moshkola@mfa.gov.ua

UNITED STATES OF AMERICA

Head of Delegation

Swanson, Dean, Chief, International Fisheries Affairs Div., F/IA1, National Marine Fisheries Service, U.S. Dept. of Commerce, 1315 East-West Highway, Silver Spring, MD 20910
Phone: +301 713 2276 – Fax: +301 713 2313 – E-mail: dean.swanson@noaa.gov

Representatives

Swanson, Dean (see above)
Preble, Dave, US Commissioner, 64 Courtland Drive, Narragansett, RI 02882
Phone: +401 789 7596 – E-mail: fishearlybird@cox.net

Raymond, Maggie, US Commissioner, Associated Fisheries of Maine, P. O. Box 287, So. Berwick, ME 03908-0287
Phone: +207 384 4854 – E-mail: maggieraymond@comcast.net

Advisers

DeCola, Peter, Captain, United States Coast Guard, Maritime Law Enforcement Branch, First Coast Guard District (dre), 408 Atlantic Avenue, Boston, MA 02110- 3350
Phone: +617 223 8685 – Fax: +617 223 8074 – E-mail: Peter.N.DeCola@uscg.mil
Fordham, Sonja, Shark Advocates International, Rue Franz Merjay 14, 1050 Brussels, Belgium
Phone: +32 495 10 14 68 – E-mail: sonja@sharkadvocates.org
Warner-Kramer, Deirdre, Senior Foreign Affairs Officer, Office of Marine Conservation, United States Department of State (Rm 2758), 2201 C Street NW, Washington, DC 20520-7878
Phone +1 202 647 2883 – Fax: +1 202 736 7350 – E-mail: warner-kramerdm@state.gov
McHale, Allison, Fishery Policy Analyst, Sustainable Fisheries Div., US Dept. of Commerce, NOAA, National Marine Fisheries Service, 55 Great Republic Drive, Gloucester, MA 01930
Phone: +978 281 9103 – Fax: +978 281 9135 – E-mail: allison.mchale@noaa.gov
Martin, Jr., Gene S., Attorney, Office of the General Counsel Northwest, National Oceanic and Atmospheric Administration, Northeast, 55 Great Republic Drive, Gloucester, MA 01930
Phone: + 978 281 9242 – Fax: + 978 281 9389 – E-mail: gene.s.martin@noaa.gov
Moran, Patrick, Foreign Affairs Analyst, Office of International Affairs, F/IA-2, National Marine Fisheries Service, U.S. Dept. of Commerce, 1315 East-West Hwy., Silver Spring, MD 20910
Phone: +301 713 2276 – Fax: +301 713 2313 – E-mail: pat.moran@noaa.gov
Quinby, William, Director, Mayflower Shipping Ltd., 5 Yeamans Road, Charleston, SC 29407
Phone: +857 222 6664 – E-mail: mayflower@mindspring.com
Sosebee, Katherine, National Marine Fisheries Service, NEFSC, 166 Water Street, Woods Hole, MA 02543
Phone: +508 495 2372 – E-mail: katherine.sosebee@noaa.gov
Szymanski, Luke, Marine Projects Manager, A.I.S., Inc., 89 North Water Street, New Bedford, MA 02746
Phone: +774 265 0596 – Fax: +508 990 9055 – E-mail: lukes@aisobservers.com

OBSERVERS

FAO

Sanders, Jessica, Fishery Officer, Fisheries and Aquaculture Policy and Economics Division (FIP), Fisheries and Aquaculture Department, Room F-418, Food and Agriculture Organization of the United Nations (FAO), Viale delle Terme di Caracalla, 00153 Rome, Italy
Phone: +39 06 57054610 – Fax: +39 06 57056500 – E-mail: jessica.sanders@fao.org

Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)

Kordecka, Aleksandra, International Relations Officer, International Affairs, Law of the Sea and Regional Fisheries Organizations, European Commission, Directorate-General for Maritime Affairs and Fisheries (DG MARE.B.1), 200 Rue de la Loi/Wetstraat, B-1049 Brussels, Belgium
Phone: +32 2 297 4070 – Fax: +32 2 295 5700 – E-mail: aleksandra.kordecka@ec.europa.eu

North Atlantic Marine Mammal Commission (NAMMCO)

Freyr Helgason, Kristján, Special Advisor, Department of Resource Management, Ministry of Fisheries and Agriculture, Skulagata 4, 150 Reykjavik
Phone: +354 545 8300 – Fax: +354 552 1160 – E-mail: kristjan.freyr.helgason@slr.stjr.is

North East Atlantic Fisheries Commission (NEAFC)

Feldthaus, Sonja, Head of Unit, Ministry of Fisheries, Hunting and Agriculture, Government of Greenland, Postbox 269, DK-3900 Nuuk, Greenland
Phone: +299 34 53 15 – Fax: +299 32 52 87 – E-mail: sofe@nanoq.gl

Ecology Action Centre (EAC)

Fuller, Susanna, Marine Conservation Coordinator, Ecology Action Centre, 2705 Fern Lane, Halifax, Nova Scotia, Canada B3K 4L3
Phone: +902 442 0199 – Fax: +902 405 3716 – E-mail: marine@ecologyaction.ca
Arnold, Shannon, Ecology Action Centre, 2705 Fern Lane, Halifax, Nova Scotia, Canada B3K 4L3
Phone: +902 442 0199 – Fax: +902 405 3716 – E-mail: marine@ecologyaction.ca
Gianni, Matthew, Independent Advisor, Fisheries/Oceans Marine Biodiversity, Cliostraat 29-2, 1077 KB Amsterdam, Netherlands
Phone: +31 20 670 1666 – E-mail: matthewgianni@netscape.net

Sierra Club Canada (SCC)

Fitzgerald, Gretchen, Director, Atlantic Canada Chapter, Sierra Club Canada, , Suite 533, 1657 Barrington Street, Halifax, NS B3J 2A1
Phone: +902 444 3113 – Fax: +902 444 3116
Winsor, Fred, Chair, Atlantic Canada Chapter, Sierra Club Canada, Suite 533, 1657 Barrington St., Halifax, N.S. B3J 2A1
E-mail: winsorf@nl.rogers.com

WWF

Rangeley, Robert, Vice President, Atlantic, WWF-Canada, Atlantic Region, 5251 Duke St., Suite 1202, Halifax, NS, Canada B3J 1P3
Phone: +902 482 1105 ext. 23 – Fax: +902 482 1107 – E-mail: rrangeley@wwfcanada.org
Diz, Daniela, Consultant, Conservation Approaches, WWF-Canada, Atlantic Region, 5251 Duke St., Suite 1202, Halifax, NS, Canada B3J 1P3
Phone: +902 482 1105 ext. 23 – Fax: +902 482 1107 – E-mail: ddaniela@wwfcanada.org
Dwyer, Shelley, Advisor, Fisheries Conservation, WWF-Canada, TD Place, Suite 305, 140 Water St., St. John's, NL A1C 6H6
Phone: +709 722 9453 – Fax: +709 726 0931 – E-mail: sdwyer@wwfcanada.org
Saier, Bettina, Director, Oceans Program, WWF-Canada, Atlantic Region, 5251 Duke St., Suite 1202, Halifax, NS, Canada B3J 1P3
Phone: +902 482 1105 – Fax: +902 482 1107 – E-mail: bsaier@wwfcanada.org
McCarthy, Stacey, Communications Specialist, WWF-Canada, Atlantic Region, 5251 Duke St., Suite 1202, Halifax, NS, Canada B3J 1P3
Phone: +902 482 1105 ext. 41 – Fax: +902 482 1107 – E-mail: smccarthy@wwfcanada.org

NAFO Secretariat

Vladimir Shibanov, Executive Secretary	vshibanov@nafo.int
Stan Goodick, Senior Finance and Staff Administrator	sgoodick@nafo.int
Ricardo Federizon, Fisheries Commission Coordinator	rfederizon@nafo.int
Anthony Thompson, Scientific Council Coordinator	athompson@nafo.int
Bev McLoon, Senior Personal Assistant to the Executive Secretary	bmcloon@nafo.int
Barbara Marshall, Information Officer	bmarshall@nafo.int
Cindy Kerr, Fisheries Information Manager	ckerr@nafo.int
George Campanis, IT Manager	gcampanis@nafo.int
Lisa Pelzmann, Office Manager	lpelzmann@nafo.int
Alexis Pacey, Publications Manager	apacey@nafo.int

Annex 2. Record of Decisions and Actions by the Fisheries Commission (Annual Meeting 2010)

Substantive Issues (Agenda item):	**Decision/Action:**
4. Election of Vice-Chair	**Elected** Sylvie Lapointe (Canada) as Vice-Chair.
7. Scientific Advice	**Noted** Scientific Council Chair's presentation of the scientific advice.
8. Formulation of Request to the Scientific Council for Scientific Advice on the Management of Fish Stocks in 2012	**Adopted** FC WP 10/19 (Revision 2).
9 Management and Technical Measures for Fish Stocks in the Regulatory Area, 2010	(see 2011 Quota Table)
9.1 Cod in Division 3M	**TAC** was set at 10 000 t. **Adopted** FC WP 10/20 concerning bycatch requirements.
9.2 Redfish in Division 3M	**TAC** was set at 10 000 t, same level as in 2010.
9.3 Shrimp in Division 3M	**Decided** that fisheries for shrimp in this area should not be permitted in 2011. **Inserted** footnote in Annex 1B of the NCEM: When the scientific advice estimates that the stock shows sign of recovery, the fishery shall be re-opened in accordance with the effort allocation key in place for this fishery at the time of the closure.
10. Management of Technical Measures for Fish Stocks Straddling National Fishing Limits, 2010	(see 2011Quota Table)
10.1 Cod in Div. 3NO	**No directed fishery**. Applicable until 2013. **Created** a new Working Group (FC WP 10/14 Revised), one of its term of reference is to conduct a comprehensive review of the existing 3NO Cod Conservation Plan and Re-Building Strategy.
10.2 Redfish in Div. 3LN	**TAC** was set at 6 000 applicable for 2011 and 2012. **Adopted** FC WP 10/20 concerning bycatch requirements.
10.3 Redfish in Divisions 3O	**TAC** was set at 20 000 t, same level as in 2010.
10.4 Pelagic *Sebastes mentella* (oceanic redfish) in the NAFO Convention Area	**Decided** that management measures applied to this stock in 2010 shall continue in 2011.
10.5 Yellowtail flounder in Div. 3LNO	**TAC** was set at 17 000 t, same level as in 2010.
10.6 Witch flounder in Div. 3L	**No directed fishery**. Applicable until 2013.
10.7 White hake in Divisions 3NO	**TAC** was set at 6 000 t, same level as in 2010.

10.8 Thorny skate in Divisions 3LNO	**TAC** was set at 12 000 t, same level as in 2010. **Agreed** to review the TAC at the next meeting.
10.9 Greenland halibut in Subarea 2 and Divisions 3KLMNO	**TAC** was set at 17 185 t (12 734 t in Div 3LMNO) following the recommendation of the WGMSE.
10.9.1 Reports of the FC Working Group on Greenland Halibut Management Strategy Evaluation	**Adopted** FC WP 10/7 Revision 2 concerning the WGMSE recommendations on Management Evaluation Strategy approach in establishing TAC, specifically **agreed** on *Management Strategy 2* with a starting TAC input value of 17 500 t in the Harvest Control Rule which resulted to the TAC of 17 185 t for 2011.
10.10 Shrimp in Divisions 3LNO	**TAC** was set at 19 200 t. Fishing is confined to Div 3L.Allocation scheme is maintained. The reservation of Denmark (in respect of the Faroe Islands and Greenland) on the allocation scheme was noted. **Inserted** footnote in Annex 1A of the NCEM: For 2012, the TAC will be reduced to 17 000 t. This TAC will be reviewed based on available Scientific Council advice on this stock.
10.11 American plaice in Div. 3LNO	**Adopted** FC WP 10/13 Revised concerning an interim Conservation Plan and Rebuilding Strategy for this stock. **Created** a new Working Group (FC WP 10/14 Revised), one of its term of reference is to conduct a comprehensive review of the interim 3LNO American plaice Conservation Plan and Re-Building Strategy.
10.12 Squid (*Illex*) in Subareas 3 and 4	**TAC** was set at 34 000 t. Applicable until 2013.
11. Review of Seamounts	**Agreed** to rollover until 2014 the existing measures on seamounts as stipulated in Article 15 of the NCEM. **Instructed** the WGFMS to review Article 15 in conjunction with the review and update of Chapter Ibis of the NCEM**.**
12. Report of the Ad Hoc Working Group of Fishery Managers and Scientists on VMEs	**Noted** FC Doc 10/4, the report of the ad Hoc WGFMS from its May 2010 meeting.
12. 1 Recommendations from the May 2010 Meeting	**Adopted** FC WP 10/2, Revised Annex 1 concerning the revised Exploratory Fishery Data Collection Form as Annex XXV.III of the NCEM. **Adopted** FC WP 10/2 Revised, Annex 2 concerning the revision of Article 5bis of the NCEM. **Adopted** FC WP 10/2 Revised, Annex 3 concerning footprint map. **Adopted** FC WP 10/2 Revised, Annex 4 concerning the editorial update of Chapter Ibis of the NCEM. **Adopted** FC WP 10/8 Revision 2 concerning revision of Article 4bis of the NCEM on assessment of bottom fishing.
12. 2 Future of the Ad Hoc WGFMS	**Adopted** FC WP 10/10 Revised concerning the removal of the "ad hoc" nature and the new terms of reference of the working group.
15. Reports of STACTIC (from May 2010 intersessional meeting and current Annual Meeting	**Noted** the STACTIC Reports on its 2010 Intersessional Meeting (FC Doc. 10/6) and this meeting (Part II of this Report)**.**

15.1 Chartering of fishing possibilities from quota allocations shared by other CPs.	**Confirmed** that chartering of fishing possibilities from quota allocations shared by other CPs is not allowed.
15.3 Recommendations	**Adopted** STACTIC WP 09/20 concerning duration of inspections. **Adopted** STACTIC WP 09/21 Revision 2 concerning inspection party composition. **Adopted** STACTIC WP 10/8 Revision 2 concerning chartering arrangements. **Adopted** STACTIC WP 10/9 Revision 5 concerning requirements on daily communication of catches. **Adopted** STACTIC WP 10/10 concerning notification requirements in the Joint Inspection and Surveillance Scheme. **Adopted** STACTIC WP 10/11 Revision 2 concerning report on infringements. **Adopted** STACTIC WP 10/19 Revised concerning template for "Report on Infringement". **Adopted** STACTIC WP 10/23 concerning the revised PSC 3 form used in port inspections. **Adopted** STACTIC WP 10/24 Revised concerning shrimp strengthening bags. **Adopted** STACTIC WP 10/36 Revised concerning delisting procedure for IUU vessels. **Adopted** STACTIC WP 10/37 concerning product labeling and recoding of catch. **Accepted** STACTIC WP 10/26 concerning the Annual Compliance Review.

Annex 3. Agenda

I. Opening Procedure

1. Opening by the Chair, Kate Sanderson (Denmark in respect of the Faroe Islands and Greenland)
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Election of Vice-Chair
5. Review of Commission Membership
6. Guidance to STACTIC necessary for them to complete their work

II. Scientific Advice

7. Presentation of scientific advice by the Chair of the Scientific Council
   - 7.1 Scientific advice on fish stocks
   - 7.2 Vulnerable Marine Ecosystems (VMEs) and other ecosystem consideration
   - 7.3 Other issues (as determined by the Chair of the Scientific Council)
   - 7.4 Feedback to the Scientific Council regarding its work during this Meeting
8. Formulation of Request to the Scientific Council for Scientific Advice on the Management of Fish Stocks in 2012 and on other matters

III. Conservation of Fish Stocks in the Regulatory Area

9. Management and Technical Measures for Fish Stocks in the Regulatory Area, 2011
   - 9.1 Cod in Division 3M
   - 9.2 Redfish in Division 3M
   - 9.3 Shrimp in Division 3M
10. Management and Technical Measures for Fish Stocks Straddling National Fishing Limits, 2011
   - 10.1 Cod in Divisions 3NO
   - 10.2 Redfish in Divisions 3LN
   - 10.3 Redfish in Division 3O
   - 10.4 Pelagic *Sebastes mentella* (oceanic redfish) in the NAFO Convention Area
   - 10.5 Yellowtail flounder in Divisions 3LNO
   - 10.6 Witch flounder in Division 3L
   - 10.7 White hake in Divisions 3NO
   - 10.8 Thorny skate in Divisions 3LNO
   - 10.9 Greenland halibut in Subarea 2 and Divisions 3KLMNO
     - 10.9.1 Reports of the FC Working Group on Greenland Halibut Management Strategy Evaluation
   - 10.10 Shrimp in Divisions 3LNO
   - 10.11 American plaice in Divisions 3LNO
   - 10.12 Northern shortfin squid in Subareas 3+4

IV. Ecosystem Considerations

11. Review of seamounts closure
12. Report of the Ad Hoc Working Group of Fishery Managers and Scientists on VMEs (WGFMS)
    12.1 Recommendations from the May 2010 meeting
    12.2 Future of the Ad Hoc WGFMS
13. Multi-species interactions
    13.1 Sea turtle – fisheries interactions
    13.2 Marine mammal – fisheries interactions

V. Conservation and Enforcement Measures

14. Review of Chartering Arrangements
15. Reports of STACTIC (from May 2010 intersessional meeting and current Annual Meeting)
    15.1 Chartering of fishing possibilities from quota allocations shared by other Contracting Parties
    15.2. Conservation and Management of Sharks
    15.3 Recommendations

VI. Closing Procedure

16. Time and Place of Next Meeting
17. Other Business
18. Adjournment

Annex 4. Scientific Council Responses to Questions from the Fisheries Commission

(FC Working Paper 10/9)

1. SC is requested to explain how the FAO guidelines are used in the reply to the FC request on seamount closures (p. 46 in FC Working Paper 10/1) and provide references to relevant articles in the FAO guidelines.

The United Nations General Assembly (UNGA) in its Sustainable Fisheries Resolution 61/105, paragraph 80, calls upon "States to take action immediately, individually and through regional fisheries management organizations and arrangements, and consistent with the precautionary approach and ecosystem approaches, to sustainably manage fish stocks and protect vulnerable marine ecosystems, **including seamounts**, hydrothermal vents and cold water corals, from destructive fishing practices, recognizing the immense importance and value of deep-sea ecosystems and the biodiversity they contain".

To assist in the implementation of this resolution FAO developed its "International guidelines for the management of deep-sea fisheries in the high seas". This document, in its article 13, indicates that "*many deep-sea marine living resources have low productivity and are only able to sustain very low exploitation rates. Also, when these resources are depleted, recovery is expected to be long and is not assured*"; while its article 21.ii. indicates that RFMOs need to "*identify areas or features where VMEs are known or likely to occur, and the location of fisheries in relation to these areas and features*".

In addition, the annex of the Guidelines provides "*examples of potentially vulnerable species groups, communities and habitats, as well as features that potentially support them*" and identifies "*summits and flanks of seamounts, guyots, banks, knolls, and hills*" as "*examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the* [VME] *species groups or communities*".

Even though detecting the presence of an element (e.g. seamount) in itself is not sufficient to identify VMEs, it indicates a place where VMEs are likely to exist. The SC used these guidelines in determining that the 6 seamount closures contain or are likely to contain vulnerable marine ecosystems. Although there is no *in situ* data for the Fogo and Newfoundland seamounts, the available information for **all** other seamounts (e.g. findings and research summarized in WGEAFM reports, results from the NEREIDA project) indicates the presence of VME-defining corals and sponges.

2. Is evidence of the potential impact of pelagic trawl or midwater pelagic trawl on seamounts VMEs well documented?

Mid-water trawls are often used to fish on seamounts (Clark *et al.* 2006, 2007, Clark 2009); their use has been reported in seamount fisheries around the world and involving at least 11 fish target species (orange roughy, alfonsino, cardinal fish, redfish, pelagic armourhead, mackerel, roundnose grenadier, scabbard fish, bluenose, rubyfish, and pink maomao). These mid-water trawls may have only a small impact on benthic habitats if they are deployed well above the sea floor, however, in many cases the gear is used very close to or sometimes even touching the bottom. In such cases there is an increased potential for contact and damage to corals and sponges. These gears can also affect fish species with VME-defining life history traits (see also answer to question 3 below).

3. What is the link between the possible impacts of pelagic trawl or midwater pelagic trawl on seamounts VMEs and SC concerns about the affects on populations of aggregations of deep-sea species and the possibility of higher proportions of juvenile fish in catches?

The article 42 of the FAO guidelines describes five criteria to be used in the identification of VMEs. Among these criteria, three of them are directly applicable to address this question. These criteria are:

i. *Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems. These include:*
- *habitats that contain endemic species;*
- *habitats of rare, threatened or endangered species that occur only in discrete areas; or*
- *nurseries or discrete feeding, breeding, or spawning areas.*

ii. *Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.*

iii. *Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:*
- *slow growth rates;*
- *late age of maturity;*
- *low or unpredictable recruitment; or*
- *long-lived*

Seamount ecosystems, like islands, can be described as realtively closed, small and isolated ecosystems, and are characterized for a high levels of endemism. It has been estimated that 11.6% of fishes and 15.4% of invertebrates reported from seamounts were endemic (Stocks and Hart 2007).This feature of seamount communities falls under criteria ***i (uniqness or rarity)***. Some of these species can be vulnerable to pelagic fishing.

The characteristics described under criteria ***iv (life-history traits)*** clearly apply to corals and sponges, but they also apply to some fish species. In this context, fish species that aggregate in seamounts typically possess biological characteristics that make them highly vulnerable to exploitation (Morato *et al.* 2006).

In relation with criteria ***ii (functional significance of the habitat),*** some seamounts are known to aggregate juvenile fish. For example, the Cross Seamount near Hawaii, is known to aggregate large schools of juvenile bigeye, and to a lesser degree, yellowfin tuna (Holland *et al*. 1999; Itano and Holland 2000, Sibert *et al*. 2000; Adam *et al*. 2003). There is a growing body of empirical evidence that pelagic fishing near seamounts results in higher catch rates of juvenile and undersized tunas (Fonteneau 1991, Itano and Holland 2000; Sibert *et al.* 2000, Adams *et al*., 2003, Litvinov 2007, Morato *et al.* 2008). In these cases, even though these species are not endemic to seamounts nor they remain there for their entire life cycle, seamounts may play an important role in the recruitment of these oceanic populations.

Although many of the issues detailed above are likely to apply to the seamounts within the NRA, the knowledge of their fish communities and their dynamics is still scarce. Therefore, and in accordance with the *UN Fish Stock Agreement* and the *FAO Code of Conduct for Responsible Fisheries*, the exercise of caution is required when fishing on these communities is being considered.

4. What are the deep-sea species in question?

The fish species identified as targets in seamount fisheries worldwide include Alfonsino, Orange roughy, Oreos, Cardinalfish, Redfish, Southern boarfish, Pelagic armourhead, Mackerel species, Roundnose grenadier, Blue ling, Scabbard fish, Sablefish, Bluenose, Rubyfish, Pink maomao, and Notothenid cods (FAO 2008, Clark *et al*. 2007, Clark 2009).

5. How is "occational impact of fishing on benthic VMEs" determined?

The term "occasional" is used in reference to those cases where an unintentional contact with the benthic communities takes place. For example, mid-water trawls, even though not intended to contact the bottom, may in occasions accidentally touch it or fish very close to it. For example, available information on by-catch for pelagic fishing for redfish in the Flemish Cap suggests that by-catch may occurs when the gear fishes near the bottom.

6. How well is the relationshsips between semounts, pelagic fishing, pelagic species and benthic VMEs understood?

There are over 1 million seamounts in the world's oceans, with 100,000 to 200,000 reaching heights of greater than a kilometer (Kitchingman *et al.* 2007). Very few of these have been studied in detail but a number have been studied for several decades and the information from these has been compared and contrasted to produce a global synthesis of the ecology, fisheries and conservation of seamounts.

"Pelagic and benthic components of seamount ecosystems may be functionally linked, such that pelagic fisheries' removal of seamount-associated pelagic species may indirectly affect seamount benthic communities" (Passfield and Gilman 2010). There is a trophic link between bentho-pelagic species and seamount benthos, where bentho-pelagic species, such as the alfonsino, have been found to feed both on pelagic and benthic prey species (Lehodey 1994, Parin et al. 1997). The trophic link between large pelagic species and the benthic component of seamounts is less well established and likely to be indirect in nature. However, there is an ontogenetic link between pelagic and benthic seamount habitats with most seamount benthic species, including fish, having a pelagic stage, usually as juveniles (e.g. armorhead) (Passfield and Gilman 2010).

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The Scientific Council is asked: *to provide information on exploitation rates applied in shrimp fisheries in other regions of the world*.

Response:
'Exploitation rate' (catch/survey biomass) is an index of fishing mortality. The values within one time series can be compared, but values between series can only be compared if the surveys used in the calculation are of identical design or it is know how the different surveys scale to absolute biomass. Eg. the exploitation rate calculated for the Div. 3LNO shrimp cannot be compared to a similar index calculated for the West Greenland or Barents Sea stocks, as the surveys are of different design and therefore relates differently to the absolute stock size. A good example of how these differences in survey design frame, the derived exploitation index series on different scales may be found by comparing the 2-14% exploitation rate in Div. 3LNO to the 200-900% in Div. 3M.

The survey of the Div. 3LNO stock extends into the Canadian SFA 5 and 6 (NAFO Div. 2HJ3K) and therefore the exploitation rate indices for these two stock components may be compared assuming that these surveys relate in a similar way to the absolute biomass.

Shrimp Fishing Area (NAFO Divisions)	Year range (catch year)	Exploitation rate index % Average (range)
5 (Div. 2HJ)	1997 - 2009	16 (8 – 21)
6 (Div. 2J3K)	1997 - 2009	13 (4-18)
7 (Div. 3LNO)	2000 - 2009	10 (4-14)

Annex 5. Fisheries Commission's Request for Scientific Advice on Management in 2012 and Beyond of Certain Stocks in Subareas 2, 3 and 4 and Other Matters

(FC Working Paper 10/19, Revision 2 **now** FC Doc. 10/9, Revised)

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 2011 Annual Meeting, for the management of Northern shrimp in Div. 3M, 3LNO in 2012.

   Noting that Scientific Council will meet in October of 2010 for 2012 TAC advice, Fisheries Commission requests the Scientific Council to update its advice on shrimp stocks in 2011 for 2012 TAC.

   Fisheries Commission further requests that SC provide advice in accordance to Annex 1.

2. Fisheries Commission requests that the Scientific Council provide advice for the management of the fish stocks below according to the following assessment frequency (unless Fisheries Commission requests additional assessments):

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. 3LNOPs	Witch flounder in Div. 3NO
White hake in Div. 3NOPs	
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 2011, advice should be provided for 2012 and 2013 for American plaice in Div. 3LNO, yellowtail flounder in Div. 3LNO, redfish in Div. 3M, white hake in Div. 3NO and capelin in Div. 3NO and for 2012, 2013 and 2014 American plaice in Div. 3M and witch flounder in Div. 3NO.

   In 2011, advice should be provided for 2012 for 3M cod.

   Fisheries Commission requests that SC provide advice in accordance to Annex 1.

   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. 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})

4. The Scientific Council is requested to provide updated information on the proportion of the 3LNO shrimp stock that occurs in 3NO.

5. With respect to 3M shrimp, the Scientific Council estimated in 2009 a proxy for B_{lim} as 85% decline from the maximum observed index levels, this is 2600 t of female biomass. In 2009 the Scientific Council estimated biomass to be below B_{lim} and recommended fishing mortality to be set as close to zero as possible.

In 2009 estimated catches reached 5000 t. The Fisheries Commission decided on a 50% effort reduction in 2010 and provisional estimated catches up to September 2010 reached 1000 t. In its 2010 advice, the Scientific Council estimated biomass to be above B_{lim}, but reiterated its previous advice to set fishing mortality as close to zero as possible. The Fisheries Commission requests the Scientific Council to evaluate if the current level of catches is compatible with stock recovery, given that improvements in biomass levels were observed through current level of catches.

6. 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 for the next four year period. The Fisheries Commission requests the Scientific Council to:

   a) annually 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) provide guidance on what constitutes "exceptional circumstances".
   c) provide advice on whether or not the "exceptional circumstances" provision should be applied.

7. Fisheries Commission requests the Scientific Council to identify $F_{msy,}$ identify B_{msy} and provide advice on the appropriate selection of an upper reference point for biomass (e.g. B_{buf}) for 3LNO American Plaice, 3NO cod and 3LN redfish.

8. Fisheries Commission requests the Scientific Council to review the stock recruit relationship for 3NO cod and the historical productivity regime used in setting the B_{lim} value of 60 000t.

9. Noting that distribution and historical catches of capelin have also occurred in 3L, the Scientific Council is requested to provide the Fisheries Commission with available information on the occurrence and distribution of capelin in 3L and to advise on further research requirements.

10. 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.

11. Blue whiting (*Micromesistius poutassou*) is a widely distributed species, which can be found in the open ocean as a semi-pelagic species and in shallower waters close to the bottom. Blue whiting is largely fished in the North Eastern-Atlantic by pelagic trawls. The North East Atlantic Fisheries Commission (NEAFC) defined a minimum mesh size of 35mm when fishing for blue whiting with pelagic trawls in its regulatory area. Interest is increasing for developing fishing opportunities on this stock in the NAFO Regulatory Area, specifically in the boundary with the NEAFC RA, Division 1F, sub area 2 and Division 3K.

    The Fisheries Commission requests the Scientific Council to give advice on the following measures to be adopted for the blue whiting:

    a) Change in the classification of blue whiting in the species table (Annex II of NAFO CEM), from classification as a groundfish species to a pelagic species, consistent with the NEAFC classification.
    b) In line with conservation and management measures in force in the NEAFC Regulatory Area, adoption of a minimum mesh size for pelagic and semi-pelagic trawls which would include in paragraph 1 of Article 13 – Gear Requirements the following:
    - g) 35 mm for blue whiting in the fishery using pelagic trawls in Subarea 2 and Divisions 1F, 3K and 3M.

12. Catches of thorny skate in Div. 3LNO averaged 18 000 t between 1985 and 1991 and declined to 7 500 t in 1992-1995. Since 2000, estimated catches averaged 9 000 t. No analytical assessment has been performed and the current advice is based on the decline of the survey indices, which have been stable at low levels since 1996. However, relative fishing mortality has been relatively constant at around 17% between 1998 and 2004 and declined to 5% from 2005. Scientific Council has recommended that catches in 2011 and 2012 should not exceed the last three years average catch (approximately 5 000 t). The Fisheries Commission requests the Scientific Council to clarify the reason behind using the last three years period as the basis for the advice and to provide alternative options. In its examination, the Scientific Council should also take into account the relative

stability of all survey indices since 1996 and furthermore consider the information that relative fishing mortality has declined to low levels.

13. Mindful of the NEREIDA mission, the international scientific effort led by Spain to survey the seafloor in the NAFO Regulatory Area,

    Recognizing that the Coral and Sponge Protection Zones closed to bottom fishing activities for the protection of vulnerable marine ecosystems as defined in Chapter 1 Article 16 Paragraph 3 is in place until December 31, 2011,

    Mindful of the call for review of the above measures based on advice from the Scientific Council,

    Fisheries Commission requests that Scientific Council review any new scientific information on the areas defined in Chapter 1 Article 16 Paragraph 3 which may support or refute the designation of these areas as vulnerable marine ecosystems. In the event that new information is not available at the time of the Fisheries Commission meeting in September 2011, prepare an overview of the type of information that will be available and the timeline for completion.

14. Noting the response from the Scientific Council in June 2010 regarding simulation modeling in a GIS framework: "To apply this model to the NRA, an agreed upon set of gear descriptions and tow duration/lengths for each fishing fleet segment would need to be created. Further estimation of retention efficiencies of the different commercial gears and indirect effects of fishing will be needed to model effects of serious adverse impacts."

    The Fisheries Commission requests that the Scientific Council: 1) acquire the requisite data and apply the model to the extent possible to the NRA, and 2) consider whether the SASI model used by the US New England Fisheries Council should be incorporated into the aforementioned GIS framework as a means of integrating significant adverse impacts into the approach.

15. Recognizing the initiatives on vulnerable marine ecosystems (VME) through the work of the WGFMS, and with a view to completing and updating fishery impact assessments, the Scientific Council is requested to provide the Fisheries Commission at its next annual meeting in 2011: 1) guidance on the timing and frequency of fishing plans/assessments for the purpose of evaluating significant adverse impacts on VMEs; 2) a framework for developing gear/substrate impact assessments to facilitate reporting amongst the Contracting Parties.

Annex1 – Additional guidance in regards to questions 1 and 2.

Mindful of the desire to move to a risk-based approach in the management of fish stocks, Fisheries Commission requests the Scientific Council to provide a range of management options as well as a risk analysis for each option as outlined in the provisions below, rather than a single TAC recommendation.

1. 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:

    a) The preferred tool for the presentation of a synthetic view of the past dynamics of an exploited stock and its future development is a stock assessment model, whether age-based or age-aggregated.

    b) For those stocks subject to analytical-type assessments, the status of the stocks should be reviewed and catch options evaluated in terms of their implications for fishable stock size in both the short and long term. As general reference points, the implications of fishing at $F_{0.1}$ and F_{2010} in 2012 and subsequent years should be evaluated. The present stock size and spawning stock size should be described in relation to those observed historically and those expected in the longer term under this range of options.

    c) For those stocks subject to general production-type assessments, the time series of data should be updated, the status of the stock should be reviewed and catch options evaluated in the way described above to the extent possible. In this case, the level of fishing effort or fishing mortality (F) required to take two-thirds MSY catch in the long term should be calculated.

    d) 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.

    e) Spawning stock biomass levels considered necessary for maintenance of sustained recruitment should be recommended for each stock, defined in relation to both long-term productivity regimes, and current productivity regimes to the extent these may differ. In those cases where present spawning stock size is a matter of scientific concern in relation to the continuing reproductive potential of the stock, options should be offered that specifically respond to such concerns.

    f) Information should be provided on stock size, spawning stock sizes, recruitment prospects, fishing mortality, catch rates and catches implied by these management strategies for the short and the long term in the following format:

        I. For stocks for which analytical-type assessments are possible, graphs should be provided of all of the following for the longest time-period possible:
            - historical yield and fishing mortality;
            - spawning stock biomass and recruitment levels;
            - catch options for the year 2012 and subsequent years over a range of fishing mortality rates (for as many years as the data allow)
            - (F) at least from $F_{0.1}$ to F_{max};
            - spawning stock biomass corresponding to each catch option;
            - yield-per-recruit and spawning stock per recruit values for a range of fishing mortalities.

        II. For stocks for which advice is based on general production models, the relevant graph of production as a function of fishing mortality rate or fishing effort should be provided. Age aggregated assessments should also provide graphs of all of the following for the longest time period possible:
            - exploitable biomass (both absolute and relative to B_{MSY})
            - yield/biomass ratio as a proxy for fishing mortality (both absolute and relative to F_{MSY})
            - estimates of recruitment from surveys, if available.

III. Where analytical methods are not attempted, the following graphs should be presented, for one or several surveys, for the longest time-period possible:
- time trends of survey abundance estimates, over:
- 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.

For age-structured assessments, yield-per-recruit graphs and associated estimates of yield-per-recruit based reference points should be provided. In particular, the three reference points, actual F, $F_{0.1}$ and F_{max} should be shown.

2. Noting the Precautionary Approach Framework as endorsed by Fisheries Commission, the Fisheries Commission requests that the Scientific Council provide the following information for the 2011 Annual Meeting of the Fisheries Commission for all stocks under its responsibility requiring advice for 2012:

a) the limit and precautionary reference points as described in Annex II of the UN Fisheries Agreement indicating areas of uncertainty (for those stocks for which precautionary reference points cannot be determined directly, proxies should be provided);
b) the stock biomass and fishing mortality trajectory over time overlaid on a plot of the PA Framework (for those stocks where biomass and/or fishing mortality cannot be determined directly, proxies should be used);
c) information regarding the current Zone the stock is within as well as proposals regarding possible harvest strategies which would move the resource to (or maintain it in) the Safe Zone, including medium term considerations and associated risk or probabilities which will assist the Commission in developing the management strategies described in paragraphs 4 and 5 of Annex II in the Agreement.

3. The following elements should be taken into account by the Scientific Council when considering the Precautionary Approach Framework:

a) References to "risk" and to "risk analyses" should refer to estimated probabilities of stock population parameters falling outside biological reference points.
b) Where reference points are proposed by the Scientific Council as indicators of biological risk, they should be accompanied by a description of the nature of the risk associated with crossing the reference point such as recruitment overfishing, impaired recruitment, etc.
c) When a buffer reference point is identified in the absence of a risk evaluation in order to maintain a low probability that a stock, measured to be at the buffer reference point, may actually be at or beyond the limit reference point, the Scientific Council should explain the assumptions made about the uncertainty with which the stock is measured.
d) Wherever possible, short and medium term consequences should be identified for various exploitation rates (including no fishing) in terms of yield, stability in yield from year to year, and the risk or probability of maintaining the stock within, or moving it to, the Safe Zone. Whenever possible, this information should be cast in terms of risk assessments relating fishing mortality rates to the trends in biomass (or spawning biomass), the risks of stock collapse and recruitment overfishing, as well as the risks of growth overfishing, and the consequences in terms of both short and long term yields.
e) When providing risk estimates, it is very important that the time horizon be clearly spelled out. By way of consequence, risks should be expressed in timeframes of 5, 10 and 15 years (or more), or in terms of other appropriate year ranges depending on stock specific dynamics. Furthermore, in order to provide the Fisheries Commission with the information necessary to consider the balance between risks and yield levels, each harvesting strategy or risk scenario should include, for the selected year ranges, the risks and yields associated with various harvesting options in relation to B_{lim}.

Annex 6. Quota Table 2011 and Effort Allocation Scheme 2011

QUOTA TABLE. Total allowable catches (TACs) and quotas (metric tons) for 2011 of particular stocks in Subareas 1-4 of the NAFO Convention Area. The values listed include quantities to be taken both inside and outside the 200-mile fishing zone, where applicable.

Species	Cod				Redfish					American plaice		Yellowtail
Division/Contracting Party	3L	3M	% of 3M Cod TAC	3NO	3LN	% of 3LN Redfish TAC	3M	3O	Sub-Area 2 and Div. 1F+3K	3LNO	3M	3LNO
Canada		80	0.80	0	2556	42.60	500	6000	385[2,4]	0	0	16575[5]
Cuba		370	3.70	-	588	9.80	1750		385[2,4]	-	-	-
Denmark (Faroe Islands and Greenland)		2235	22.35	-	-		69[19]		9627[2,3]	-	-	-
European Union		5703[25]	57.03	0[11]	1094[26]	18.23	7813[12]	7000	9627[2,3] / 2503[2,15]	0	0[11]	-
France (St. Pierre et Miquelon)		-		-	-		69[19]		385[2,4]	-	-	340[5]
Iceland		-		-	-		-		9627[2,3]	-	-	-
Japan		-		-	-		400	150	385[2,4]	-	-	-
Korea		-		-	-		69[19]	100	385[2,4]	-	-	-
Norway		925	9.25	-	-		-		9627[2,3]	-	-	-
Russian Federation		647	6.47	0	1726	28.77	9137	6500	9627[2,3]	-	0	-
Ukraine								150	385[2,4]			
United States of America		-		-	-		69[19]		385[2,4]	-	-	-
Others		40	0.40	0	35	0.60	124	100	-	0	0	85[5]
TOTAL ALLOWABLE CATCH	*[9]	10000[23]	100.0	*[9,20]	6000[16,24]	100.0	10000[8]	20000	12516[10,17]	*[21]	*[9]	17000[21,22]

Species	Witch		White hake	Capelin	Skates	Greenland halibut	Squid (Illex)[1]	Shrimp	
Division/Contracting Party	3L	3NO	3NO	3NO	3LNO	3LMNO	Sub-areas 3+4	3L	3NO
Canada		0	1765	0	2000	1910	N.S.[6]	15991	
Cuba		-		0		-	510	214	
Denmark (Faroe Islands and Greenland)		-		-		221	-	214	
European Union		0[11]	3529	0[11]	7556	7466[18]	N.S.[6] / 611[13]	1069[14]	
France (St. Pierre et Miquelon)		-		-		208	453	214	
Iceland		-		-		-	-	214	
Japan		-		0		1305	510	214	
Korea		-		-		-	453	214	
Norway		-		0		-	-	214	
Russian Federation		0	353	0	2000	1624	749	214	
Ukraine						-		214	
United States of America		-		-		-	453	214	
Others		0	353	-	444	0[7]	794	0	
TOTAL ALLOWABLE CATCH	*[9,20]	*[9]	6000	*[16,9]	12000	12734	34000[20]	19200[27]	*[9]

* Ban on fishing in force.

1. Any quota listed for squid may be increased by a transfer from any "coastal state" as defined in Article 1, paragraph 3 of the NAFO Convention, provided that the TAC for squid is not exceeded. Transfers made to Contracting Parties conducting fisheries for squid in the Regulatory Area shall be reported to the Executive Secretary, and the report shall be made as promptly as possible.
2. The Executive Secretary shall notify without delay all Contracting Parties the dates on which accumulated reported catch taken by vessels of Contracting Parties estimated equal to 50% and then 100% of that allocation.
3. Quota to be shared by vessels from Denmark (Greenland and Faroe Islands), European Union, Iceland, Norway and Russia. Catches in the NAFO Convention Area shall be deducted from the quotas allocated in the NEAFC Convention Area.
4. Quota to be shared by vessels from Canada, Cuba, France (St. Pierre et Miquelon), Japan, Korea, Ukraine and USA.
5. Contracting Parties shall inform the Executive Secretary before 01 December 2010 of the measures to be taken to ensure that total catches do not exceed the levels indicated.
6. The allocation to these Contracting Parties are as yet undetermined, although their sum shall not exceed the difference between the total of allocations to other Contracting Parties and the TAC (= 29.458 tons).

7. In 2005, the previous 935 t "Others" quota was assigned to three Contracting Parties. When the TAC exceeds 30,000 t the next 1,300 t beyond 30,000 will be allocated to an Others quota which can be accessed by those who do not hold Greenland halibut allocation. In deciding the relevant contributions of Contracting Parties to the 1,300 t Others quota, the Fisheries Commission will take into account the fact that some Contracting Parties received a benefit from the 935 t quota which was reassigned in 2005.
8. Not more than 5000 tons may be fished before 01 July 2011. The Executive Secretary shall notify without delay all Contracting Parties of the date on which, for this stock, accumulated reported catch taken by vessels of the Contracting Parties is estimated to equal 50% and then 100% of the TAC.
9. The provisions of Article 12, paragraph 1.b) of the Conservation and Enforcement Measures shall apply.
10. In the case of the NEAFC decision which modifies the level of TAC in 2011 as compared to 2010, these figures shall be accordingly adjusted by NAFO and formalized through a mail vote.
11. Including fishing entitlements of Estonia, Latvia, and Lithuania following their accession to the European Union and in accordance with sharing arrangements of the former USSR quota adopted by the Fisheries Commission at its Annual Meeting in 2003 (FC Working Paper 03/7).
12. Including allocations of 1571 tonnes each for Estonia, Latvia and Lithuania out of a sharing of 20,000 tonnes, following their accession to the European Union.
13. Allocations of 128 tonnes each for Estonia, Latvia and Lithuania as well as 227 tonnes for Poland out of a TAC of 34,000 tonnes, following their accession to the European Union.
14. Including allocations of 214 tonnes each for Estonia, Latvia, Lithuania and Poland out of a TAC of 19,200 tonnes, following their accession to the European Union.
15. Allocation of 2,234 tonnes for Lithuania and 269 tonnes to Latvia following their accession to the European Union.
16. Applicable to 2011 and 2012.
17. The quota shares in footnotes 4 and 15 can only be fished in the NAFO Regulatory Area. If an increase in the overall TAC as defined in footnote 10 leads to an increase in these shares, the first 500 tonnes of that increase shall be added to the quota share referred to in footnote 4.
18. Including an allocation of 418 tonnes for Estonia, Latvia, and Lithuania following their accession to the European Union.
19. Notwithstanding the provisions of footnote 8 and without prejudice to future agreements on allocations, these quotas may be fished in their entirety by these Contracting Parties.
20. Applicable until at least 2013.
21. In lieu of Article 12.1 (a) and (b) of the CEM, the following by-catch provisions for American plaice only in the 3LNO yellowtail fishery shall apply: Contracting Parties fishing for yellowtail flounder allocated under the NAFO allocation table will be restricted to an overall Am. plaice by-catch harvest limit equal to 13% of their total yellowtail fishery as calculated in accordance with Article 12.1 (c). For 2010, the by-catch percentage will increase to 15% unless a Scientific Council projection indicates that this rate is likely to undermine stock recovery or cause an unreasonable delay in reaching B_{lim}, in which case the increase may be subject to a reassessment by the Fisheries Commission.
22.. Following the NAFO annual meeting and prior to January 1 of the succeeding year, at the request of the USA, Canada will transfer 1000 tonnes of its 3LNO yellowtail quota to the USA.
23. The allocation key of this stock is based on the 1998 Quota Table. In 1999, a moratorium on cod in Division 3M was declared.
24. The allocation key of this stock is based on the 1997 Quota Table. In 1998, a moratorium on redfish in Division 3LN was declared.
25. Including fishing entitlements of 111 tons each for Estonia, Latvia, and Lithuania in accordance with sharing arrangements of the former USSR quota adopted by the Fisheries Commission at its Annual Meeting in 2003 (FC Working Paper 03/7) and allocation of 380 tons for Poland following their accession to the European Union.
26. Including fishing entitlements of 297 tonnes each for Estonia, Latvia, and Lithuania in accordance with sharing arrangements of the former USSR quota adopted by the Fisheries Commission at its Annual Meeting in 2003 (FC Working Paper 03/7) following their accession to the European Union.
27. For 2012, the TAC will be reduced to 17,000 tonnes. This TAC will be reviewed based on available Scientific Council advice on this stock.

Annex I.B
Effort Allocation Scheme for Shrimp Fishery in the NAFO Regulatory Area Div. 3M, 2011

CONTRACTING PARTY	NUMBER OF FISHING DAYS[1]	NUMBER OF VESSELS[1]
Canada	0	0
Cuba	0	0
Denmark		
Faroe Islands	0	0
Greenland	0	0
European Union	0	0
France (in respect of St Pierre et Miquelon)	0	0
Iceland	N/A	N/A
Japan	0	0
Korea	0	0
Norway	0	0
Russia	0	N/A
Ukraine	0	0
USA	0	0

[1] When the scientific advice estimates that the stock shows signs of recovery, the fishery shall be re-opened in accordance with the effort allocation key in place for this fishery at the time of the closure.

Annex 7. By-catch Requirements – NAFO CEM – Article 12

(FC WP 10/20 **now** FC Doc. 10/10)

Article 12(1)(d) introduces a new way to manage the COD 3M and RED 3 LN fisheries, by inviting CP which have been granted a quota to decide on a date, in advance of the exhaustion of the quota, from which the species can no longer be fished under a directed fishery. After this date the species may only be retained on board as a by-catch, within the limits laid down, up to the completion of the quota.

By merging by-catch and directed fishery provisions for CP fishing for their entitled quota, Article 12(1)(d) creates confusion by introducing a system which is hardly workable in practice, with no added value from the normal quota take up procedure. It also favours discards of both species.

Proposed Amendment

Article 3 – Article

2. Each Contracting Party to which a quota has been allocated shall close its fishery in the Regulatory Area for the stocks listed in Annex I.A on the date on which the accumulated reported catch, the estimated unreported catch, the estimated quantity to be taken before the closure of the fishery and the likely by-catches during the period to which the quota applies, equal 100 percent of the quota allocated to that Contracting Party**..** Such Contracting Party shall promptly notify the Executive Secretary of the date on which that Party will close its fishery for the stocks concerned. The Executive Secretary shall promptly inform all other Contracting Parties of such notification. **Each Contracting Party shall ensure that, after the closure, no more fish of that species is retained on board its vessels, unless otherwise authorized by the measures.**

Article 12 - By-Catch Requirements

Delete sub-article 1 (d)

Annex 8. Conservation Plan and Rebuilding Strategy Working Group

(FC Working Paper 10/14, Revised **now** FC Doc. 10/11)

Noting that international agreements such as the United Nations Fish Stocks Agreement (UNFSA) and the FAO Code of Conduct for Responsible Fisheries call for the rebuilding of depleted stocks through application of the precautionary approach;

Further noting that many Contracting Parties have domestic legislation or policies which require the identification of limit reference points and recovery targets;

Recalling that the 3LNO American Plaice stock and 3NO Cod stock have been under long term moratoria;

Further recalling that in 2007 NAFO adopted a Conservation Plan and Rebuilding Strategy for 3NO Cod that identified a limit reference point of 60,000t;

Recognizing that the moratoria have created significant hardships for all Contracting Parties;

Desiring continued recovery and growth of these stocks to ensure their long term sustainability and to promote associated economic opportunities;

Noting that Scientific Council has reported that the Spawning Stock Biomass (SSB) for 3LNO American Plaice and 3NO Cod have been increasing since the moratoria and that these stocks are expected to further approach and possibly exceed B_{lim} in the short or medium term;

Mindful of the desire to allow further recovery and growth of these stocks;

Noting that it is necessary to implement a monitoring programme to ensure that these stocks are achieving rebuilding objectives in future years;

It is proposed that the Fisheries Commission:

1. Establish a Working Group of Fishery Managers and Scientists with the following Terms of Reference:

Terms of Reference

Working Group of Fishery Managers and Scientists on Conservation Plans and Rebuilding Strategies

Structure

Establish a Working Group of Fishery Managers and Scientists, which reports to Fisheries Commission, consults with Scientific Council, and provides recommendations to Fisheries Commission.

The Working Group shall be comprised of fishery managers and scientists from Contracting Parties supported by advisors, as required, up to a maximum of three participants per Contracting Party. The Chair/Vice-chair shall be selected from participating fishery managers and scientists with both a fishery manager and a scientist represented in the two positions.

Consideration shall be given by the Fisheries Commission in 2011 to the continuation or dissolution of the working group.

Objective

1. Comprehensive review of the interim 3LNO Am. plaice and the existing 3NO Cod Conservation Plans and Re-Building Strategies.

2. Consider risk management approaches in the review, update and future development of Conservation Plans and Rebuilding Strategies.

This work should be presented to Fisheries Commission for consideration at the 2011 Annual General Meeting and possible implementation in January 2012.

Specific Duties

The working group should review and update conservation plans and rebuilding strategies in respect of:

a) Limit reference points, as provided by Scientific Council, and recovery target(s);
b) Buffer reference points, developed in the context of precautionary approach framework and in support of robust rebuilding plans;
c) Timelines or time frames that can reasonably be expected to achieve established targets;
d) Conditions at which a directed fishery might occur;
e) Harvest control rules which incorporate target, limit and buffer reference points, as well as, rebuilding timelines or timeframes; and
f) An implementation strategy which promotes stability in response to natural resource fluctuations that may be expected to occur over the life of the rebuilding plan.

Possible Principles/Elements

In the conduct of its work, the working group may consider the following principles and elements in the development of Conservation Plans and Rebuilding Strategies:

a) When the stock has recovered beyond Blim, initial TAC levels should be set at conservative levels to allow for continued recovery and growth;
b) Bycatch should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directing for other species when SSB is below Blim;
c) Interim target(s) for further growth in the stock prior to re-opening;
d) Long-term rebuilding target (e.g. Bmsy) and associated timelines and/or timeframes;
e) Harvest strategy, consistent with the Precautionary Approach, which ensure Spawning Stock Biomass remains above Blim;

f) Monitoring and review process for each rebuilding plan to enable Fisheries Commission to assess and revise plans as necessary to ensure rebuilding plan targets are achieved.

The working group may also consider refining these principles/ elements outlined above.

Meetings

The Working Group shall hold its first meeting in advance of the 2011 Meeting of Scientific Council to allow for additional requests for advice.

The Working Group shall communicate regularly through teleconferences and electronically, as required.

A second meeting may be held at the discretion of the Chair.

Annex 9. Working Group on Greenland Halibut Management Strategy Evaluation (WGMSE) Recommendations to Fisheries Commission

(FC Working Paper 10/7, Revision 2 **now** FC Doc. 10/12)

Recognizing that Contracting Parties agreed in 2003 to implement a fifteen-year rebuilding programme for the Greenland halibut stock in Subarea 2 + Divisions 3KLMNO,

Acknowledging the continued uncertainty of the 2009 assessment for the Greenland halibut stock in Subarea 2 + Divisions 3KLMNO,

Desirous to move forward with a risk management approach for this stock,

Desirous to achieve the objectives of the rebuilding programme,

Recalling that at the 2009 annual meeting of NAFO, the Fisheries Commission established a Working Group to develop a Management Strategy Evaluation (MSE) framework to help inform management of **Greenland halibut in Subarea 2 + Divisions 3KLMNO (FC Doc 09/18),**

Consistent with its terms of reference, the Working Group considered alternative management strategies with their harvest control rules, selected appropriate performance indicators, defined acceptable levels of risk, and projected/evaluated outputs of the risk management framework utilizing a range of assessment models,

Noting that the Fisheries Commission will consider the report from this Working Group including any recommendations contained therein as the basis for a risk management based decision on the TAC level for 2011 and beyond,

The following recommendations will be forwarded to the Fisheries Commission.

1. Management Strategy Evaluation (MSE)

The Fisheries Commission shall implement an MSE approach for Greenland halibut stock in Subarea 2 + Divisions 3KLMNO.

2. Management Strategy (Harvest Control Rule)

A simple model-free management strategy shall be adopted consistent with NAFO SCR 09/37. The harvest control rule (HCR) will adjust the total allowable catch (TAC) from year (y) to year (y+1), according to:

$TAC_{y+1} = TAC_{y} \ (1 + \lambda \times slope)$

where :

slope = measure of the recent trend in survey biomass. The TAC is subject to constraints on a percentage change from one year to the next.

Two management strategies were put forward for consideration by Fisheries Commission based on the HCR identified above:

	Management Strategy 1	Management Strategy 2
Starting TAC Control Parameter	16, 000 t	17, 500 t
λ if slope is negative	1.25	2.00
λ if slope is positive	1.00	1.00
Constraint on the rule-generated TAC change	± 10%	± 5%

Full details of the application of the management strategies are provided in Annex 1.

Results of these applications are provided in Annex 2.

3. Implementation

The management strategy shall be implemented initially for 4 years. It shall be annually monitored by the Scientific Council to ensure that the data being input into the management strategy is consistent with the MSE process. If exceptional circumstances arise, this shall provide a scientific justification for over-riding the TAC provided by the HCR

Guidelines on how to address exceptional circumstances for adoption by Fisheries Commission in 2011 shall be developed intersessionally by WGMSE with the advice of the Scientific Council.

The Fisheries Commission shall review the progress of this management strategy in four (4) years with advice from Scientific Council.

The FC shall consider undertaking a revision of the Greenland halibut rebuilding programme to reflect the implementation of the Management Strategy.

The WGMSE will remain in place at least until 2011 to allow for further refinement of the MSE following initial implementation.

Annex 1. Application of the management strategies

The management strategy to calculate the TAC for year *y*+1 is defined by the following formulae:

$$TAC^{*}_{y+1} = Z_y\left(1+\lambda_y slope_y\right)$$

where $$Z_y = \begin{cases} Z & y = 2010 \\ TAC^{*}_{y} & y \geq 2011 \end{cases}$$

$$\lambda_y = \begin{cases} \lambda_u & slope_y > 0 \\ \lambda_d & slope_y \leq 0 \end{cases}$$

and where

if $TAC_{y+1} - TAC_y > TAC_y(1+x\%)$ then $TAC_{y+1} = TAC_y(1+x\%)$

if $TAC_{y+1} - TAC_y < TAC_y(1-y\%)$ then $TAC_{y+1} = TAC_y(1-y\%)$

where Z, λ_u, λ_d, x and y are control parameters to be selected.

For the MP selected the values of the control parameters are:

Z	16 000 t	or	17 500 t
λ_u	1.00	or	1.00
λ_d	1.25	or	2.00
x	0.10	or	0.05
y	0.10	or	0.05

The quantity $slope_y$ is calculated as follows:

For each survey, linearly regress $\ln I^i_y$ *vs* year *y*' for $y' = y-5$ to $y' = y-1$, to yield a regression slope value $slope^i_y$, an average of the slopes is taken to provide a composite value:

$$slope_y = \left(slope_y^{CanFall} + slope_y^{CanSpring} + slope_y^{EU(0-1400m)}\right) \Big/ \ 3$$

where I_y is the survey biomass result in terms of mean weight per tow of fish for all ages.

Annex 2. Performance statistics (medians) for two Management Strategies as averaged over the SCAA- and the XSA- conditioned operating models

	SCAA average		XSA average	
	MS 1 (mp01)	MS 2 (mp14 (+-5%))	MS 1 (mp01)	MS 2 (mp14 (+-5%))
$C_{2011-2015}$	13374	15766	14800	16400
$C_{2016-2020}$	13566	15827	19600	19100
$C_{2011-2030}$	14335	16195	23100	21400
$B_{2011-2015}$	91530	89361	69446	66588
$B_{2016-2020}$	107715	103211	131854	128102
$B_{2011-2030}$	117766	113381	127975	127612
$B_{2011-2015}/B_{2011}$	1.05	1.03	1.04	1.02
$B_{2016-2020}/B_{2011}$	1.26	1.20	1.98	1.98
$B_{2011-2030}/B_{2011}$	1.36	1.31	1.93	1.97

Annex 10. Interim 3LNO American Plaice Conservation Plan and Rebuilding Strategy

(FC Working Paper 10/13, Revised **now** FC Doc. 10/13)

1. The objective of this Conservation Plan and Rebuilding Strategy is to achieve and to maintain the 3LNO Am. plaice SSB at or above Bmsy. It may reasonably be expected that Blim will be reached within the period 2011-2017.

2. The following reference points apply:

   (a) Limit reference point for spawning stock biomass (Blim) - 50,000t
   (b) On an interim basis and in the absence of risk analysis, Bbuf - 100,000t
   (c) Limit reference point for fishing mortality (Flim which is $\leq$ Fmsy) - 0.4
   (d) Target reference point for spawning stock biomass Bmsy - 175,000t

3. A directed fishery should only occur when SSB is above Blim and with a TAC set at a fishing mortality rate of < 0.15 that provides for an SSB trajectory for the subsequent 3-year period to remain positive.

4. Subject to paragraph 3, harvest control rules follow:

   (a) When SSB is below Blim (50,000t), no directed fishing and by-catch should be restricted to unavoidable by-catch in fisheries directing for other species
   (b) When SSB is between Blim and Bbuf (50,000 – 100,000t), TAC levels should be set at a level to allow for continued recovery and growth with low probability of declining below Blim, with F not to exceed <0.15.
   (c) When SSB is above Bbuf (100,000t), TAC levels should be set to allow for continued growth, subject to natural fluctuations that may be expected to occur, with F not to exceed 0.2 (F0.1)
   (d) When SSB is above Bmsy (175,000t), TAC levels may be set at F < ¾ Fmsy

5. To provide stability, TACs should be set at levels that achieve an agreed positive SSB trajectory over the subsequent 3 year period, consistent with the objective outlined in Paragraph 1.

   (a) Annual TAC's should promote positive change or mitigate declines in SSB when it is below Bmsy.
   (b) If the SSB is above Bbuf, TAC should utilize a risk neutral (50% or better probability) approach to projections and utilize a more risk adverse approach to decline if the SSB is below the Bbuf.

This interim plan will be reviewed and updated by the Working Group of Fishery Managers and Scientists on Conservation Plans and Rebuilding Strategies.

Annex 11. Recommendations from the ad hoc Working Group of Fishery Managers and Scientists (WGFMS) to the Fisheries Commission

(FC Working Paper 10/2, Revised **now** FC Doc. 10/27)

Following the Terms of Reference outlined in FC Doc 09/19, the WGFMS met in Halifax in May 2010 (FC Doc 10/4) and agreed on the following recommendations:

1) Data Collection in Exploratory and Existing Fishing Areas

The WGFMS recommends to the Fisheries Commission the **adoption** of the revised Exploratory Fishery Data Collection Form as Annex XXV.III of the NAFO Conservation and Enforcement Measures (Annex 1).

The WGFMS recommends to the Fisheries Commission the **adoption** of the proposal to revise Article 5bis paragraph 1b first indent and Article 5bis paragraph 2b first indent concerning data collection requirements in existing and new fishing areas. The proposed revisions are contained in FCWGFMS WP 10/5, Rev. 3 and presented in Annex 2.

2) Fishing Footprint

The WGFMS recommends to the Fisheries Commission the **adoption** of the footprint as described in Annex 3. The footprint is to be used and interpreted in conjunction with Article 2bis of the NAFO Conservation and Enforcement Measures (NCEM).

3) Chapter Ibis update

The WGFMS recommends to the Fisheries Commission the **adoption** of the proposed editorial changes in Chapter Ibis of the NCEM. The proposed changes are detailed in FCWGFMS 10/4 Rev. 1 and presented in Annex 4.

4) Review of Fishery Assessment Guidelines (Article 4bis of the NCEM)

The WGFMS recommends to the Fisheries Commission the **consideration** of the issues raised in FCWGFMS WP 10/2 Rev. 2 and presented in Annex 5. The issues relate to Article 4bis of the NCEM.

Article 4bis concerns the assessment of bottom fishing. There is currently no guiding document to inform Contracting Parties as to what needs to be included in the assessment. Annex 5 clarifies the assessment process and what should be addressed in an assessment.

Annex 1. Exploratory Data Collection Form

Exploratory Fishery Data Collection Form

A. Fishing Trip Information

Flag state		Vessel Name		Call sign		Date of encounter (ddmmyy)	

B. Gear and Fishing Information (use separate form for each gear).

Fishing Gear (e.g. trawl, gill net, hook and line, etc)		Gear Details:	Gear type (e.g. bottom trawl, set gill net, etc.)	
			Gear size (groundrope length, panel length, etc.)	
			Other details (cod end mesh size, # of hooks, etc.)	

		hr	min		degrees		minutes		meters
Tow or Set Start:	GMT Time:			Latitude	N			Depth	
				Longitude	W				
Tow or Set End:	GMT Time:			Latitude	N			Depth	
				Longitude	W				

C. Catch Information *Don't leave blank. Indicate zero catch if necessary.

Live Corals total weight in the haul (kg)*		Live Sponges total weight in the haul (kg)*	

Organisms identified to the lowest taxonomic unit as possible** Include fish and invertebrates	Biological Samples taken?		Biological samples of Vulnerable Indicator Species taken?		Total Weight (kg) in catch	Weight is esti--mate or actual? Tick one.	
	yes	no	yes	no		Act.	Est.

D. Comments

**Refer to Annex I of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.
Also, use NAFO Coral and Sponge Identification Guides as appropriate.

Annex 2. Data Collection Requirements in Existing and New fishing Areas
(FCWGFMS WP 10/5, Rev. 3)

Article 5bis. Para 1b, First indent:

- The vessel master shall report the incident to the flag state, which without delay shall forward the information to the Executive Secretary, including the position that is provided by the vessel, either the end point of the tow or set or another position that is closest to the exact encounter location, the VME indicator species encountered, and the quantity (kg) of VME indicator species encountered. Contracting Parties may if they so wish require their vessels to also report the incident directly to the Executive Secretary. The Executive Secretary shall archive the information and report it to all Contracting Parties. The Contracting Parties shall immediately alert all fishing vessels flying their flag.

Article 5bis, Para 2b, first indent:

- The vessel master shall report the incident without delay to its flag state, which shall forward the information to the Executive Secretary, including the position that is provided by the vessel, either the end point of the tow or set or another position that is closest to the exact encounter location, the VME indicator species encountered, and the quantity (kg) of VME indicator species encountered. Contracting Parties may if they so wish require their vessels to also report the incident directly to the Executive Secretary. The Executive Secretary shall archive the information and without delay transmit it to all Contracting Parties. The Contracting Parties shall issue an immediate alert to all vessels flying their flag.

Annex 3. Footprint map (extraction of Figure 4b and Table 2 from FC WP 09/01 Rev).

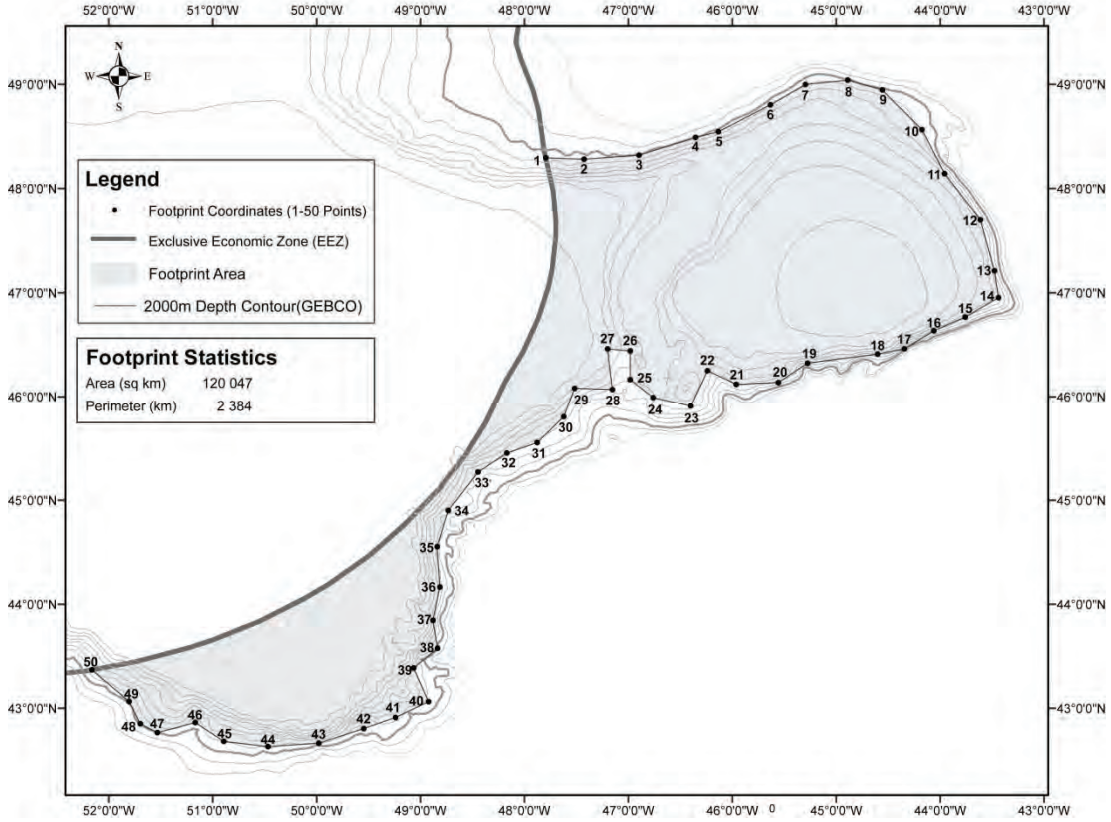

Figure1: NAFO Regulatory Area footprint map (shaded) (Figure 4b of FC WP 09/01 Rev).

Point No.	Latitude	Longitude
1	48°17'39"N	EEZ boundary[1]
2	48°16'51"N	47°25'37"W
3	48°19'15"N	46°53'48"W
4	48°29'21"N	46°21'17"W
5	48°32'43"N	46°08'04"W
6	48°48'10"N	45°37'59"W
7	48°59'54"N	45°17'46"W
8	49°02'20"N	44°53'17"W
9	48°56'46"N	44°33'18"W
10	48°33'53"N	44°10'25"W
11	48°08'29"N	43°57'28"W
12	47°42'00"N	43°36'44"W
13	47°12'44"N	43°28'36"W
14	46°57'14"N	43°26'15"W
15	46°46'02"N	43°45'27"W
16	46°38'10"N	44°03'37"W
17	46°27'43"N	44°20'38"W
18	46°24'41"N	44°36'01"W
19	46°19'28"N	45°16'34"W
20	46°08'16"N	45°33'27"W
21	46°07'13"N	45°57'44"W
22	46°15'06"N	46°14'21"W
23	45°54'33"N	46°24'03"W
24	45°59'36"N	46°45'33"W
25	46°09'58"N	46°58'53"W

Point No.	Latitude	Longitude
26	46°26'32"N	46°58'53"W
27	46°27'40"N	47°12'01"W
28	46°04'15"N	47°09'10"W
29	46°04'53"N	47°31'01"W
30	45°48'17"N	47°37'16"W
31	45°33'14"N	47°52'41"W
32	45°27'14"N	48°10'15"W
33	45°16'17"N	48°26'50"W
34	44°54'01"N	48°43'58"W
35	44°33'10"N	48°50'25"W
36	44°09'57"N	48°48'49"W
37	43°50'44"N	48°52'49"W
38	43°34'34"N	48°50'12"W
39	43°23'13"N	49°03'57"W
40	43°03'48"N	48°55'23"W
41	42°54'42"N	49°14'26"W
42	42°48'18"N	49°32'51"W
43	42°39'49"N	49°58'46"W
44	42°37'54"N	50°28'04"W
45	42°40'57"N	50°53'36"W
46	42°51'48"N	51°10'09"W
47	42°45'59"N	51°31'58"W
48	42°51'06"N	51°41'50"W
49	43°03'56"N	51°48'21"W
50	43°22'12"N	EEZ boundary[2]

[1] approximately 47°47'45"W [2] approximately 52°09'46"W

Table 1: Boundary points delineating the eastern side of the footprint in the NRA. The Canadian EEZ boundary delineates the western side of the footprint map (Table 2 of FC WP 09/01 Rev).

Annex 4. Review and update of Chapter Ibis of the NAFO CEM (FCWGFMS WP 10/4, Rev. 1)

Review and update of Chapter Ibis of the NAFO CEM
(Proposal by the USA and the EU)

Changes proposed without taking into consideration the work carried out by STACTIC in relation to revision of the NAFO CEM control provisions.
Track changes: House cleaning, with reference to point 3 in the proposal adopted by FC at the annual meeting in 2009, Doc. 09/19
Highlighted in yellow: Text to be updated only in the event that the FC adopts the fishing footprint at the NAFO annual meeting 2010

Chapter Ibis
BOTTOM FISHERIES IN THE NAFO REGULATORY AREA

Article 1bis – Purpose and definitions

1. The purpose of this chapter is to ensure the implementation by NAFO of effective measures to prevent significant adverse impacts of bottom fishing activities on vulnerable marine ecosystems known to occur or likely to occur in the Regulatory Area based on the best available scientific information. For the purposes of this Chapter, NAFO will take into account the guidance provided by the FAO in the framework of the Code of Conduct for Responsible Fisheries and any other internationally agreed standards, as appropriate.

2. The term 'bottom fishing activities' means bottom fishing activities where the fishing gear is likely to contact the seafloor during the normal course of fishing operations.

3. The term "existing bottom fishing areas" initially means areas where VMS data and/or other available geo-reference data indicating bottom fishing activities have been conducted at least in two years within a reference period of 1987 to 2007. This shall be revised regularly in accordance with Article 2bis~~.4~~.

4. The term "new bottom fishing areas" means all other areas within the Regulatory Area which are not defined as existing bottom fishing areas, including waters deeper than 2000 metres.

5. The term "vulnerable marine ecosystems" has the same meaning and characteristics as those contained in paragraphs 42 and 43 of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

6. The term "significant adverse impacts" has the same meaning and characteristics as those described in paragraphs 17-20 of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

Article 2bis - ~~Identification~~ Map of existing bottom fishing areas (footprint)

~~1. In 2008, NAFO shall proceed to map existing bottom fishing areas within the Regulatory Area for bottom fishing activities. Mapping of trawling activity shall be given priority.~~

~~2. Contracting Parties with vessels involved in bottom fishing activities in the period of 1987-2007 shall, for the purpose of paragraph 1, submit during 2008 comprehensive maps of existing fishing areas to the Executive Secretary. Maps shall be based on VMS data and/or other available geo-reference data and expressed in as precise spatial and temporal resolution as possible. Contracting Parties may, in the future, consider the possibility of refining these maps on the basis of haul by haul information, if available.~~

~~3. The Executive Secretary shall compile maps submitted by Contracting Parties pursuant to paragraph 2. The Executive Secretary shall on that basis, as well as on any data available to it, produce a comprehensive map of existing fishing areas. The Executive Secretary shall forward this map to the Scientific Council for review and comment at its meeting in September 2008 and thereafter to the Fisheries Commission.~~

The comprehensive map of existing bottom fishing areas ~~referred to in paragraph 3~~produced by the Executive Secretary (reference to ANNEX), based on information submitted by Contracting Parties, ~~-~~shall be revised

regularly to incorporate any new relevant information. Contracting Parties may, in the future, consider the possibility of refining the comprehensive map on the basis of haul by haul information, if available. (existing text from paragraph 2)

Article 3bis - Bottom fishing activities in new fishing areas

1. ~~From 1 January 2009, a~~All bottom fishing activities in new fishing areas or with bottom gear not previously used in the area concerned, shall be considered as exploratory fisheries and shall be conducted in accordance with ~~an~~ the exploratory fisheries protocol set out in Part IV of Annex XXV ~~to be adopted by the Fisheries Commission in 2008~~.

2. The exploratory bottom fishing shall be subject to the assessment procedure set forth in Article 4bis, with the understanding that particular care will be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems, in line with the precautionary approach.

3. Contracting Parties shall communicate the exploratory fisheries protocol referred to in paragraph 1 to the Executive Secretary for forwarding to the Scientific Council for review and to all Contracting Parties for information, together with the information or preliminary impact assessment referred to in Article 4bis, paragraph 2~~3~~ (i), below.

4. Contracting Parties shall provide promptly a report of the results of such activities to the Executive Secretary for circulation to the Scientific Council and all Contracting Parties.

5. Prior to commencing new bottom fishing activities based upon the results of exploratory fisheries conducted in the prior two years, the Fisheries Commission shall review the assessments undertaken in accordance with Article 4bis below and the results of the fishing protocols implemented by the participating fleets, and shall:

    i. establish conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems from individual fishing activities and to ensure the long-term sustainability of deep sea fish stocks, or

    ii. not authorize these fishing activities to proceed.

6. Contracting Parties shall ensure that vessels flying their flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board.

Article 4bis - Assessment of bottom fishing

1. The Scientific Council, with the co-operation of Contracting Parties, shall identify, on the basis of best available scientific information, vulnerable marine ecosystems in the Regulatory Area and map sites where these vulnerable marine ecosystem are known to occur or likely to occur and provide such data and information to the Executive Secretary for circulation to all Contracting Parties.

~~2. Proposed bottom fishing activities in the Regulatory Area for 2009 shall be subject to assessment by the Scientific Council in 2008, based on the best available scientific information, to determine if such activities, taking account of the history of bottom fishing in the areas proposed, would have significant adverse impacts on vulnerable marine ecosystems.~~

2~~3~~. ~~Thereafter, a~~Assessments ~~s~~ for proposed bottom fishing activities in the Regulatory Area shall follow the procedures below:

    i. Each Contracting Party proposing to participate in bottom fishing shall submit to the Executive Secretary information and an initial assessment, where possible, of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems, in advance of the next meeting of the Scientific Council. These submissions shall also include the mitigation measures proposed by the Contracting Party to prevent such impacts. The Executive Secretary shall promptly forward these submissions to the Scientific Council and the Fisheries Commission.

    ii. The submission of such information shall be carried out in accordance with guidance developed by the Scientific Council, or, in the absence of such guidance, to the best of the Contracting Party's ability.

iii. The Scientific Council shall undertake an assessment, according to procedures and standards it develops, and provide advice to the Fisheries Commission as to whether the proposed bottom fishing activity would have significant adverse impacts on vulnerable marine ecosystems and, if so, whether mitigation measures would prevent such impacts. The Scientific Council may use in its assessment additional information available to it, including information from other fisheries in the region or similar fisheries elsewhere.

34. The *ad hoc* Working Group of managers and scientists on VMEs, the terms of reference of which are attached, shall examine the advice of the Scientific Council and shall make recommendations to the Fisheries Commission in accordance with its mandate.

45. The Fisheries Commission shall, taking account of advice and recommendations provided by the Scientific Council and the *ad hoc* Working Group of scientists and managers, concerning bottom fishing activities, including data and information arising from reports pursuant to Article 5bis adopt conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems, that may include:

(a) allowing, prohibiting or restricting bottom fishing activities;

(b) requiring specific mitigation measures for bottom fishing activities;

(c) allowing, prohibiting or restricting bottom fishing with certain gear types, or changes in gear design and/or deployment; and/or

(d) any other relevant requirements or restrictions to prevent significant adverse impacts to vulnerable marine ecosystems.

56. Fisheries Commission will periodically ask Scientific Council and the ad hoc working group of managers and scientists on vulnerable marine ecosystems to provide advice to Fisheries Commission on the timing and requirement for assessment of a previously assessed bottom fishery.

Article 5bis – Interim Encounter Provision

Definition of an Encounter – is an encounter, above threshold levels as set out in paragraph 3, with indicator species of coral identified as antipatharians, gorgonians, cerianthid anemone fields, lophelia, and sea pen fields or other VME elements. Any encounter with a VME indicator species or merely detecting the presence of an element itself is not sufficient to identify a VME. That identification should be made on a case-by-case basis through assessment by relevant bodies.

Contracting Parties shall require that vessels flying their flag and conducting bottom fishing activities within the Regulatory Area abide by the following rules, where, in the course of fishing operations, evidence of vulnerable marine ecosystems is encountered:

1) Existing fishing areas

a) Vessels shall quantify catch of VME indicator species, i.e. coral and sponge.

b) if the quantity of VME elements or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in paragraph 3 below, the following shall apply:

- The vessel master shall report the incident to the flag state, which without delay shall forward the information to the Executive Secretary. Contracting Parties may if they so wish require their vessels to also report the incident directly to the Executive Secretary. The Executive Secretary shall archive the information and report it to all Contracting Parties. The Contracting Parties shall immediately alert all fishing vessels flying their flag.

- The vessel master shall cease fishing and move away at least 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. The captain shall use his best judgment based on all available sources of information.

- The Executive Secretary shall make an annual report on single and multiple encounters in discrete areas within existing fishing areas to the Scientific Council. The Scientific Council shall evaluate and, on a case-by-case basis the information and provide advice to the Fisheries Commission on whether a VME exists. The advice shall be based on annually updated assessments of the accumulated information on encounters and the Scientific Council's advice on the need for action, using FAO guidelines as a basis. The Fisheries Commission shall consider the advice in accordance with Article 4bis, paragraph 45.

2) Unfished areas that are defined as 'New fishing areas'

   a) Vessels shall quantify catch of VME indicator species, i.e. coral and sponge. Observers deployed shall identify corals, sponges and other organisms to the lowest possible taxonomical level. The sampling protocol found in Annex XXV shall be used (templates).

   b) If the quantity of VME element or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in paragraph 3 below, the following shall apply:

   - The vessel master shall report the incident without delay to its flag state, which shall forward the information to the Executive Secretary. Contracting Parties may if they so wish require their vessels to also report the incident directly to the Executive Secretary. The Executive Secretary shall archive the information and without delay transmit it to all Contracting Parties. The Contracting Parties shall issue an immediate alert to all vessels flying their flag.

   - The Executive Secretary shall at the same time request Contracting Parties to implement a temporary closure of a two mile radius around the reporting position. The reporting position is that provided by the vessel, either the endpoint of the tow/set or another position that the evidence suggests is closest to the exact encounter location.

   - The Scientific Council at its next meeting shall examine the temporary closure. If the Scientific Council advises that the area consists of a vulnerable marine ecosystem the Executive Secretary shall request Contracting Parties to maintain the temporary closure until such time that the Fisheries Commission has acted upon the advice from the Scientific Council in accordance with Article 4bis, paragraph 45 in Chapter Ibis. If the Scientific Council does not conclude that the proposed area is a VME, the Executive Secretary shall inform Contracting Parties which may re-open the area to their vessels.

   - The vessel shall cease fishing and move away at least 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. The captain shall use his best judgment based on all available sources of information.

   - The Executive Secretary shall make an annual report on archived reports from encounters in *new fishing areas* to the Scientific Council. This report shall also include reports from the exploratory fishing activities that were conducted in the last year. The Scientific Council shall evaluate the information and provide advice to the Fisheries Commission on the appropriateness of temporary closures and other measures. The advice should be based on annually updated assessments of the accumulated information on encounters as well as other scientific information. The Scientific Council's advice should reflect provisions outlined in the FAO guidelines. The Fisheries Commission shall consider the advice in accordance with Article 4bis, paragraph 45.

3) For both existing and new fishing areas, an encounter with primary VME indicator species is defined as a catch per set (e.g. trawl tow, longline set, or gillnet set) of more than 60 kg of live coral and/or 800 kg of live sponge. These thresholds are set on a provisional basis and may be adjusted as experience is gained in the application of this measure.

Article 6bis - Review

The provisions of this chapter shall be reviewed by the Fisheries Commission at its Annual Meeting in 2011. The Commission shall biannually thereafter examine the effectiveness of these provisions in protecting vulnerable marine ecosystems from significant adverse impacts.

ATTACHMENT:
Terms of Reference
Ad Hoc Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems

Structure:

An ad hoc Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems is established in 2008 which reports to the Fisheries Commission, consults with Scientific Council, and provides recommendations to Fisheries Commission.

The Working Group shall be comprised of fishery managers and scientists from Contracting Parties supported by advisors, as required, up to a maximum of three participants per Contracting Party. The Chair/Vice chair shall be selected from participating fishery managers and scientists with both a fishery manager and a scientist represented in the two positions.

Consideration shall be given by the Fisheries Commission in 2010 to the continuation or dissolution of the working group.

Objective:

The main objective of the Working Group is to make recommendations to Fisheries Commission on the effective implementation of measures to prevent significant adverse impacts on vulnerable marine ecosystems.

Specific Duties:

The Working Group shall:

In examining the advice of Scientific Council to Fisheries Commission, evaluate risk and make recommendations on mitigation strategies and measures to avoid significant adverse impacts on vulnerable marine ecosystems, drawing on relevant international information[1].

Develop operational procedures in 2008 in relation to encounters of vulnerable marine ecosystems to prevent significant adverse impacts.

Review and finalize the attached Exploratory Fishery Protocol for new fishing areas including the development of templates for elements of the protocol for adoption by the Fisheries Commission in 2008.

Meetings:

The Working Group will meet at least once annually between the Meeting of Scientific Council and the Annual Meeting of NAFO and shall communicate regularly through teleconferences and electronically, as required.

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[1]Including but not limited to the pending FAO International Guidelines for the Management of Deep Sea Fisheries in the High Seas

Annex XXV (contd)

IV. Exploratory Protocol for New Fishing Areas

The Exploratory Fishery Protocol for New Fishing Areas shall ~~include~~consist of:

- A harvesting plan which outlines target species, dates and areas. Area and effort restrictions should be considered to ensure fisheries occur on a gradual basis in a limited geographical area.
- A mitigation plan including measures to prevent significant adverse impact to vulnerable marine ecosystems that may be encountered during the fishery.
- A catch monitoring plan that includes recording/reporting of all species caught, 100% satellite tracking and 100% observer coverage. The recording/reporting of catch should be sufficiently detailed to conduct an assessment of activity, if required.
- A data collection plan to facilitate the identification of vulnerable marine ecosystems/species in area fished.

Exploratory fisheries shall not commence until this information has been provided to the Executive Secretary and forwarded to all Contracting Parties and the Scientific Council for information.

Annex 5. Requirements for bottom fishing assessment (FCWGFMS WP 10/2, Rev. 2)

Proposal for Amendment of Article 4bis of Chapter Ibis
(Proposed by the United States)

Proposal

Article 4*bis*, paragraph 3.i. would read as follows:

3i. If proposed bottom fishing has not been covered by a previous assessment, or if there are significant changes to the fishery, or in light of new scientific information, the Contracting Party proposing to participate in bottom fishing shall submit to the Executive Secretary information and a preliminary assessment of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems no less than two weeks in advance of the opening of the annual meeting in June of the Scientific Council. Assessments should address the elements as set forth in Annex XXVbis. The Executive Secretary shall promptly forward these submissions to the Scientific Council and the Fisheries Commission.

Annex XXVbis Assessment of Bottom Fishing Activities

Assessments should address, *inter alia*:

1. Type(s) of fishing conducted or contemplated, including vessels and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing (harvesting plan);
2. Best available scientific and technical information on the current state of fishery resources and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
3. Identification, description and mapping of VMEs known or likely to occur in the fishing area;
4. Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs;
5. Data and methods used to identify, describe and assess the impacts of the activity, the identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;
6. Risk assessment of likely impacts by the fishing operations to determine which impacts on VMEs are likely to be significant adverse impacts; and

The proposed mitigation and management measures to be used to prevent significant adverse impacts on VMEs, and the measures to be used to monitor effects of the fishing operations.

Annex 12. Amendment of Article 4bis of Chapter Ibis – Assessment of Bottom Fishing

(FC Working Paper 10/8, Revision 2 **now** FC Doc. 10/14)

Proposal

Article 4*bis*, paragraph 3.i. would read as follows:

3i. If proposed bottom fishing is outside of the footprint identified by the Fisheries Commission, or if there are significant changes to the conduct or technology of existing bottom fisheries, or new scientific information indicating a VME in a given area, the Contracting Party proposing to participate in bottom fishing shall submit to the Executive Secretary information and a preliminary assessment of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems no less than two weeks in advance of the opening of the annual meeting in June of the Scientific Council. Assessments should address the elements as set forth in Annex XXVbis. The Executive Secretary shall promptly forward these submissions to the Scientific Council and the Fisheries Commission.

Annex XXVbis Assessment of Bottom Fishing Activities

Assessments should address, *inter alia*:

1. Type(s) of fishing conducted or contemplated, including vessels and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing (harvesting plan);
2. Best available scientific and technical information on the current state of fishery resources and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
3. Identification, description and mapping of VMEs known or likely to occur in the fishing area;
4. Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs;
5. Data and methods used to identify, describe and assess the impacts of the activity, the identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;
6. Risk assessment of likely impacts by the fishing operations to determine which impacts on VMEs are likely to be significant adverse impacts; and
7. The proposed mitigation and management measures to be used to prevent significant adverse impacts on VMEs, and the measures to be used to monitor effects of the fishing operations.

Annex 13. Terms of Reference – Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems

(FC Working Paper 10/10, Revised **now** FC Doc. 10/15)

Structure:

Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems reports to the Fisheries Commission, considers the advice of Scientific Council, and provides recommendations to Fisheries Commission.

The Working Group shall be comprised of fishery managers and scientists from Contracting Parties supported by advisors, as required, up to a maximum of three participants per Contracting Party. The Chair/Vice-chair shall be selected from participating fishery managers and scientists with both a fishery manager and a scientist represented in the two positions.

Objective:

The main objective of the Working Group is to make recommendations to the Fisheries Commission on the effective implementation of measures to prevent significant adverse impacts on vulnerable marine ecosystems.

Specific Duties:

In responding to requests for advice and recommendations from the Fisheries Commission, the Working Group shall:

Consider the advice of Scientific Council to Fisheries Commission; evaluate associated risks; and make recommendations on mitigation strategies and measures to avoid significant adverse impacts on vulnerable marine ecosystems, drawing on relevant international guidance[1].

Review area closures, fisheries impact assessments and other measures outlined in the NAFO Conservation and Enforcement Measures (NCEMs) with specific timelines.

Update the text in Chapter I bis of the NCEMs as necessary.

Meetings:

The Working Group will meet as required by the Fisheries Commission. Whenever possible, meetings of the Working Group should occur between the annual June meeting of Scientific Council and the NAFO annual meeting, and shall communicate regularly through teleconferences and electronically, as required.

[1] Including but not limited to the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas

Annex 14. Duration of Inspections

(STACTIC Working Paper 09/20 **now** FC Doc. 10/16)

The Conservation and Enforcement Measures, Chapter IV Joint Inspection and Surveillance Article 33 9 - Inspection Procedure currently states that the duration of an inspection shall not exceed (3) hours. Operational experiences have demonstrated that the (3) hour requirement can restrict inspectors in the time needed to complete a thorough and detailed inspection. Furthermore, in the context of joint patrols it would be desirable to allow for additional time to facilitate interpretational discussions and coordination necessary to facilitate consensus on inspection results/outcomes.

In addition to the elements described above, the movement to a (4) hour inspection duration would also serve to harmonize with the NEAFC *Scheme for Control and Enforcement* (Article 18.5) which states:

"The duration of an inspection shall not exceed 4 hours, or until the net is hauled in and the net and catch are inspected, whichever is longer."

Possible Amendment

Chapter IV – Joint Inspection and Surveillance, Article 33 9, Inspection Procedures as follows:

9. The duration of an inspection shall not exceed ~~three~~ **four** hours, or until the net is hauled in and the net and catch are inspected, whichever is longer. This time limitation shall not apply in the case of an infringement.

Annex 15. Inspection Party Composition – Article 33(4)

(STACTIC Working Paper 10/21, Revision 2 **now** FC Doc. 10/17)

The current NAFO Conservation and Enforcement Measures (NCEM's), Article 33, explicitly calls for an inspection party to consist of "*at a maximum two inspectors*", with the possibility of a third member if it is an inspection trainees and only where vessel conditions permit.

Given that the measures already allow for the possibility of a three member inspection party and that allowing the third member, previously only an inspection trainee, to be a regular inspector would provide additional flexibility to those Contracting Parties that conduct inspections under the NCEMs, it would seem appropriate, especially in the context of tight inspection duration timeframes, to sanction the use of an additional inspector were warranted.

Furthermore, recent joint inspections, conducted with the USCG, also lend further credence to allow for an additional inspector to facilitate this type of joint activity and not force Contracting Parties with inspection vessels in the NRA to rotate between its own inspectors and that of a guest Contracting Party, but rather to allow a fully effective and multinational inspection party.

It should also be noted that the NEAFC *Scheme of Control and Enforcement*, Article 18.6, places no actual limit on the number of inspection party members, rather only limits the number of inspectors from each NEAFC Contracting Party, when inspecting the vessel of another Contracting Party.

Possible Amendment

Proposal – Amend Chapter IV – *Joint Inspection and Surveillance Scheme,* Article 33*, Inspection Procedure.*

Replace the current text of Article 33(4) with the following:

4**.** An inspection party shall consist of at maximum four inspectors. An inspection trainee may accompany the inspection party for training purposes only, however the inspection trainee counts against the inspection party maximum of four. In such circumstances, the inspection party shall, upon arrival on board, identify the trainee to the master of the fishing vessel. This trainee shall simply observe the inspection operation conducted by the authorized inspectors and shall in no way interfere with the activities of the fishing vessel.

Annex 16. Chartering Arrangements

(STACTIC Working Paper 10/8, Revision 2 **now** FC Doc. 10/18)

It is noted that when a vessel engaged in a chartering arrangement is boarded at sea, inspectors do not know the information notified to the Secretariat regarding the chartering arrangement.

It is requested to adopt a provision allowing the inspectors at sea to be provided with the information related to the chartering arrangement when boarding a chartered vessel.

Possible amendment

Add the following sentence at the end of Article 19 (9):

The flag State of the chartered vessel shall provide a copy of the documentation referred to in this paragraph to the chartered vessel, to be carried on board.

Annex 17. Daily Communication of Catches
NAFO CEM Article 27 + Annex X and Annex XXII

(STACTIC Working Paper 10/9, Revision 5 **now** FC Doc. 10/19)

It is noted that a lack of clarity in some technical issues related to the communication of catches under Article 27 create confusion and do not allow an automated process of data for quota up-take and control. These are:

- the "CAT" reference, which is currently used for 3 different type of communication: weekly; daily and for the cross of boundary 3L (for PRA)
- the aggregation of the catch per species inside of a stock area in the weekly CAT message
- the option to choose the period for communicating aggregated catch reports
- the lack of specific field to declare catch under chartering

It is requested

- to use the CAT reference only for the daily catch reporting by Division and for all species
- to abandon the use of weekly catch report
- to give a specific code (COB) for the cross boundary 3L/3M messages for shrimp fishery
- to clarify the requirements defining each data element of the message
- to specify that the CAT message reports only the catch of the day before, per species and per Division
- to specify that the COE, COX and COB messages provide cumulative figures only per species, for control/inspection purposes
- to identify the catch under chartering
- to adapt Annex X and XXII for clarity

Possible amendments

1. **Replace Article 27 §1 under c) and d) by the following text**

c) Catch report. This report shall be on a daily basis and shall include catch of all species of the day preceding the report, including nil catch returns. The report shall be sent each day before 12.00 hours UTC of the day after fishing. This message is identified as CAT.

d) Catch prior to entry to and exit from 3L. This report~~s~~ shall be made by vessels that fish shrimp in Division 3L and shall be sent one hour prior to crossing the boundary of Division 3L in entry and in exit. It shall include the requirements in Annex X point 3. This report shall be identified as COB;

2. **Replace Article 27 point 3 second paragraph by the following text**

The sequence of messages ~~under Article 26 and this article~~ shall be as follows:

Report	Code	~~Remarks~~ Requirements for the field
Catch on Entry	COE	6 hours in advance of the vessels entry into the RA
Entry	ENT	The first position report from a vessel detected to be inside the RA
Position	POS	Position report every hour
Catch	CAT	Reporting of catches; in a daily basis, for all species by Division
Cross Boundary	COB	Reporting of catches; prior to crossing the boundary to 3L as appropriate
Transhipment	TRA	Report on quantities to be on-loaded (receiving vessel) or off-loaded (donor vessel), for each transhipment
Catch on Exit	COX	6 hours in advance of the vessels departure from the RA
Exit	EXI	The first position report from a vessel detected to be outside the RA
Port of Landing	POR	Report (receiving vessel) on catch onboard to be landed, for each landing after transhipment

3. Modify Annex X in accordance with the following provisions

a) Point 1: Replace the specified remarks by the following

1) "Catch on ENTRY" Report

Data Element	Field Code	Mandatory/ Optional	Requirements for the field
On board	OB	M	Total round weight of fish by species on board upon entry into the Regulatory Area in kilograms rounded to the nearest 100 kilograms. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //OB/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//
Directed species	DS	M	Main target species in the Regulatory area. Allow several species to be entered with the value separated by spaces, e.g. //DS/speciesspacespeciesspacespecies//

b) Point 4: Replace the specified remarks by the following
Renumber current point 4 as new point 5
4 5) *"Catch on EXIT" Report*

Data Element	Field Code	Mandatory/ Optional	Requirements for the field
Catch Species Live weight	CA	M	Activity detail; Catch retained onboard by species and by Division since last CAT report in kilograms rounded to the nearest 100 kilograms. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //CA/speciesspaceweightspacespecieswspaceeightspacespeciesspaceweightspace//
Catch Species Live weight	OB	M	Activity detail; Total round weight of fish by species on board upon exit from the Regulatory Area in kilograms rounded to the nearest 100 kilograms Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //OB/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//
Days fished	DF	O	Activity detail; number of fishing days in the Regulatory Area

c) Point 2: Replace table by the following table
Add new footnotes 3 and 4 under the table

2) "Catch report"

Data Element	Field Code	Mandatory/ Optional	Requirements for the field
Start record	SR	M	System detail; indicates start of record
Address	AD	M	Message detail; destination, "XNW" for NAFO
From	FR	M	Message detail; Address of the transmitting party (ISO-3)
Sequence Number	SQ	M	Message detail; serial number in current year
Type of Message	TM	M	Message detail; message type, "CAT" as Daily Catch report

Radio call sign	RC	M	Vessel registration detail; international radio call sign of the vessel
Trip Number	TN	O	Activity detail; fishing trip serial number in current year
Vessel Name	NA	O	Vessel registration detail; name of the vessel
Contracting Party Internal Reference Number	IR	O	Vessel registration detail; unique Contracting Party vessel number as ISO-3 flag state code followed by number
External Registration Number	XR	O	Vessel registration detail; the side number of the vessel
Relevant Area	RA	M	Activity detail; NAFO Division
Latitude	LA	M	Activity detail; position at time of transmission
Longitude	LO	M	Activity detail; position at time of transmission
Catch Species Live weight	CA	M	Activity detail; Catch retained onboard by species and by Division since last CAT report in kilograms rounded to the nearest 100 kilograms. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //CA/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//
Chartering Flag	CH	M[3]	Flag of Chartering Contracting Party to which the catch must be allocated
Days Fished	DF	M	Activity detail; number of fishing days in the Regulatory Area since last CAT report, as appropriate[4]
Date	DA	M	Message detail; date of transmission
Time	TI	M	Message detail; time of transmission
End of record	ER	M	System detail; indicates end of record

[3] Mandatory if fishing activity under chartering agreement
[4] By default, the normal reporting period should be 1 day

d) Point 3: Insert the following table as new point 3

3) "Catch on crossing Boundary" 3L report (for PRA)

Data Element	**Field Code**	**Mandatory/ Optional**	**Requirements for the field**
Start record	SR	M	System detail; indicates start of record
Address	AD	M	Message detail; destination, "**XNW**" for NAFO
From	FR	M	Message detail; Address of the transmitting party (ISO-3)
Sequence Number	SQ	M	Message detail; serial number in current year
Type of Message	TM	M	Message detail; message type, **"COB"** for Cross Boundary Catch report
Radio call sign	RC	M	Vessel registration detail; international radio call sign of the vessel
Trip Number	TN	O	Activity detail; fishing trip serial number in current year
Vessel Name	NA	O	Vessel registration detail; name of the vessel
Contracting Party Internal Reference Number	IR	O	Vessel registration detail; unique Contracting Party vessel number as ISO-3 flag state code followed by number
External Registration Number	XR	O	Vessel registration detail; the side number of the vessel
Relevant Area	RA	M	Activity detail; NAFO Division entering from
Latitude	LA	M	Activity detail; position at time of transmission
Longitude	LO	M	Activity detail; position at time of transmission

Catch Species Live weight	CA	M	Activity detail; Catch retained onboard by species and by Division since last CAT report in kilograms rounded to the nearest 100 kilograms. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //CA/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//
Area of entry	AE	M	Activity detail; NAFO Division entering into
Catch species live weight	OB	M	Activity detail; Cumulative catch retained on board by species in kilograms rounded to the nearest 100 kilograms. since commencement of fishing in the Regulatory Area. Allow for several pairs of fields, consisting of species FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //OB/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//
Days Fished	DF	O	Activity detail; number of fishing days in the Regulatory Area
Date	DA	M	Message detail; date of transmission
Time	TI	M	Message detail; time of transmission
End of record	ER	M	System detail; indicates end of record

e) Renumber current point 3 as new point 4
Replace the specified line by the following

~~3~~ 4) *"Transhipment" Report*

Data Element	Field Code	Mandatory/ Optional	Requirements for the field
Quantity on-loaded or off-loaded Species Live weight	KG	M	Quantity by species in the Regulatory Area on-loaded or off-loaded in kilograms rounded to the nearest 100 kilograms. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //KG/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//

f) Point 5: Replace the specified lines by the following
Renumber point 5 as new point 6

~~5~~ 6) *"Port of landing" Report*

Data Element	Field Code	Mandatory/ Optional	Requirements for the field
Quantity to be landed Species Live weight	KG	M	Activity detail; Quantity by species in kilograms rounded to the nearest 100 kilograms, to be landed in a port~~.~~ Allow for several pairs of fields, consisting of species ~~+9 weight~~ (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //KG/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//

Quantity on board Species Live weight	OB	M	Activity detail; Quantity by species in kilograms rounded to the nearest 100 kilograms on-board. Allow for several pairs of fields, consisting of species (FAO 3 alpha codes) + live weight in kilograms (until 9 digits), with each field separated by a space, e.g. //OB/speciesspaceweightspacespeciesspaceweightspacespeciesspaceweightspace//

4. **Insert the following line in Annex XXII point C in category "Activity details"**

Category	Data Element	Field code	Type	Contents	Definitions
Activity Details	Chartering Flag Catches	CH	Char*3	ISO-3166	Flag of Chartering Contracting Party

Annex 18. Notification Requirements – NAFO CEM Article 30

(STACTIC Working Paper 10/10 **now** FC Doc. 10/20)

Article 30 requests CP to notify by 1 November the inspectors, inspection means and inspection plans related to their sea inspection programme.

Postponing by 1 month such notification would allow CP to better prepare the provisional plans for the inspection activities in the RA.

The availability of such information would be easier if posted on the secure part of the NAFO website.

It is requested to postpone the deadline from 1 November to 1 December and to invite the Secretariat to post the information on the secure part of the NAFO website.

Possible amendment

1. Replace 1 November by 1 December in paragraphs 1 and 3 of Article 30

2. Insert new paragraph 4 in Article 30:

   4. The Executive Secretary shall post the information received from the CP on the secure part of the NAFO website.

Annex 19. Report on Infringements – NAFO CEM Article 42

(STACTIC Working Paper 10/11, Revision 2 **now** FC Doc. 10/21)

Article 42(1) states that CP shall report twice a year on infringements detected on their vessels and the relative follow-up, and on significant differences in the recording of catches from logbooks and the inspector's estimation. No standardized reporting process is proposed.

The rationale for such a biannual reporting is not clear.

It is requested

- to deliver a report once a year (on 1 March), instead of twice
- to standardize the reporting process (unique e-format)

The Executive Secretary shall establish the form of the report for the electronic notification by Contracting Parties.

Possible amendment

Modify paragraph 1 in Article 42 in accordance with the following text

1. Contracting Parties shall report to the Executive Secretary by 1 March each year:

a) the action taken during the previous year concerning infringements notified to it by a Contracting Party. The infringements shall continue to be listed on each subsequent report until the action is concluded under the laws of the Flag State; and

b) differences that they consider significant between records of catches in the logbooks of vessels of the Contracting Party and inspectors' estimates of catches on board the vessels.

Annex 20. Report on Infringement Form

(STACTIC Working Paper 10/19, Revised **now** FC Doc. 10/22)

Form to be used for the electronic notification by Contracting Parties in complying with NCEM Article 42.

Northwest Atlantic Fisheries Organization
Report on Infringements – CEM Chapter IV, Article 42

Contracting Party	
Period	
Date of Report	
Case Reference #	

Reported Infringement		First Sea Inspection			Second Sea Inspection (if applicable)			Port Inspection (if applicable)		
Flag State	Fishing Vessel (Name, Call Sign)	Date	by CP	Division	Date	by CP	Division	Date	Port Name	Port State
Apparent Infringement	Type (Details)									
	NCEM Provision									
	Documentation									

Disposition / Follow-up actions	Comments/Observations
Action or Status	
Action or Status	
Action or Status	
Action or Status	

Annex 21. Report on Port State Control Inspection (PSC 3) – NCEM Annex XIII

(STACTIC Working Paper 10/23 **now** FC Doc. 10/23)

A. INSPECTION REFERENCE					
Landing	Yes	No	Transhipment	Yes	No
Port State			Port of landing or transhipment		
Vessel name	Flag State		IMO Number[1]	International Radio call sign	
Landing/transhipment started	Date		Time		
Landing/transhipment ended	Date		Time		

B. INSPECTION DETAILS			
Name of Donor Vessel[2]	IMO Number[1]	Radio Call sign	Flag State

B1. CATCH RECORDED IN THE LOGBOOK			
Species[3]	Area of catch	Declared live weight kg	Conversion Factor Used

[1] Fishing vessels not assigned an IMO number shall provide their external registration number

[2] In case where a vessel has engaged in transhipment operations . A separate form shall be used for each donor vessel

[3] FAO Species Codes – **NEAFC Annex V NAFO Annex II**

B2. FISH LANDED OR TRANSHIPPED*
* In cases where a Vessel has engaged in transhippment operations a separate form shall be used for each donor vessel

Species[4]	**Product**[5]	**Area of Catch**	**Product weight landed in kg**	**Conversion Factor**	**Equivalent live weight**	**Diff (kg) between live weight declared in the logbook and the live weight landed**	**Diff (%) between live weight declared in the logbook and the live weight landed**	**Diff (kg) between product weight landed and PSC 1/2**	**Diff (%) between Product weight landed And PSC 1/2**

B3. INFORMATION ABOUT LANDINGS AUTHORISED WITHOUT CONFIRMATION FROM THE FLAG STATE
ref: NEAFC article 23.2 / NAFO art 46.7

Name of Storage:		
Name of Competent Authorities:		Deadline for Receiving Confirmation:

B4. FISH RETAINED ON BOARD

Species[6]	Product[7]	Area of Catch	Product Weight (kg)	Conversion Factor	Live weight (kg)	Diff (kg) between product weight on board and PSC 1/2	Diff (%) between product weight on board and PSC 1/2

[4] & [6] FAO Species Codes – **NEAFC Annex V NAFO Annex II**
[5]& [7] Product presentations – **NEAFC Appendix 1 to Annex IV – NAFO Annex XX (C)**

C. RESULTS OF INSPECTION								
C1. GENERAL								
Inspection Started	Date:				Time:			
Inspection Ended	Date:				Time:			
Observations								
C2 GEAR INSPECTION IN PORT (for NAFO only)								
A. General Data								
Number of Gear Inspected			Date gear inspected					
Has the vessel been cited?	Yes:		No:		If yes, complete the full verification of inspection in port port. If no, complete the form with the exception of the NAFO seal details			
B. Otter Trawl details								
NAFO Seal Number		Is the seal undamaged?		Yes:		fNo:		
Gear Type:								
Attachments:								
Grate Bar Spacing (mm):								
Mesh type								
Average Mesh sizes (mm)								
Trawl part								
Wings								
Body								
Lengthening Piece								
Codend								
D. OBSERVATIONS BY THE MASTER								

I, the undersigned, Master of the vessel ..... hereby confirm that a copy of this report have been delivered to me on this date. My signature does not constitute acceptance of any part of the contents of this report, except my own observations, if any.

Signature: _____ Date : _____

E. INFRINGEMENTS AND FOLLOW-UP			
E1. NAFO			
E.1A Sea Inspection			
Infringements resulting from Inspections inside NAFO RA			
Inspection Party	**Date of Inspection**	**Division**	**NAFO CEM infringement legal reference**
E1B Port Inspection results			
(a) – Confirmation of Infringements found at sea inspection			
NAFO CEM Infringement legal reference		National Infringement Legal Reference	
(b) – Infringements found at sea inspection and not possible to be confirmed during the Port Inspection			
Comments:			
(c) - Additional infringements found during the Port Inspection			
NAFO CEM Infringement legal reference		National Infringement Legal Reference	
E2. NEAFC INFRINGEMENT NOTED			
Article:	NEAFC provision(s) violated and summary of pertinent facts		
Observations:			
Inspectors Name	**Inspectors Signature**	**Date and Place**	
F:DISTRIBUTION			
Copy to flag state	Copy to NEAFC Secretary	Copy to NAFO Executive Secretary	

Annex 22. Shrimp Strengthening Bags

(STACTIC Working Paper 10/24, Revised **now** FC Doc. 10/24)

At present, the NAFO Conservation and Enforcement Measures (NAFO/FC Doc. 10/1), Chapter I, Article 13 (6) states that: "vessels shall not use any means or device which would obstruct the meshes or diminish the size of the meshes". Irrespective of this provision vessels may still attach authorized topside chafers, described in Annex XV, to the upper side of the codend in such a manner that they will not obstruct the meshes of the codend inclusive of any lengthener(s).

Historically, vessels fishing shrimp have used an outer "strengthening bag" over the topside of the codend to provide support to the codend. While the wording within the current NCEMs does not allow for this type of attachment, vessels continue to use them.

It is Canada's view it is acceptable for shrimp vessels to use strengthening bags. Accordingly, provisions should be inserted into the NCEMs to address the manner in which the strengthening bag must be attached to the trawl.

Possible Amendment

Use of shrimp strengthening bags in the NRA: effective January 1, 2011.

In order to ensure the proper attachment of shrimp strengthening bags currently in use in the NRA, Canada would suggest that parameters be documented in the NCEM to ensure that the attachments do not diminish the size of meshes in the codend, obstruct the mesh or sorting grids or grates.

Annex XV

Add the following to Annex XV in reference to vessels fishing for shrimp in the NRA.

3. Shrimp Trawl – Codend Strengthening Bag (Figure 1), for vessels directing for shrimp in the NRA

A strengthening bag is defined as an outer covering of netting that can be used on a shrimp trawl to protect and provide strength to the codend of the shrimp trawl.

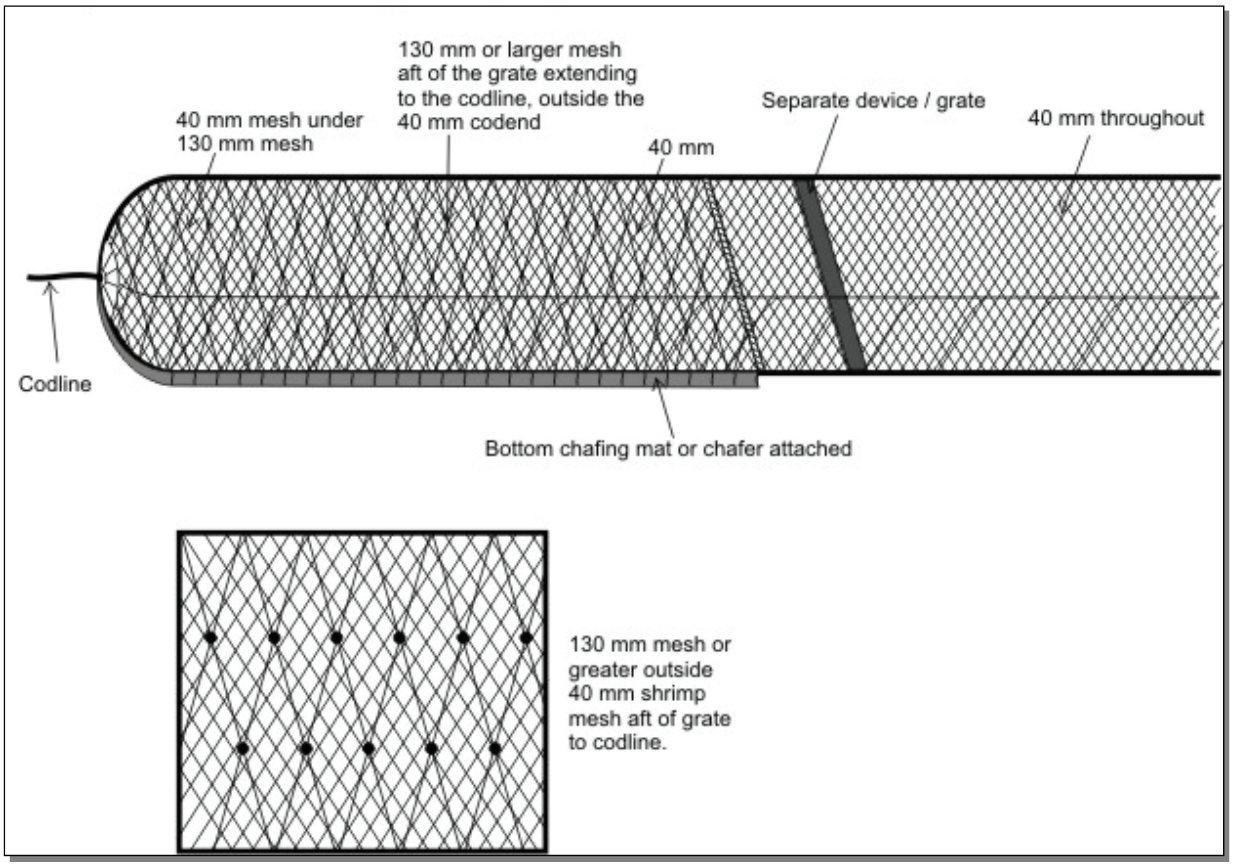
(a) Vessels shall not use a strengthening bag of which the mesh size is less than 130 millimeters.

(b) The strengthening bag shall not extend forward of the sorting grids or grates or obstruct the sorting grids or grates in any way.

(c) A strengthening bag shall not be attached in any way that restricts the authorized mesh or obstructs the mesh opening.

(d) Vessels shall not use a strengthening bag with any other top-side chafers simultaneously.

Figure 1 Shrimp Trawl Codend Strengthening Bag (side view)



Annex 23. Delisting Procedure for IUU Vessels

(STACTIC Working Paper 10/36, Revised **now** FC Doc. 10/25)

The NAFO procedures to remove a vessel from the NAFO listings related to vessels engaged in IUU fishing activities does not provide exhaustive criteria on which STACTIC should base its decision to delist the vessel concerned.

Considering the similarity between both IUU listings, it is requested to align the delisting criteria in NAFO with the relevant criteria for NEAFC. This would in particular allow Contracting Parties to recommend the removal of an IUU listed vessel without the intervention of the flag State.

Possible amendment

Insert the following text in Article 57 paragraph 3 after d)

e) the vessel has sunk, been scrapped, or permanently reassigned for purposes other than for fishing activities.

STACTIC may also recommend that the vessel be removed from the Provisional List or the IUU List if a Contracting Party provides satisfactory evidence that the conditions under e) have been met.

Annex 24. Minimum Standards for Product Labelling under Article 23 and Labelling shall accurately reflect Logbook Records under Article 24

(STACTIC Working Paper 10/37, Revised **now** FC Doc. 10/26)

Background

There are currently no minimum standards for product labelling in the NCEM. The lack of a standard has resulted in labels having information that is not legible. Also labels have fallen off the packaging or the original date of capture label has been covered with an additional label.

To ensure that product can be inspected properly it is recommended that minimum standards on product labelling be introduced to the NCEM.

The mislabeling of catch limits the ability for NAFO inspectors to reconcile catch in the hold with what is recorded by the Master. The mislabeling of catch has also resulted in catch being mis-recorded, particularly in the case of the 3L/3M Shrimp fisheries where the date of capture is required. For greater clarity of the measures, and given the direct correlation with mis-recording, it is recommended that the labeling of product shall be accurately recorded in the daily production and fishing logbooks. It should also be recognized that the inaccurate labelling of product should be considered a serious infringement of the measures.

Proposed Amendments

Amend Article 23 by adding the following text.

Labels shall be securely affixed, stamped or written on packaging and be of a size that can be clearly read by inspectors in the normal course of their duties. Labels shall be clearly marked in ink on a contrasting background. Each package shall not contain more than one product category. In the case of shrimps harvested in Divisions 3L and 3M and Greenland halibut harvested in Subarea 2 and Divisions 3KLMNO each package shall only contain one stock area. In the case of shrimps each package shall only contain one date of capture.

Amend Article 24.2 by adding the following text.

Catches and Product labelled in accordance with Article 23 shall be accurately recorded in the daily production logbook and the daily fishing logbook.

Annex 25. Annual Compliance Review 2010
(Compliance Report for Calendar Year 2009)

(STACTIC Working Paper 10/26 **now** FC Doc. 10/28)

1. Introduction

In 2004, NAFO introduced its first compliance review (FC Doc. 04/13). This review uses information from diverse NAFO monitoring, control and surveillance activities to determine how well the international fisheries complied with the annually updated NAFO Conservation and Enforcement Measures (NCEM). The review also assesses the performance of NAFO Contracting Parties with regard to their reporting obligations.

The format of the compliance review is being continuously developed by the Standing Committee on International Control (STACTIC). The current 2010 NAFO compliance review compares information for the years 2004 to 2009 from the following sources: a) Vessel Monitoring System (VMS), b) Observer Reports, c) Port Inspection Reports, d) At-sea Inspection Reports and e) Reports on Dispositions of Apparent Infringements. More detailed data compilation tables were complied by the NAFO Secretariat and circulated to the Contracting Parties in June 2010.

2. Fishing Activities (effort) in the NAFO Regulatory Area

In the years covered by this review, overall fishing activity in the NAFO Regulatory Area (NRA) has continually diminished, with the exception of the groundfish fishery in 2009. In 2004, there were 134 active vessels operating in the NRA. However, by 2009 the number of active vessels decreased to 51, representing a 62-percent decrease (Figure 1). This number increased slightly in 2009 to 62 active vessels, but that is due to an increase in the number of vessels participating in both the groundfish and shrimp fisheries. Conversely, for the pelagic redfish fishery, the number of vessels has dropped by almost 98 percent; from 48 in 2004 to only 1 in 2009.

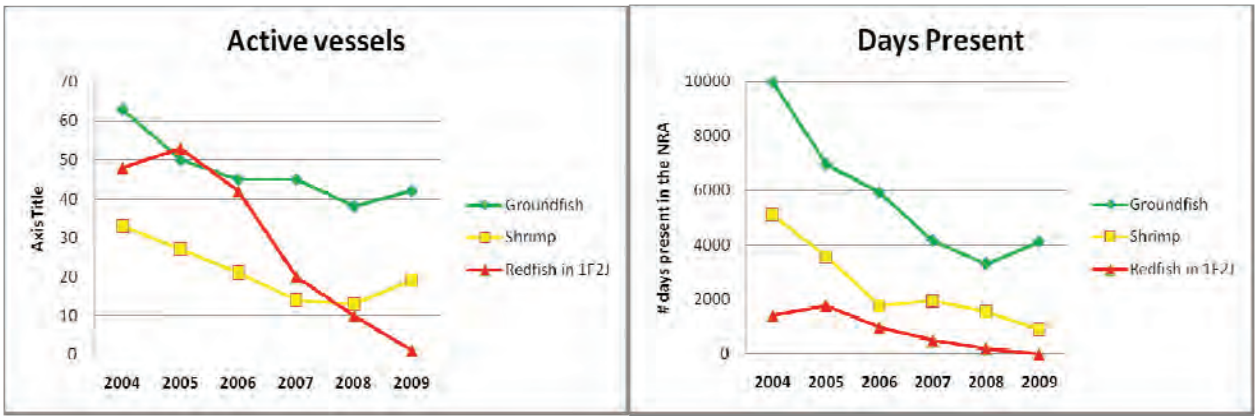


Figure 1. *Number of vessels and vessel days in the NAFO Regulatory Area by fishery type*

The fishing effort is measured in vessel-days per year in the NRA. Vessel-days are determined by the position reports transmitted by the vessels through their respective Fisheries Monitoring Centers via the vessel's VMS. Although the number of vessels decreased by 61 percent from 2004 to 2009, total fishing effort diminished by 70 percent; from 16,480 days to 5,016 days (Figure 1, Table 5). Although total fishing effort declined slightly between 2008 and 2009, effort in the groundfish fishery increased.

NAFO identifies three main different fishery types; the groundfish, shrimp and pelagic redfish fisheries (Sub-Areas 1F2J). Currently, over three-quarters of the fishing effort can be attributed to the groundfish fishery (82 percent), whereas the pelagic redfish fishery accounts for less than 1 percent of current fishing effort. It should be noted that the number of vessel days in the NRA for the pelagic redfish fishery declined by 99.7 percent, from 1,414 days in 2004 to 5 days in 2009, as compared to a 83 percent decline in the shrimp fishery and a 59 percent decline in the groundfish fishery during the same time period.

3. Compliance by Fishing Vessels

To ensure that vessels fishing in the NRA adhere to the NCEMs, NAFO monitors, surveys and controls the fishery. In this context NAFO conducts joint at-sea inspections by NAFO-certified inspectors as well as inspections in NAFO member ports. Through the random at-sea and obligatory port inspections, NAFO is able to uncover infringements of the NAFO regulations and collect evidence for the following prosecution within the legal system of each NAFO flag state. Prior to 2009, port state Contracting Parties were required to conduct port inspections on all vessels landing or transshipping fish species from the NRA. Under the recently implemented Port State Control measures, port state Contracting Parties are only required to carry out inspections on vessels from other Contracting Parties at a rate of 15 percent a year. However, the compulsory inspection of all vessels is still in force for landings of NAFO species under a recovery plan.

Although the total number of at-sea inspections decreased from 401 inspections in 2004 to 234 inspections in 2009, the frequency rate of at-sea inspections in relation to the effort (number of inspections per vessel-days per year) actually increased from 2.4 percent in 2004 to 4.7 percent in 2009, (Figure 2, Table 5). It should be noted, however, that the total at-sea inspection rate has remained fairly stable since 2006, ranging from 4.2 to 4.8 percent. At-sea inspection rates have generally increased in all three fisheries since 2004. However, in 2009, the inspection rate for the groundfish fishery dropped by 0.6 percent, and there were no at-sea inspections in the pelagic redfish fishery, likely because there was only 1 active vessel in this fishery with only 5 days present in the NRA. Conversely, the inspection rate for the shrimp fishery increased between 2008 and 2009 by 0.5 percent.

Inspections in port have also declined dramatically, from a 228 in 2004 to 94 in 2009, representing a 59 percent decline over the time period (Table 5). Although the number of port inspections increased slightly between 2007 and 2008 (6 percent), it declined by 29 percent between 2008 and 2009. This appears to be due to reductions in fishing effort in both the shrimp and pelagic redfish fisheries since the number of port inspections for the groundfish fishery actually increased slightly from 2008 to 2009 (4 percent) commensurate with of the slight increase in fishing effort in this fishery between these two years.

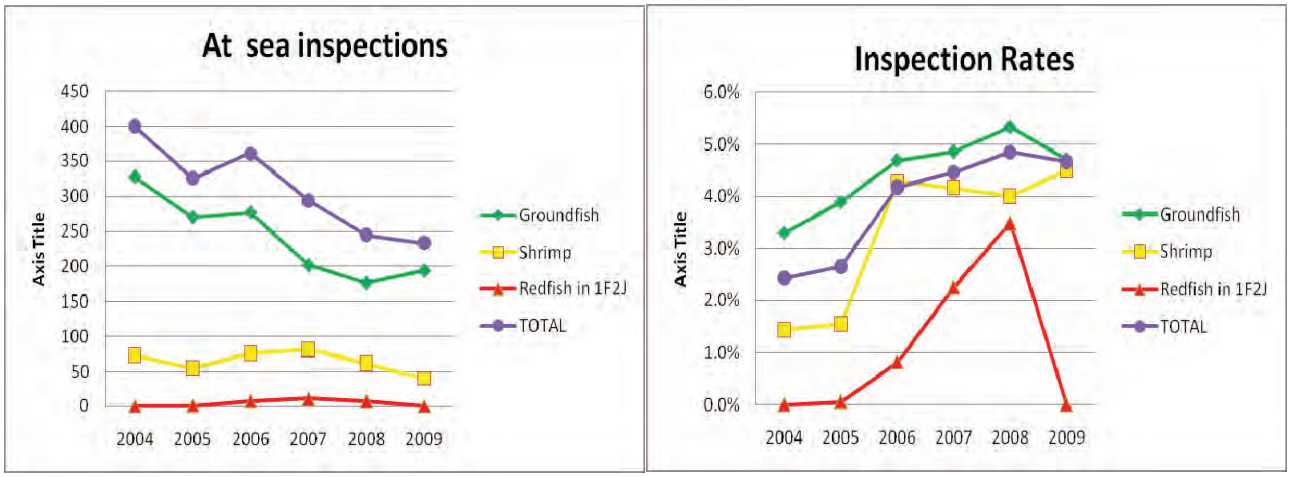


Figure 2. *Number of At-Sea Inspections and Inspection rates (number of at-sea inspection/vessel-days) in the NAFO Regulatory Area by fishery type*

NAFO inspectors cite a vessel if they have reason to suspect that the vessel breached one or more NAFO regulations. During the review period, at-sea inspectors issued a minimum of 5 citations in 2008, and a maximum of 20 citations in 2005[1] (Table 5). The annual citation rate (the number of citations issued in relation to the number of inspections conducted) for at-sea inspections declined between 2005 and 2008, but increased in 2009 (Figure 3). In contrast, the citation rate for port inspections more than tripled between 2004 and 2007, but declined dramatically in 2008 and 2009, with 2009 being the lowest in the time series at 1.1 percent.

[1]Inspections for the sole purpose of confirming a previous citation were not counted.

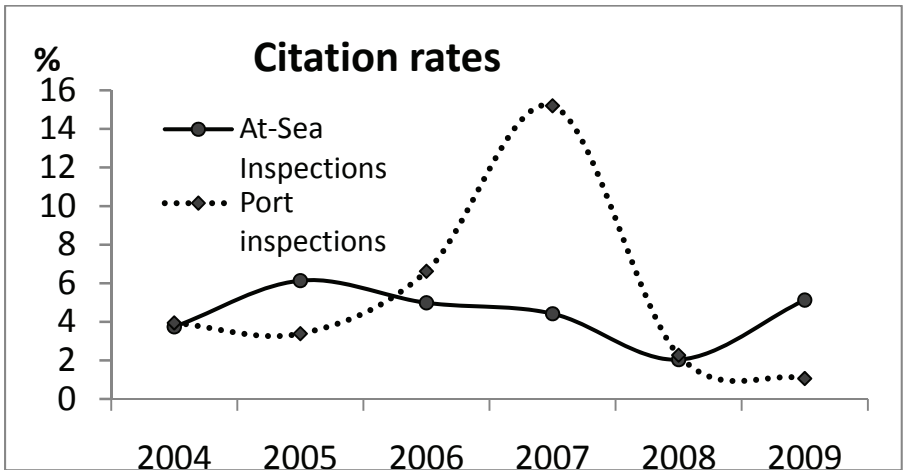


Figure 3. *Percentage of inspections that resulted in a citation at sea and in port*

Each citation issued by NAFO inspectors can list one or more infringement. NAFO recognizes 10 serious infringements (NCEM Article 37.1). NAFO inspectors also detect other infringements that are not classified as serious, such as missing stowage plans or product labels. The number of infringements that have been issued at-sea or in port during the review period is presented in Figure 4. Although the total number of infringements increased slightly from 30 in 2004 to 42 in 2007, it declined by 76 percent between 2007 and 2008. In contrast, there was a 90 percent increase in 2009 in comparison to 2008. This increase in infringements is likely the result of increased effort in the groundfish fishery in 2009, as discussed further below.

The frequency of infringements by type is presented in Figure 5. More detail on these infringements for the years 2004 through 2009 is provided in Table 5. The most frequent infringement is inaccurate recording of catches, a serious offence that was particularly pronounced in 2006 and 2007 (27 and 43 percent of total infringements, respectively). However, the actual number of infringements of this type declined dramatically between 2007 and 2008, from 16 to 2 infringements (Table 5), with a slight increase to 3 infringements in 2009.

The percentage of infringements by fisheries type is displayed in Figure 6 for 2006 through 2009. However, detailed infringement information for 2004 through 2009 is provided in Table 5. More than half of all infringements come from groundfish vessels, and up until 2008, groundfish vessels accounted for at least half of all serious infringements. In 2008, groundfish vessels accounted for 100 percent of serious infringements, although there were only 3 issued. The high level of infringements, including serious infringements, in the ground fish fishery can be attributed to the fact that groundfish fishery effort constitutes more than half of the total fishing effort in the NRA in terms of vessel-days. It should be noted that the number of serious infringements from groundfish vessels decreased dramatically in 2008 with a commensurate decline in fishing effort. However, fishing effort and number of infringements increased for the groundfish fishery in 2009. It should be further noted that all infringements detected by port inspectors during the review period involved groundfish vessels.

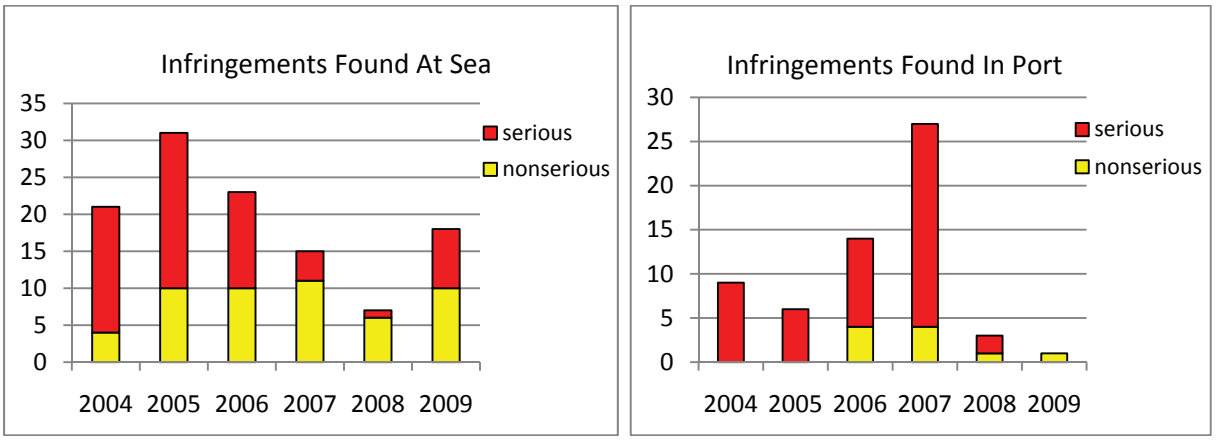


Figure 4. *Number of Apparent Infringements detected by NAFO at-sea and port inspectors for 2004-2009*

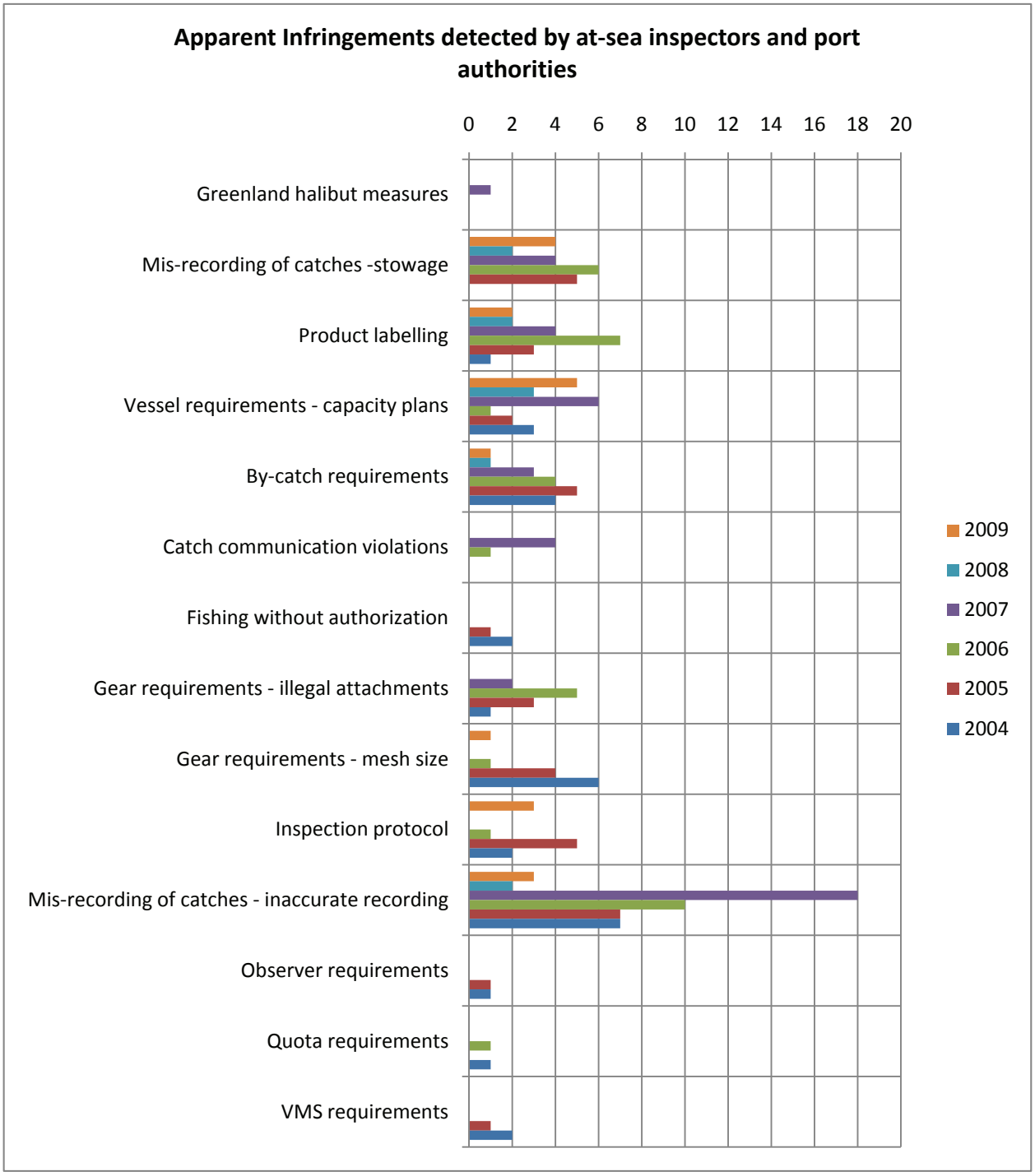


Figure 5. *Apparent Infringements detected by NAFO at-sea and port inspectors*
**Please note that the first 4 are non-serious infringements and the remaining 10 are serious infringements.*

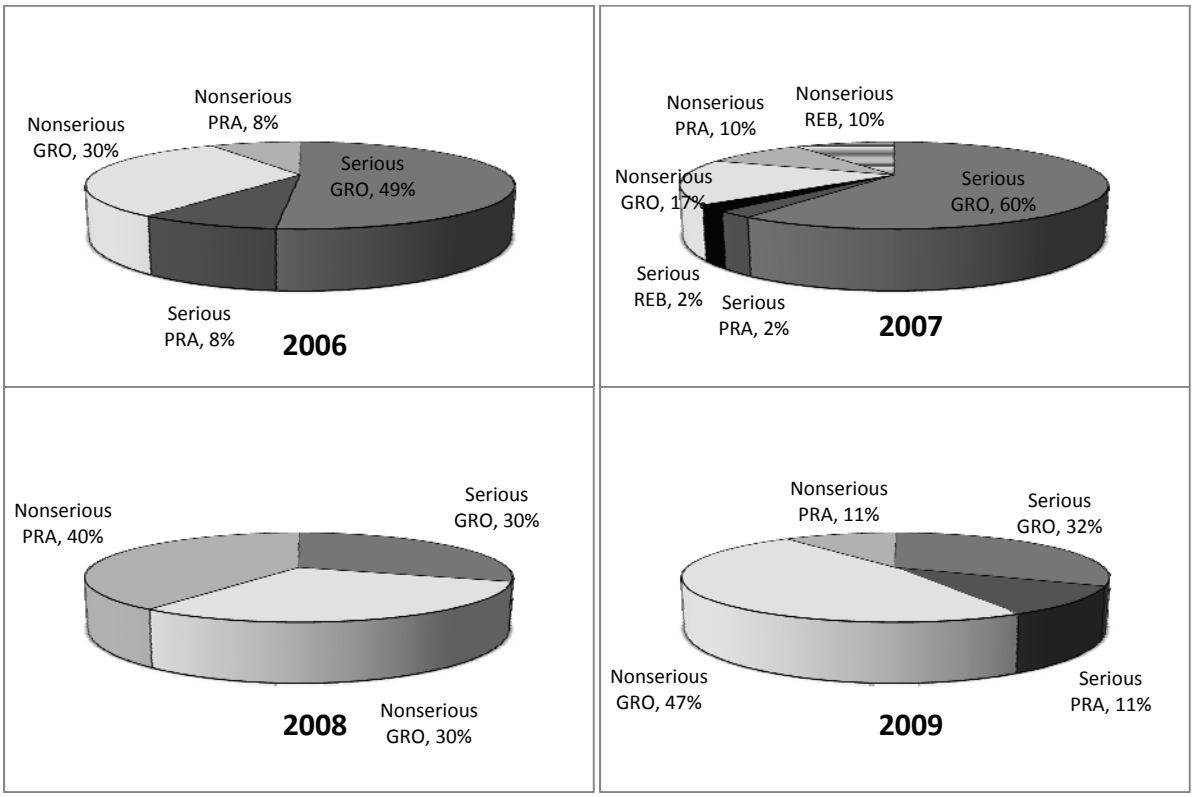


Figure 6. *Percentages of serious (dark areas) and non-serious (light areas) infringements (by fishery type) detected by at-sea and port inspectors for 2006-2009*

4. Reporting obligations by fishing vessels and NAFO Contracting Parties

Monitoring the NAFO fisheries includes submission of reports on catch and effort by vessels from different sources: VMS reports such as Catch-on-Entry (COE) and Catch-on-Exit (COX) are submitted by the fishing vessels through their respective Fisheries Monitoring Centers; port inspection reports by the port authorities; and observer reports[2] by the flag state members. These reports from different sources allow a comparative analysis of catches, should ideally cover 100 percent of the fishing trips, and should account for all the days the fishing vessels are present in the NRA. Figure 7 shows the relative coverage of fishing trips from the reports received; deviations from 100 percent are caused by missing reports.[3] Since 2005, catch reports received by NAFO VMS have become the most complete source on catch-by-vessel information. The submission of port inspection and observer reports improved in 2008, but declined in 2009.

Submission of observer reports decreased in 2006 and 2007, increased in 2008, but declined again in 2009. The drop in observer reporting rate in 2006 and 2007 is not due to a decline in the actual number of observer reports received by NAFO resulting from implementation of the electronic reporting scheme, which allows vessels to reduce their observer coverage by 25 percent in if they submit daily electronic catch reports. Rather, the reporting compliance of vessels participating in that scheme has been accounted for in Figure 7 and Table 1 (i.e., if daily catch reports are 4 times the number of observer reports, the vessel is considered compliant). However, factors relating to

[2] Vessels fishing in the NRA are required to have 100% observer coverage, i.e. presence of an independent observer on board at all times. Since 2007, Contracting Parties can alternatively opt for a daily electronic catch reporting scheme (see CEM, Chapter VII) which allows them to reduce the observer coverage on their vessels by up to 25%.
[3] The percentage coverage for VMS catch reports (COE-COX) shown in Figure 7 was calculated from the number of days as indicated in each report and the total effort (vessel-days) as validated from the VMS position reports. Port reports included transhipments at sea (particularly important for the pelagic redfish fishery).

implementation of this electronic reporting scheme may have impacted observer compliance rates during these two years. The electronic reporting scheme was originally a pilot project in 2006, and was fully implemented in 2007. In 2007, only two Contracting Parties participated in this scheme (Norway, the Faroe Islands), but Estonia became the third to participate in 2008 and 2009 (see STACTIC WP 10/22).

Similar to the observer reports, the submission of port inspection reports also decreased in 2009. This is likely due to the implementation of NAFO's Port State Control Scheme in 2009. As noted above, under this scheme port state Contracting Parties are only required to carry out inspections on vessels from other Contracting Parties at a rate of 15 percent a year, with the exception of vessels fishing for NAFO species under a recovery plan.

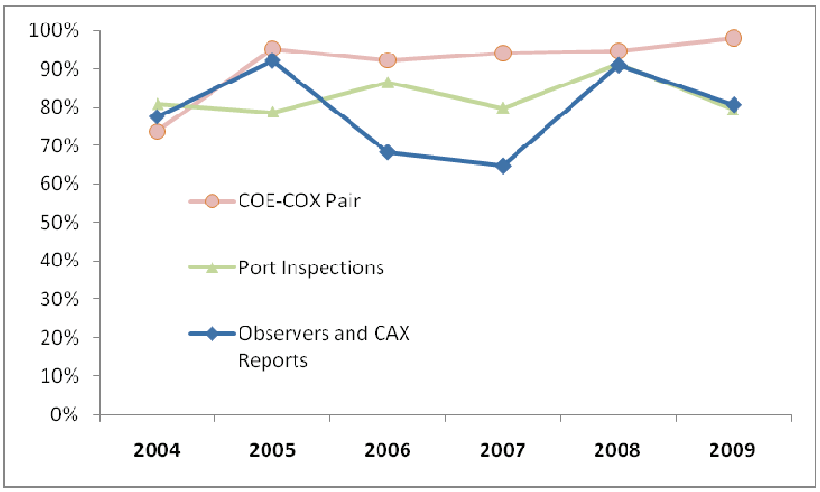


Figure 7. *Percentage coverage of fishing effort by VMS, Port Inspection and Observer Reports*

Another issue is the timeliness of reports submitted by Contracting Parties to the NAFO Secretariat. Articles 28 and 35 of the NCEMs require that observer reports and at-sea inspection reports be submitted within 30 days (of completion of assignment for observer reports). Under the Port State Control measures implemented in 2009, port state Contracting Parties are required to transmit the Port State Control inspection form (form PSC 3) to the Executive Secretary "without delay." However, this provision was not in effect for 2008, Thus, the 30-day requirement in force for port inspection reports in 2008 is considered in this analysis. In comparison to port inspection and observer reports, at-sea inspection reports are submitted in a more timely fashion (Figure 8). However, the timeliness of the at-sea inspection reports has declined since 2005, from an on-time rate of 91 percent in 2005, to 62 percent in 2009. In fact, the timeliness of at-sea inspection reports has been fairly consistent since 2007, while the timeliness of observer and port inspection reports has increased, with dramatic improvement in 2009. It should be noted that timeliness of submission does not necessarily equate to a failure to submit the required reports.

During the course of the 2009 Annual NAFO Meeting, concerns were raised by Contracting Parties regarding the quality of the reports received. As such, the Secretariat was asked to provide a summary of their experience with these reports. This is as follows:

> The lack of uniformity in format of the submitted observer reports may compromise the quality of the reports in general. However total catch information by species contained in the observer reports were compared to other sources (e.g., VMS hail reports and Port Inspection reports), where possible, and the comparison shows that there is a general agreement of the catch information among various sources.

Upon further discussion with the Secretariat it was noted that lack of uniformity with these reports is also an issue, making it time consuming to compile the annual compilation tables provided to Contracting Parties. It was also noted that corrections to individual reports must be handled on an individual basis, further complicating the

compilation of annual information to assess compliance. Finally, one of the Contracting Parties highlighted problems caused by "malformed" VMS reports, such as COE and COX reports. These "malformed" (or erroneous) reports cannot be processed, and, therefore, cannot be forwarded to the systems that provide information to patrol platforms on a real-time basis impacting monitoring and surveillance activities. As a result, the Secretariat proved a presentation at the 2010 STACTIC Intersessional Meeting to help explain the potential causes of "malformed" reports and how they are excluded from the data used to prepare the annual compliance review. Potential causes include technical issues at the Contracting Party level (e.g., duplicates, mis-typed hail reports, etc.) and lack of clarity regarding the hail reporting requirements in NCEMs (e.g., unnecessary reports, mis-directed reports, etc.).

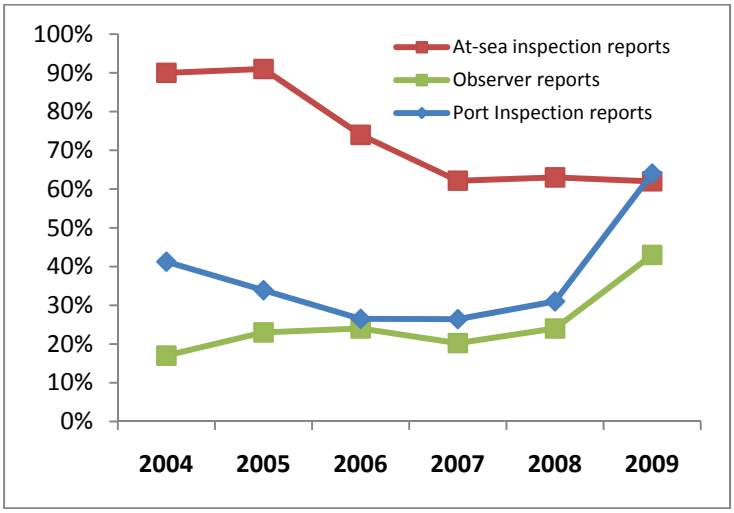


Figure 8. *Timeliness of submission of reports*

5. Follow-up to infringements

Flags states are obligated to follow-up with further investigations and legal prosecution when NAFO inspectors issue a citation against a Contracting Party vessel. The Secretariat receives information on the status of each case. The legal procedure can take longer than one year and it is, therefore, not expected that by 2009 (for example) all cases originating during the previous years could be resolved. This information is reflected in Figure 9 and also in Table 6.

In general, it appears that most cases are resolved within a 2-year time period. However, the number of cases with no follow-up information has remained relatively stable since 2006 despite a decline in the total number of citations issues.

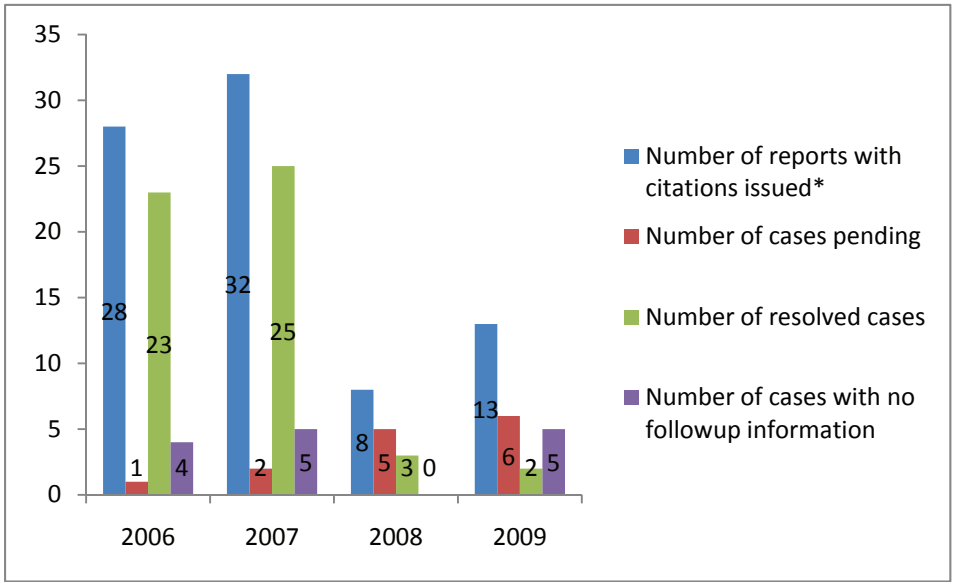


Figure 9. *Legal resolution of citations against vessels fishing in the NAFO Regulatory Area by year in which the citations were issued (as of July 2010). A citation is an inspection report (from at-sea or port inspectors) that lists one or more infringements. Inspections carried out for confirming a previous citation are not counted.*

6. Observed trends (period 2004 to 2009)

- The total fishing effort in the NAFO area continues to decline both in terms of number of vessels and fishing days in the NRA since 2004. There was an increase in the number of vessels participating in the groundfish and shrimp fisheries in 2009, but this increase was offset by a decline in the number of vessels participating in the redfish fishery. Further, the change in number of vessels participating in individual fisheries (61 in 2008 and 62 in 2009) in relation to the change in the total number of active vessels (60 in 2008 and 51 in 2009) indicates that more vessels participated in multiple fisheries in 2009 than in 2008. Although, there was a slight drop in total fishing effort in 2009 in comparison to 2008 (0.8 percent), there was a 25 percent increase in effort in the groundfish fishery. Conversely, total fishing effort declined substantially in both the shrimp and redfish fisheries (43 percent and 98 percent, respectively).

- The number of at-sea inspections has declined overall since 2004, despite a slight increase in 2006. This is likely due to the reduced number of active vessels fishing in the NRA. Overall, the rate of at-sea inspections per vessel fishing day has increased since 2004, from 2.4 percent in 2004 to 4.8 percent in 2008, with a slight decline to 4.7 percent in 2009. However, the at-sea inspection rate declined dramatically for the redfish fishery in 2009 (to 0 percent) since there was hardly any activity in this fishery. The at-sea inspection rate also declined by 11 percent for the groundfish fishery (from 5.3 to 4.7 percent), but increased by 13 percent (from 4.0 to 4.5 percent) for the shrimp fishery. This may indicate more compliance concerns involving the shrimp fishery in 2009 in comparison to the groundfish fishery.

- The number of citations resulting from at-sea inspections varied from 5 to 20 during the 5-year period. The at-sea citation rate decreased slightly since 2005, with an increase in 2009, but has remained generally stable over the time period.

- The number of citations resulting from port inspections increased to a peak of 19 between 2004 and 2007, but has declined dramatically since with only 1 citation in 2009.

- There was a 45 percent decline in port inspections from 2004 to 2007, but a slight increase in 2008 (6 percent), then a subsequent decline again in 2009 (29 percent). The number of vessels cited by port authorities per year

varied from a high of 16 in 2007 to a low of 1 in 2009. The number of apparent infringements issued ranged from 27 in 2007 to 1 in 2009, demonstrating a 96 percent decline since 2007.

- During the 6 year period, a total of 115 apparent infringements resulted from at-sea inspections and 60 from port inspections. The apparent infringement category "Mis-recording of Catches" (Both Stowage and Inaccurate recording related) accounted for 37 of the apparent infringements issued at sea (33 percent) and 32 in port **(**53 percent). These infringements were issued more frequently in relation to groundfish fisheries.

- The number of cases having no follow-up information from the Contracting Party has been relatively stable since 2006 despite an overall decline in the number of citations issued. Thus, lack of follow-up on apparent infringements remains a concern. For example, the percentage of citations with no follow-up relative to total citations issued was 14 percent in 2006 and 38 percent in 2009. The Contracting Party may be following up on the apparent infringement, but may not have reported the status back to the NAFO Secretariat.

- Timeliness of submission of port inspection and observer reports by Contracting Parties has greatly improved, but has remained steady for at-sea inspection reports.

7. Annexes (the "Report tables)

Table 1. Submission of Fishing Reports*

Year	Days at the Regulatory Area (Effort)	Number of Days accounted by COE-COX pairs	Percentage of Effort accounted by COE-COX pairs	Number of Days accounted by Port Inspection and TRA reports	Percentage of Effort accounted by Port Inspection and TRA reports	Number of Days accounted by Observer and CAX reports	Percentage of Effort accounted by Observer and CAX reports
2004	16480	12156	74%	13327	81%	12779	78%
2005	12290	11706	95%	9679	79%	11326	92%
2006	8663	7991	92%	7488	86%	5921	68%
2007	6598	6210	94%	5269	80%	4276	65%
2008	5054	4785	95%	4613	91%	4596	91%
2009	5016	4920	98%	3981	79%	4047	81%

*COE = Catch on entry, COX = Catch on exit, TRA = transhipment, CAX = Daily catch report

Table 2. Timely submission of Port Inspection Reports

Year	2004	2005	2006	2007	2008	2009
Total Number of Port Inspection Reports received	228	177	151	125	133	94
Total Number of Port Inspection Reports received late	134	117	111	92	92	34
Percentage % of late Port Inspection Reports	59%	66%	74%	74%	69%	36%

NB: Timeliness based upon Article 45 in 2008 NECMs which stipulated the transmission of port inspection reports to the Secretariat within 30 days on which the landing was completed.

Port Inspection Reports are submitted by the CP of the Port Inspection Authority.

Table 3. Timely submission of At-Sea Inspection Reports

Year	2004	2005	2006	2007	2008	2009
Total Number of at-sea Inspections	401	326	361	296	263	324
Number of at-sea Inspections received late	40	30	95	112	96	124
Percentage % of late at-sea Inspection Reports	10%	9%	26%	38%	37%	38%

NB: Timely submission means transmission of the report with 30 days.

At-sea Inspection Reports are submitted by the CP with inspection presence at NAFO Regulatory Area.

Table 4. Timely submission of Observer Reports

Year	2004	2005	2006	2007	2008	2009
Total Number of Observers Reports	211	170	114	84	126	86
Number of Observers Reports received late	176	131	87	67	96	49
Percentage % of late Observers Reports	83%	77%	76%	80%	76%	57%

NB: Article 28 stipulates the transmission of the observer reports to the Secretariat within 30 days after the completion of the observer's assignment.

Observer Reports are submitted by the Flag State of the vessels.

Table 5-2004, part 1. Effort, at-sea inspections and AIs by fisheries type

Fisheries*	GRO	PRA	REB	Total
Number of vessels	63	33	48	134**
Days Present in NRA	9966	5100	1414	16480
Number of at-sea inspections	328	73	0	401
Number of at-sea inspection report containing citation of one or more AIs	13	2	0	15
Number of vessels cited with AIs at sea	10	2	0	12
AIs issued by category - from at-sea inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	0	0	0	0
Product labeling	0	1	0	1
Vessel requirements - capacity plans	3	0	0	3
By-catch requirements	3	0	0	3
Catch communication violations	0	0	0	0
Fishing without authorization	0	1	0	1
Gear requirements - illegal attachments	1	0	0	1
Gear requirements - mesh size	5	0	0	5
Inspection protocol	2	0	0	2
Mis-recording of catches - inaccurate recording	1	0	0	1
Observer requirements	0	1	0	1
Quota requirements	1	0	0	1
VMS requirements	0	2	0	2
TOTAL	16	5	0	21

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J

** Some vessels switched directed species within the year.

*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2004, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	63	33	48	134**
Days Present in NRA	9966	5100	1414	16480
Number of port inspections	85	138	5	228
Number of port inspection report containing citation of one or more AIs	9	0	0	9
Number of vessels cited with AIs by port authorities	9	0	0	9
AIs issued by category - from port inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	0	0	0	0
Product labeling	0	0	0	0
Vessel requirements - capacity plans	0	0	0	0
By-catch requirements	1	0	0	1
Catch communication violations	0	0	0	0
Fishing without authorization	1	0	0	1
Gear requirements - illegal attachments	0	0	0	0
Gear requirements - mesh size	1	0	0	1
Inspection protocol	0	0	0	0
Mis-recording of catches - inaccurate recording	6	0	0	6
Observer requirements	0	0	0	0
Quota requirements	0	0	0	0
VMS requirements	0	0	0	0
TOTAL	9	0	0	9

Table 5-2005, part 1. Effort, at-sea inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	50	27	53	116**
Days Present in NRA	6948	3558	1784	12290
Number of at-sea inspections	270	55	1	326
Number of at-sea inspection report containing citation of one or more AIs	16	4	0	20
Number of vessels cited with AIs at sea	14	3	0	17
AIs issued by category - from at-sea inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	5	0	0	5
Product labeling	2	1	0	3
Vessel requirements - capacity plans	2	0	0	2
By-catch requirements	2	0	0	2
Catch communication violations	0	0	0	0
Fishing without authorization	0	1	0	1
Gear requirements - illegal attachments	2	1	0	3
Gear requirements - mesh size	3	0	0	3
Inspection protocol	3	1	0	4
Mis-recording of catches - inaccurate recording	5	1	0	6
Observer requirements	0	1	0	1
Quota requirements	0	0	0	0
VMS requirements	0	1	0	1
TOTAL	24	7	0	31

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J
** Some vessels switched directed species within the year.
*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2005, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	50	27	53	116**
Days Present in NRA	6948	3558	1784	12290
Number of port inspections	80	87	10	177
Number of port inspection report containing citation of one or more AIs	6	0	0	6
Number of vessels cited with AIs by port authorities	6	0	0	6
AIs issued by category - from port inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	0	0	0	0
Product labeling	0	0	0	0
Vessel requirements - capacity plans	0	0	0	0
By-catch requirements	3	0	0	3
Catch communication violations	0	0	0	0
Fishing without authorization	0	0	0	0
Gear requirements - illegal attachments	0	0	0	0
Gear requirements - mesh size	1	0	0	1
Inspection protocol	1	0	0	1
Mis-recording of catches - inaccurate recording	1	0	0	1
Observer requirements	0	0	0	0
Quota requirements	0	0	0	0
VMS requirements	0	0	0	0
TOTAL	6	0	0	6

Table 5-2006, part 1. Effort, at-sea inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	45	21	42	92**
Days Present in NRA	5908	1776	979	8663
Number of at-sea inspections	277	76	8	361
Number of at-sea inspection report containing citation of one or more AIs	11	5	2	18
Number of vessels cited with AIs at sea	10	4	2	16
AIs issued by category - from at-sea inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	5	1	0	6
Product labeling	1	2	0	3
Vessel requirements - capacity plans	1	0	0	1
By-catch requirements	2	0	0	2
Catch communication violations	0	0	0	0
Fishing without authorization	0	0	0	0
Gear requirements - illegal attachments	2	2	1	5
Gear requirements - mesh size	0	0	1	1
Inspection protocol	0	1	0	1
Mis-recording of catches - inaccurate recording	4	0	0	4
Observer requirements	0	0	0	0
Quota requirements	0	0	0	0
VMS requirements	0	0	0	0
TOTAL	15	6	2	23

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J

** Some vessels switched directed species within the year.

*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2006, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	45	21	42	92**
Days Present in NRA	5908	1776	979	8663
Number of port inspections	76	56	19	151
Number of port inspection report containing citation of one or more AIs	10	0	0	10
Number of vessels cited with AIs by port authorities	10	0	0	10
AIs issued by category - from port inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	0	0	0	0
Product labeling	4	0	0	4
Vessel requirements - capacity plans	0	0	0	0
By-catch requirements	2	0	0	2
Catch communication violations	1	0	0	1
Fishing without authorization	0	0	0	0
Gear requirements - illegal attachments	0	0	0	0
Gear requirements - mesh size	0	0	0	0
Inspection protocol	0	0	0	0
Mis-recording of catches - inaccurate recording	6	0	0	6
Observer requirements	0	0	0	0
Quota requirements	1	0	0	1
VMS requirements	0	0	0	0
TOTAL	14	0	0	14

Table 5-2007, part 1. Effort, at-sea inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	45	14	20	76**
Days Present in NRA	4158	1948	488	6594
Number of at-sea inspections	202	81	11	294
Number of at-sea inspection report containing citation of one or more AIs	4	5	4	13
Number of vessels cited with AIs at sea	4	5	4	13
AIs issued by category - from at-sea inspections***				
Greenland halibut measures	0	0	0	0
Mis-recording of catches -stowage	3	1	0	4
Product labeling	0	1	0	1
Vessel requirements - capacity plans	0	2	4	6
By-catch requirements	0	0	0	0
Catch communication violations	0	0	0	0
Fishing without authorization	0	0	0	0
Gear requirements - illegal attachments	0	1	1	2
Gear requirements - mesh size	0	0	0	0
Inspection protocol	0	0	0	0
Mis-recording of catches - inaccurate recording	2	0	0	2
Observer requirements	0	0	0	0
Quota requirements	0	0	0	0
VMS requirements	0	0	0	0
TOTAL	5	5	5	15

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J

** Some vessels switched directed species within the year.

*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2007, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	45	14	20	76**
Days Present in NRA	4158	1948	488	6594
Number of port inspections	67	51	7	125
Number of port inspection report containing citation of one or more AIs	19	0	0	19
Number of vessels cited with AIs by port authorities	16	0	0	16
AIs issued by category - from port inspections***				
Greenland halibut measures	1	0	0	1
Mis-recording of catches -stowage	0	0	0	0
Product labeling	3	0	0	3
Vessel requirements - capacity plans	0	0	0	0
By-catch requirements	3	0	0	3
Catch communication violations	4	0	0	4
Fishing without authorization	0	0	0	0
Gear requirements - illegal attachments	0	0	0	0
Gear requirements - mesh size	0	0	0	0
Inspection protocol	0	0	0	0
Mis-recording of catches - inaccurate recording	16	0	0	16
Observer requirements	0	0	0	0
Quota requirements	0	0	0	0
VMS requirements	0	0	0	0
TOTAL	27	0	0	27

Table 5-2008, part 1. Effort, at-sea inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	38	13	10	60**
Days Present in NRA	3302	1551	201	5054
Number of at-sea inspections	176	62	7	245
Number of at-sea inspection report containing citation of one or more AIs	2	3	0	5
Number of vessels cited with AIs at sea	2	3	0	5
AIs issued by category - from at-sea inspections***				
Greenland halibut measures				0
Mis-recording of catches -stowage	1	1		2
Product labelling	1			1
Vessel requirements - capacity plans		3		3
By-catch requirements	1			1
Catch communication violations				0
Fishing without authorization				0
Gear requirements - illegal attachments				0
Gear requirements - mesh size				0
Inspection protocol				0
Mis-recording of catches - inaccurate recording				0
Observer requirements				0
Quota requirements				0
VMS requirements				0
TOTAL	3	4	0	7

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J
** Some vessels switched directed species within the year.
*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2008, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	38	13	10	60**
Days Present in NRA	3302	1551	201	5054
Number of port inspections	70	60	2	132
Number of port inspection report containing citation of one or more AIs	3	0	0	3
Number of vessels cited with AIs by port authorities	2			
AIs issued by category - from port inspections***				
Greenland halibut measures				0
Mis-recording of catches -stowage				0
Product labelling	1			1
Vessel requirements - capacity plans				0
By-catch requirements				0
Catch communication violations				0
Fishing without authorization				0
Gear requirements - illegal attachments				0
Gear requirements - mesh size				0
Inspection protocol				0
Mis-recording of catches - inaccurate recording	2			2
Observer requirements				0
Quota requirements				0
VMS requirements				0
TOTAL	3	0	0	3

Table 5-2009, part 1. Effort, at-sea inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	41	20	1	51**
Days Present in NRA	4122	889	5	5016
Number of at-sea inspections	194	40	0	234
Number of at-sea inspection report containing citation of one or more AIs	8	4	0	12
Number of vessels cited with AIs at sea	6	4	0	10
AIs issued by category - from at-sea inspections***				
Greenland halibut measures				0
Mis-recording of catches -stowage	4			4
Product labelling	1			1
Vessel requirements - capacity plans	3	2		5
By-catch requirements	1			1
Catch communication violations				0
Fishing without authorization				0
Gear requirements - illegal attachments				0
Gear requirements - mesh size	1			1
Inspection protocol	2	1		3
Mis-recording of catches - inaccurate recording	2	1		3
Observer requirements				0
Quota requirements				0
VMS requirements				0
TOTAL	14	4	0	18

* GRO = groundfish primarily in Divs. 3KLMNO; PRA = shrimp fisheries in Divs. 3LM; REB = redfish in Divs. 1F2J

** Some vessels switched directed species within the year.

*** AIs from citation reports serving to confirm an incident are not counted. AI categories in bold are considered serious.

Table 5-2009, part 2. Effort, port inspections and AIs by fisheries type

FISHERIES*	GRO	PRA	REB	Total
Number of vessels	41	20	1	51**
Days Present in NRA	4122	889	5	5016
Number of port inspections	73	21	0	94
Number of port inspection report containing citation of one or more AIs	1	0	0	1
Number of vessels cited with AIs by port authorities	1			
AIs issued by category - from port inspections***				
Greenland halibut measures				0
Mis-recording of catches -stowage				0
Product labelling	1			1
Vessel requirements - capacity plans				0
By-catch requirements				0
Catch communication violations				0
Fishing without authorization				0
Gear requirements - illegal attachments				0
Gear requirements - mesh size				0
Inspection protocol				0
Mis-recording of catches - inaccurate recording				0
Observer requirements				0
Quota requirements				0
VMS requirements				0
TOTAL	1	0	0	1

Table 6. Resolution of Apparent Infringement (AI) Cases (as of July 2010)

	2006	2007	2008	2009
Number of reports with citations issued*	28	32	8	13
Number of cases pending	1	2	5	6
Number of resolved cases	23	25	3	2
Number of cases with no followup information	4	5	0	5

* Number of at-sea and port inspection reports issuing serious and non-serious AIs.
A report may contain one or more AI.
Reports serving to confirm identical cases are not counted.