



**Surveillance Report**  
***Pandalus borealis* SFA 7 Fishery**

Certificate No.: **MML-F-105**

**Intertek Moody Marine**  
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## 1.0 GENERAL INFORMATION

**Scope against which the surveillance is undertaken:** MSC Principles and Criteria for Sustainable Fishing as applied to the Canadian Association of Prawn Producers, the Fogo Island Cooperative Society and the Northern Coalition Offshore Northern Shrimp Trawl Fishery.

**Species:** *Pandalus borealis*

**Area:** Shrimp Fishing Area 7

**Method of capture:** Trawl

<b>Date of Surveillance Visit:</b>	<b>22 November 2012</b>			
<b>Initial Certification</b>	<b>Date: 24 July 2011</b>	<b>Certificate Ref: MML-F-105</b>		
<b>Surveillance stage</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>
<b>Surveillance team:</b>	<b>Lead Assessor: Don Aldous</b> <b>Assessor(s): Don Aldous, Colin Bannister, Howard Powles</b>			
<b>Companies Names and addresses:</b>	<p>Canadian Association of Prawn Producers 1362 Revell Drive Manotick, ON K4M 1K8 Canada</p> <p>Northern Coalition 238 Mt. Scio Road St John's, NL A1C 1B4 Canada</p> <p>Association of Seafood Producers 10 Fort William Place Suite 103, Baine Johnston Building St. John's, NL A1C 1K4 Canada</p> <p>Fogo Island Cooperative Society Box 70 Seldom, NL A0G 3Z0 Canada</p>			

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## 2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the first surveillance cycle in relation to this fishery. The audit was announced by MSC on October 18, 2012 and the audit team consisted of Don Aldous (Lead Auditor and P3 Expert), Howard Powles (P2 Expert), and Colin Bannister (P1 Expert). All three members were involved in the initial assessment of the fishery and both Don Aldous and Howard were on site during the audit with Colin Bannister working remotely. This audit was not combined with any other fishery.

The client's response to the Conditions of Certification was set out in a Client Action Plan (CAP), which was appended to the Public Certification Report. Progress associated with the actions set forth in the CAP was examined as a part of this surveillance audit. For each Condition, the report sets out progress to date. This progress has been evaluated by the Intertek Moody Marine (IMM) Audit Team (set out below as 'Observations' and 'Conclusion') against the commitments made in the CAP. This assessment includes a re-evaluation of the scoring allocated to the relevant Performance Indicators (PIs) in the original MSC assessment. Where the requirements of a Condition are met, the PI is re-scored at 80 or more and the Condition is "closed out".

The surveillance audit methodology as defined in the current version of the MSC Certification Requirements (CR), is followed in this audit and so the MSC criteria for determining the level of surveillance audit that the fishery requires is followed (see Annex 3).

### Information Sources:

#### Meetings

All stakeholders from the full assessment were contacted by email prior to the surveillance audit site visit. The notice of the annual surveillance audit was posted at msc.org on October 15, 2012. Four meetings took place with regard to this audit:

- November 21, 2012: meeting with the client's representative
- November 21, 2012: meeting with the client's representative and Department of Fisheries and Oceans
- November 22: meeting with representatives of the provincial department of Fisheries and Aquaculture.
- November 23, 2012: meeting with a representative of the Food and Fisheries Allied Workers Union.

#### Reports etc

DFO 2009. Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas. <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/benthi-eng.htm>, consulted November 19, 2012

DFO 2010a. Occurrence, sensitivity to fishing, and ecological function of corals, sponges, and hydrothermal vents in Canadian waters. Can. Sci. Adv. Sec. Sci. Adv. Rep. 2010/041: 54 pp.

DFO 2010b. Integrated Fisheries Management Plan: Northern Shrimp - Shrimp Fishing Areas (SFAs) 0-7 and the Flemish Cap. Effective January 2007, modified and dated 2010-05-19. <http://dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/shrimp-crevette/shrimp-crevette-2007-eng.htm>

DFO 2010c. Assessment of Northern Shrimp (*Pandalus borealis*) in SFA 0, 2, 3 and Striped Shrimp (*Pandalus montagui*) in SFA 2, 3 and 4 west of 63°W. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/024.

DFO 2011a. Assessment of Northern Shrimp (*Pandalus borealis*) and Striped Shrimp (*Pandalus montagui*) in Western and Eastern assessment zones (SFA 2 and 3). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2011/010.

DFO 2011b. Science-based encounter protocol framework for corals and sponges. Can. Sci. Adv. Sec. Sci. Adv. Rep. 2011/048: 16 pp.

DFO 2012a. Monitoring update for Northern Shrimp (*Pandalus borealis*) and Striped Shrimp (*Pandalus montagui*) in the western and eastern assessment zones (SFA 2 and 3). DFO Can. Sci. Advis. Sec. Sci. Resp. 2012/001.

DFO 2012b. Monitoring update for the assessment of Northern Shrimp (*Pandalus borealis*) in Shrimp Fishing Areas 4-6 (NAFO Divs. 2G-3K). DFO Can. Sci. Advis. Sec. Sci. Resp. 2012/003.

DFO 2012c. Ecological risk assessment framework (ERAF) for cold water corals and sponge dominated communities. Draft August 24, 2012. 18 pp.

DFO 2012d. Fisheries Management Decisions. Northern shrimp in Shrimp Fishing Areas 0, 1 and 7 <http://www.dfo-mpo.gc.ca/decisions/fm-2012-gp/atl-030-eng.htm>

DFO 2012e. Fisheries Management Decisions. Northern Shrimp in Shrimp Fishing Areas 2-6 <http://www.dfo-mpo.gc.ca/decisions/fm-2012-gp/atl-031-eng.htm>

Intertek Moody Marine Ltd 2012. Marine Stewardship Council (MSC) Public Certification Draft Report for Sustainable Fisheries Greenland, West Greenland Cold Water Prawn Trawl Fishery, v.3, 30 Oct 2012: 238p.

Kenchington, E., C. Lirette, A. Cogswell, D. Archambault, P. Archambault, H. Benoit, D. Bernier, B. Brodie, S. Fuller, K. Gilkinson, M. Lévesque, D. Power, T. Siferd, M. Treble and V. Wareham 2010. Delineating coral and sponge concentrations in the biogeographic regions of the east coast of Canada using spatial analyses. Can. Sci. Adv. Sec. Res. Doc. 2010/041: 208 pp.

Moody Marine Ltd 2011a. Marine Stewardship Council (MSC) Public Certification Report for the Canadian Association of Prawn Producers and the Northern Coalition, Canadian Offshore Striped Shrimp (*Pandalus montagui*) Trawl Fishery - Shrimp Fishing Area 2, 3 and 4, v. 5, 23 Jun 2011:176p.

Moody Marine Ltd 2011b. Marine Stewardship Council (MSC) Public Certification Report for the Canadian Association of Prawn Producers and the Northern Coalition, Canadian Offshore Northern Shrimp (*Pandalus borealis*) Trawl Fishery - Shrimp Fishing Area 1, v. 5 of 20 Mar. 2012: 183p.

Moody Marine Ltd 2011c. Marine Stewardship Council (MSC) Public Certification Report for the Canadian Association of Prawn Producers and the Northern Coalition, Canadian Offshore Northern Shrimp (*Pandalus borealis*) Trawl Fishery - Shrimp Fishing Areas 2, 3, 4, 5 and 6, v. 5 of 23 Jun 2011: 183p.

Moody Marine Ltd 2011d. Marine Stewardship Council (MSC) Public Certification Report for the Canadian Association of Prawn Producers and the Northern Coalition, Canadian Offshore Northern Shrimp (*Pandalus borealis*) Trawl Fishery - Shrimp Fishing Area 7 v.5 of 23 Jun 2011: 176p.

NAFO 2012a. Scientific Council Meeting 27 August-7 September 2012. NAFO SCS Doc 12/20 Serial No N6077 13p.

NAFO 2012b. Scientific Council Meeting 17-24 October 2012. NAFO SCS Doc/xx Serial No Nxxxx 22p. *DRAFT*

NAFO/ICES 2012 Report of the NAFO/ICES *Pandalus* Assessment Group 17-24 October 2012. NAFO SCS Doc.12/xx: Serial No Nxxxx. 84p *DRAFT* ICES CM 2012/ACOM:xx 84p *DRAFT*

#### **Standards and Guidelines used:**

1. MSC Principles and Criteria
2. MSC Certification Requirements v1.2
3. Guidance to the MSC Certification Requirements, v 1.1

<b>Update on Stock Status</b>	<p><u>General Considerations</u></p> <p>Shrimp stock status in Canadian waters is usually monitored and assessed using fishery catch, fishery catch per effort (CPUE), survey fishable biomass (FB), female spawning biomass (SSB), and estimates of the exploitation rate (either reported exploitation rate = reported catch/FB, or potential exploitation rate = total allowable catch/FB).</p> <p>For SFAs 2-6, the Canadian Zonal Advisory Process for northern and striped shrimp now takes place on a biennial schedule, with full assessments in every odd year (2011 and 2013), and updates of precautionary indices in intervening years as required. For example, the last assessment for SFAs 2 and 3 was carried out in 2011 (DFO 2011a), but an update was undertaken on 20 February 2012 under the Special Response process (DFO 2012a) which reviewed the state of the stocks at the end of the 2011/12 fishing season. Under this cycle, stock status in 2012/13 will not be fully assessed or subject to the RAP process until 2013 but for some SFAs the updates have estimated a likely exploitation rate for 2012/13 assuming that the TAC for that year will be taken.</p> <p>In the case of SFAs 1 and 7, however, which are assessed and advised by NAFO, stock assessments were undertaken at the October 2012 meeting of the Joint NAFO-ICES <i>Pandalus</i> Assessment Group, NIPAG (NAFO/ICES 2012)) whose Draft report was available on the ICES website but is not yet uploaded to the NAFO website. The NIPAG report summarizes the assessments for Subarea 0 (which includes SFA1) and Subarea 1, and for Division 3LNO (which includes SFA 7). The recent NAFO advice for these two fisheries is summarized in the draft documents NAFO 2012a and 2012b.</p> <p><b>The management of shrimp stocks in SFA7</b> is based on the NAFO assessment and Scientific Council advice for shrimp in Div. 3LNO. Shrimp in this area are distributed round the Grand Banks mainly in Division 3L. The fishery began in 1993 and came under TAC control in 2000, when fishing was restricted to Division 3L. Canada is allocated 83% of the TAC, the remaining 17% being available to other nations that are contracting parties in the NAFO Regulatory Area. The Fisheries Commission recently requested an advice update, which was produced following an assessment review conducted by videoconference during September 2012 (NAFO 2012a). The assessment is detailed in the draft report of the Joint NAFO-ICES <i>Pandalus</i> Assessment Group of October 2012, NIPAG (NAFO/ICES 2012). Recent TACs and catches are shown in the table below taken from the NIPAG report.</p> <p>Recent catches and TACs (t) for shrimp in Division 3LNO (total) are as follows :</p> <table border="1"> <thead> <tr> <th></th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> <th>2009</th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>TAC as set by FC</td> <td>13000<sup>1</sup></td> <td>13000<sup>1</sup></td> <td>22000<sup>1</sup></td> <td>22000<sup>1</sup></td> <td>25000<sup>1</sup></td> <td>30000<sup>1</sup></td> <td>30000<sup>1</sup></td> <td>19200<sup>1</sup></td> <td>12000<sup>1</sup></td> <td>8600</td> </tr> <tr> <td>STATLA NT 21</td> <td>11937</td> <td>13533</td> <td>21426</td> <td>21543<sup>1</sup></td> <td>21121<sup>1</sup></td> <td>24142<sup>1</sup></td> <td>16310<sup>1</sup></td> <td>12836<sup>2</sup></td> <td>8561<sup>3</sup></td> <td></td> </tr> <tr> <td>NIPAG<sup>4</sup></td> <td>13204</td> <td>14775</td> <td>25699</td> <td>23570</td> <td>26649</td> <td>27527</td> <td>20536</td> <td>12286</td> <td></td> <td></td> </tr> </tbody> </table> <p><sup>1</sup> Denmark with respect to Faroes and Greenland did not agree to the quotas of 144t (2003-2005), 245t (2006-2007), 278t (2008), or 334t (2009) and set their own TACs of 1344t (2003-2005), 2274t (2006-2008), 3106t (2009), 532t (2010), 1985t (2011) and 1241t (2012). The increase is not included in the table.</p> <p><sup>2</sup> Provisional catches</p> <p><sup>3</sup> Estimated catches to September 2012</p> <p><sup>4</sup> NIPAG catch estimates have been updated using various data sources (see p. 15, SCR. 12/47).</p> <p>Source: NAFO/ICES 2012 : ICES CM 2012/ACOM:xx, page 10.</p>		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	TAC as set by FC	13000 <sup>1</sup>	13000 <sup>1</sup>	22000 <sup>1</sup>	22000 <sup>1</sup>	25000 <sup>1</sup>	30000 <sup>1</sup>	30000 <sup>1</sup>	19200 <sup>1</sup>	12000 <sup>1</sup>	8600	STATLA NT 21	11937	13533	21426	21543 <sup>1</sup>	21121 <sup>1</sup>	24142 <sup>1</sup>	16310 <sup>1</sup>	12836 <sup>2</sup>	8561 <sup>3</sup>		NIPAG <sup>4</sup>	13204	14775	25699	23570	26649	27527	20536	12286		
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The TAC set by NAFO increased from 13,000t up to 30,000t in 2010, but was reduced progressively to 12,000t in 2012. The total catch exceeded from 2004 to 2008, but was well below the TAC in 2010 and 2011, and is also expected to undershoot in 2012.

The following excerpt from page 12 of the DRAFT 2012 NIPAG report (NAFO/ICES 2012) describes trends in the stock, and current status relative to reference points.

**“ c) Assessment Results**

**Recruitment.** *Recruitment indices from 2006 – 2008 were among the highest in the spring and autumn time series but have decreased since and are now close to the lowest observed values.*

**Biomass.** *Spring and autumn biomass indices generally increased, to record levels by 2007, but decreased substantially by 2010 and remained near that level in 2011. The spring biomass indices remained at a low level in 2012.*

**Exploitation.** *The index of exploitation has remained below 0.15 until 2010 but has since increased.*

**State of the Stock.** *The predicted decline in the 2011 autumn survey biomass did not occur. However, the decreased levels of biomass in the Canadian survey series since 2007 are a reason for concern. The biomass is likely to be above  $B_{lim}$ .*”

The figure below, which is Figure 2.5 in NAFO/ICES 2012 shows how the index of exploitation (catch/survey fishable biomass at the end of the previous year) has increased progressively, and finally exceeded 15% in 2010.

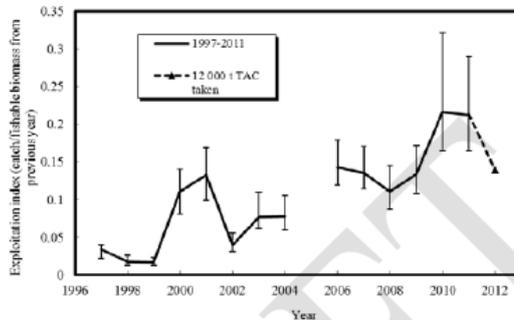


Fig. 2.5. Shrimp in Div. 3LNO: exploitation rates calculated as year’s catch divided by the previous year’s autumn fishable biomass index. The 2012 exploitation rate index is based upon incomplete catch data. Bars indicate 95% confidence limits.

**The precautionary framework and the advice.**

Advice provided by NAFO for shrimp in Div.3LNO (NAFO 2011 and 2012a) uses a limit reference point  $B_{lim}$  that is estimated as 15% of the maximum observed biomass in the series, i.e. 19,330t. Female biomass has declined rapidly since 2007, but the estimate for 2011, although nearing  $B_{lim}$  is still above it, as shown below (Fig. 2.9 from NAFO/ICES 2012). It is not possible to calculate a limit reference point for fishing mortality, and NAFO has not determined a safe zone for this stock.

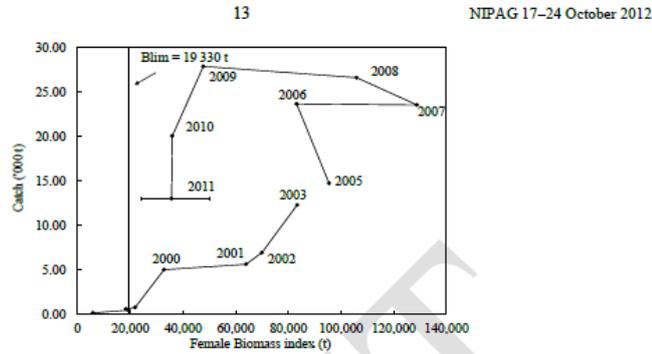


Fig. 2.9. Shrimp in Div. 3LNO: Catch against female biomass index from Canadian autumn survey. Line denoting  $B_{lim}$  (approximately 19 000 t) is drawn where female biomass is 85% lower than the maximum point in 2007.

Source: NAFO/ICES 2012 : ICES CM 2012/ACOM:xx, page 13

NAFO noted that exploitation rates for 2006-2009 that averaged 14% were accompanied by stock decline. It therefore advises that TAC options producing an exploitation rate of 14% or higher represent a relatively high risk, and that lower TACs producing a lower exploitation rate are desirable. Stock projections for 2013 suggest that a 14% exploitation rate in 2013 would produce a catch of 8 566t, and the Scientific Council therefore recommends that the TAC for 2013 should be less than 8,600t (NAFO 2012a, page3).

The Scientific Council has called for improvements to the reference point framework for shrimp in this area (NAFO 2012a, page 3), specifically to identify  $F_{msy}$ ,  $B_{msy}$ , and an upper reference point for biomass ( $B_{buf}$ ). This requires application of an agreed appropriate stock assessment model.

The NAFO precautionary framework and  $B_{lim}$  used above differ from the provisional reference points and PA framework proposed for SFA7 by DFO in Annex I of the Northern Shrimp IFMP (DFO 2010b), shown below. The difference between these two frameworks is described in more detail in Section 5.3.3 of the Public Certification Report for SFA 7 (Moody Marine Ltd., 2011d)

	<p>Source: DFO 2010</p> <p>References:          DFO 2010a          DFO 2011a          DFO 2012a          DFO 2012b          NAFO 2011          NAFO/ICES 2012</p>
<p><b>Total Allowable Catch (TAC) in most recent fishing year</b></p>	<p>The <i>Pandalus borealis</i> TAC for the most recent quota year (2011-2012) in SFA 7 was 15,994t.</p>
<p><b>Unit of Certification share of TAC</b></p>	<p>Currently 100%</p>
<p><b>Client share of TAC</b></p>	<p>Currently 100%</p>
<p><b>Green Weight<sup>1</sup> of catch taken by client group</b></p>	<p>Most recent calendar year (2011): 8,919t          Previous year (2010): 13,515t</p>

<sup>1</sup>The weight of a catch prior to processing

<b>Condition</b>	<b>1</b>
<b>PI</b>	<b>1.2.2 Harvest Control Rules &amp; Tools</b> There are well defined and effective harvest control rules in place
<b>SG 60</b>	Generally understood harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached. There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation
<b>SG 80</b>	Well-defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. The selection of the harvest control rules takes into account the main uncertainties Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules
<b>SG 100</b>	Well-defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. The design of the harvest control rules take into account a wide range of uncertainties Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.
<b>Score</b>	70
<b>Scoring Rationale</b>	Generally understood harvest control rules are in place, consistent with the harvest strategy; although the exploitation rate is not monotonically decreased as the limit reference point is reached, the intent of the exploitation rate is to keep the stock above the limit reference point and at a level equivalent to a target reference point. Thus the 60 SG is met. The selection of the harvest control rule takes the main uncertainty into account, and available evidence indicates that tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rule, meeting the second and third scoring issues for the 80 SG. The first scoring issue for the 80 SG is not met. A score of 70 is thus assigned.
<b>Condition</b>	The client is required to demonstrate by the fourth annual audit that well-defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.
<b>Client Action Plan</b>	CAPP and NC will collaborate with other stakeholders and the Department of Fisheries & Oceans Canada (DFO), to refine domestic decision rules as appropriate and to promote NAFO's formal adoption of compatible reference points and harvest control rules, and to provide evidence of such.
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	Annex I of the IFMP includes a suite of harvest control rules linked directly to RV

	<p>survey results, which for SFA7 are to guide the Canadian Delegation to NAFO during its process to set the 3L shrimp TAC.</p> <p>Annex I is under a review by a working group of NSAC, with the intention to streamline and clarify all harvest control rules contained within Annex I. This review is likely to be completed, with amendments likely to be made to Annex I in 2013.</p> <p>Parallel with this process, Canadian scientists are in the process of evaluating the potential application of an assessment model for shrimp stocks in areas 5-7. This evaluation/development is likely to be completed in 2013 or 2014.</p> <p>There has been a single Annual Meeting of NAFO since the certification of this fishery, i.e. in September 2012. Given the aforementioned processes, the Canadian Delegation was not in a position to table or promote the adoption of specific harvest control rules by NAFO's Fisheries Commission in 2012. It is likely that the Canadian Delegation will be in a position to table and promote such rules in 2014, though it may be possible to initiate this process in 2013.</p> <p>In the meantime, it is noteworthy that the spawning stock biomass in this area has been declining from its 2007 peak, and while still in the "Healthy Zone" as defined by the Canadian IFMP, the decline has warranted strong management action in the form of significant TAC reductions. Guided by the advice of the Scientific Council and HCRs within Canada's IFMP, Canada has promoted/supported 3L shrimp TAC reductions from the 30,000t level in 2010, to 19,200t in 2011, to 12,000t in 2012, to 8,600t in 2013; TAC levels that are compatible with the requirements of Canada's harvest control rules.</p>
<b>Observations</b>	<p>For SFA 7, the management of the shrimp stock is based on a NAFO assessment and NAFO advice for shrimp in NAFO Divisions 3LNO. The stock of shrimp in this area is distributed round the Grand Banks mainly in Division 3L. The fishery began in 1993 and came under TAC control in 2000, when fishing was restricted to Division 3L.</p> <p>The Audit Team has reviewed the latest stock assessment for shrimp in Div. 3LNO (NAFO 2012a) which makes it clear that stock decline is still of concern, as described in the stock status section above.</p> <p>The Team has also reviewed the precautionary framework and harvest control rules that are either in place or have been proposed for this stock (the provisional DFO rule for SFA7 described in Annex I of the IFMP, DFO 2010b). In the absence of an effective stock assessment model for this shrimp stock reference points and rules are based on empirical evaluation of stock trends.</p> <p><u>In the NAFO rule</u> the exploitation rate (catch / previous year's fishable biomass) should not exceed a value of 15% of the fishable biomass, and the current advice is that exploitation rate should be below a guideline 14% (the average for 2006-2009 during which major stock decline occurred). <math>B_{lim}</math> is set at 15% of the maximum observed biomass, giving a value of 19,330t. NAFO has not so far defined a target reference point or safe zone for this stock. The Scientific Council has, however, called for improvements to the reference point framework for shrimp in this area (NAFO 2012a, page 3), specifically to identify <math>F_{msy}</math>, <math>B_{msy}</math>, and an upper reference point for biomass (<math>B_{uif}</math>). This requires application of an agreed appropriate stock assessment model.</p> <p><u>In the provisional DFO rule</u>, the lower limit reference point is set at 30% of the 1996-2003 spawning stock biomass (SSB), which is 9,000t. The upper stock reference point is set at 80% of the 1996-2003 SSB, which is 23,000t. These reference point boundaries define healthy, cautious and critical zones, within</p>

	<p>which specific harvest options apply as outlined in the Canadian IFMP (DFO 2010b) or in Section 5.3.3 of the MSC Public Certification Report for SFA 7 (Moody Marine Ltd. 2011d).</p> <p>It is clear that these frameworks would potentially lead to differing advice and outcomes, and that the provision of the more rigorous harvest control rules needed to satisfy this Condition requires some appropriate resolution of this problem. The Client Progress Report implies that this will be a two or possibly three step process, step 1 being the current review within the Northern Shrimp Advisory Committee (NSAC) of the provisional DFO harvest rules for Canadian shrimp fishing areas in Annex I of the Canadian IFMP, scheduled to be completed in 2013. Step 2 will then involve the Canadian Delegation proposing NSAC-approved Canadian harvest control rules at an Annual Meeting of NAFO in either 2013 or 2014. Step three will likely involve the development and potential application of an assessment model to shrimp stocks in Areas 5-7. It would appear from the site visit that the most likely candidates for such a model could be a version of the Bayesian stock production model, or an ADAP Virtual Population Analysis model presumably scheduled for 2013 in order to facilitate the negotiations with NAFO.</p> <p>References:</p> <p style="padding-left: 40px;">DFO 2010b Moody Marine Ltd. 2011d NAFO 2012a</p>
<b>Conclusion</b>	<p>The Audit Team concludes that whilst it is difficult to foresee the precise outcome of the above processes and steps, the client nevertheless has provided evidence that there is plan in place to achieve the required outcome of this Condition by the fourth annual audit.</p> <p>Recognizing that there are two management bodies involved (DFO) and NAFO) with different approaches, it will be important that future audit teams monitor progress during surveillance audits with respect to timelines.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 70.</p>

<b>Condition</b>	2
<b>PI</b>	<p>2.4.1 <b>Habitat Outcome</b></p> <p>The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function.</p>
<b>SG 60</b>	The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
<b>SG 80</b>	The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
<b>SG 100</b>	There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
<b>Score</b>	60
<b>Scoring Rationale</b>	Given its mode of operation, this fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm, based on interpretation of “serious or irreversible harm” in the FAM v. 2.1. thus meeting the 60 SG
<b>Condition</b>	The client is required to present evidence by the fourth annual audit that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm
<b>Client Action Plan</b>	<p>The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach in association with Conditions 3 and 4, both of which relate to performance indicators for habitat:</p> <p>CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to enhance the collection of information, and (b) to conduct an evaluation of the nature and distribution of habitat types, their vulnerability, and the related impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies, including with respect to Sensitive Benthic Areas as it applies to the conduct of shrimp fishing in this area.</p> <ul style="list-style-type: none"> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will be documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and are being implemented as appropriate for this fishing activity.</p>
<b>Conclusions of previous audit</b>	This is the first audit.

<b>Client Progress</b>	The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.
<b>Observations</b>	<p>The Audit Team reviewed the “Elements of a Strategy to evaluate, manage &amp; monitor the impact of the Northern Shrimp Fishery on Habitats and Ecosystems within the respective certification units” discussed by the NSAC MSC Working Group on November 1, 2012. This outlines a stepwise approach to assembling information, assessing impacts, and putting in place additional measures to manage impact of the fishery on habitats and ecosystems, if necessary.</p> <p>The team sought clarification on several elements of the strategy.</p> <p>With respect to the Ecological Risk Assessment Framework (ERAF) to be used in assessing risk of serious or irreversible harm to coral and sponge areas, the Audit Team reviewed a draft of this Framework which is being developed by DFO (DFO 2012c). The approach is consistent with other ecological risk approaches, including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.</p> <p>The team noted that assessment and management actions for benthic habitats and ecosystems would be triggered if analyses of the fisheries footprint indicated that 10% of sensitive habitats or 30% of less sensitive habitats were affected by the fishery, and questioned the source of the 10%/30% thresholds. The client advised that the 30% threshold (assessment and management action would be triggered if analyses determined that the fishery impacts more than 30% of less sensitive habitats for more than 100 days) was based on the MSC guideline for determining whether it was “highly likely” that the fishery was not causing serious or irreversible to habitats and ecosystems (MSC Certification Requirements Table CB18 p.C88) – there should be no more than a 30% probability that the true status of the component is within the range where there is risk of serious or irreversible harm. While noting that the two contexts were different (probability of harm vs proportion of habitat impacted by the fishery) the team agreed that this was a reasonable threshold for the client strategy. The client advised that the 10% threshold for assessment and management action on sensitive habitats was a judgment based on the fact that a higher level of caution should be applied to sensitive than to non-sensitive habitats. The team agreed that this was reasonable; although not based on modeling or analysis, this threshold is a reasonable judgment-based level to guide action.</p> <p>While concurring that the 10%/30% guidelines were appropriate thresholds for action, the team noted that it would be critical to clearly define “of what” 10% and 30% were being taken – these percentages should be applied to habitats within the depth range or general area of operation of the fishery, not, for example, to all continental shelf areas.</p> <p>The team was advised that data assembly had begun as indicated in the client action plan and in the “Elements of a Strategy”. With respect to the footprint of the fishery, information on distribution of offshore fishing effort has been compiled, and information on distribution of effort by the inshore fleet will be compiled in the near future. Information on distribution of bottom habitats will be available from DFO and other sources. A consultant with prior experience on</p>

	<p>mapping fishery footprints has been engaged to do the data mapping. A template and analytical approach which have been used by the client to assess habitat and ecosystem impacts in other fisheries will be used in this analysis. The client has compiled a bibliography of studies on impacts of shrimp fisheries on habitats and ecosystems.</p> <p>DFO is not directly involved in implementing the Strategy but will be providing information (fishery distribution, habitat distribution) and will be contributing to oversight of the work through their participation on the NSAC.</p> <p>In addition to the Strategy to be implemented by the client, the team was advised of the continuing development of a strategy for protection of sponge-coral areas in Newfoundland-Labrador Region of DFO. This will be part of DFO’s Coral and Sponge Conservation Strategy for Eastern Canadian Waters. In 2010/11 DFO’s Newfoundland and Labrador and Central and Arctic Regions consulted with stakeholders (governments, Aboriginal, fishing industry, oil and gas, ENGOs) on elements to be included in the strategy. One outcome of these consultations was specific targets and actions to achieve conservation, management and research objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.</p> <p>Development of this habitat strategy follows from a series of policy and science initiatives related to impacts of fishing in benthic environments in recent years, including, for example:</p> <ul style="list-style-type: none"> <li>• development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)</li> <li>• mapping of coral and sponge areas, based on available information, in all Atlantic Canadian ocean areas, and establishing thresholds for protecting these areas (Kenchington et al 2010; DFO 2010a)</li> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009  DFO 2010a  DFO 2011b  DFO 2012c  Kenchington, <i>et al</i> 2010</p>
<b>Conclusion</b>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p>

	<p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 60.</p>
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<b>Condition</b>	<b>3</b>
<b>PI</b>	<b>2.4.2 Habitat Strategy</b> There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types.
<b>SG 60</b>	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.  The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).
<b>SG 80</b>	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.  There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or habitats involved.  There is some evidence that the partial strategy is being implemented successfully.
<b>SG 100</b>	There is a strategy in place for managing the impact of the fishery on habitat types.  The strategy is mainly based on information directly about the fishery and/or habitats involved, and testing supports high confidence that the strategy will work.  There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective.
<b>Score</b>	60
<b>Scoring Rationale</b>	Measures are in place (e.g., the fishery is concentrated on soft bottoms, work is underway to reduce seabed contact of gear, a working group has been established to consider closed areas and ecosystem impacts of the fishery, there is a commitment to develop a sponge/coral conservation strategy and there is a national policy for Managing the Impacts of Fishing on Sensitive Benthic Habitats which is expected to provide an overall framework for actions to improve protection of sensitive habitats and species) that are likely to ensure that the fishery does not cause serious or irreversible harm to habitats thereby meeting the 60 SG.
<b>Condition</b>	The client is required to demonstrate by the fourth annual audit that: <ul style="list-style-type: none"> <li>i. A partial strategy is in place such that the fishery is expected to be highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</li> <li>ii. There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or habitats involved.</li> </ul> There is some evidence that the partial strategy is being implemented successfully
<b>Client Action Plan</b>	The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach in association with Conditions 2 and 4, both of which relate to performance indicators for habitat: <ul style="list-style-type: none"> <li>• CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to enhance the collection of information, and (b) to conduct an evaluation of the</li> </ul>

	<p>nature and distribution of habitat types, their vulnerability, and the related impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies, including with respect to Sensitive Benthic Areas as it applies to the conduct of shrimp fishing in this area.</p> <ul style="list-style-type: none"> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will be documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and are being implemented as appropriate for this fishing activity.</p>
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.
<b>Observations</b>	<p>The Audit Team reviewed the “Elements of a Strategy to evaluate, manage &amp; monitor the impact of the Northern Shrimp Fishery on Habitats and Ecosystems within the respective certification units” discussed by the NSAC MSC Working Group on November 1, 2012. This outlines a stepwise approach to assembling information, assessing impacts, and putting in place additional measures to manage impact of the fishery on habitats and ecosystems, if necessary.</p> <p>The team sought clarification on several elements of the strategy.</p> <p>With respect to the Ecological Risk Assessment Framework (ERAF) to be used in assessing risk of serious or irreversible harm to coral and sponge areas, the Audit Team reviewed a draft of this Framework which is being developed by DFO (DFO 2012c). The approach is consistent with other ecological risk approaches, including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.</p> <p>The team noted that assessment and management actions for benthic habitats and ecosystems would be triggered if analyses of the fisheries footprint indicated that 10% of sensitive habitats or 30% of less sensitive habitats were affected by the fishery, and questioned the source of the 10%/30% thresholds. The client advised that the 30% threshold (assessment and management action would be triggered if analyses determined that the fishery impacts more than 30% of less sensitive habitats for more than 100 days) was based on the MSC guideline for determining whether it was “highly likely” that the fishery was not causing serious or irreversible to habitats and ecosystems (MSC Certification Requirements Table</p>

CB18 p.C88) – there should be no more than a 30% probability that the true status of the component is within the range where there is risk of serious or irreversible harm. While noting that the two contexts were different (probability of harm vs proportion of habitat impacted by the fishery) the team agreed that this was a reasonable threshold for the client strategy. The client advised that the 10% threshold for assessment and management action on sensitive habitats was a judgment based on the fact that a higher level of caution should be applied to sensitive than to non-sensitive habitats. The team agreed that this was reasonable; although not based on modeling or analysis, this threshold is a reasonable judgment-based level to guide action.

While concurring that the 10%/30% guidelines were appropriate thresholds for action, the team noted that it would be critical to clearly define “of what” 10% and 30% were being taken – these percentages should be applied to habitats within the depth range or general area of operation of the fishery, not, for example, to all continental shelf areas.

The team was advised that data assembly had begun as indicated in the client action plan and in the “Elements of a Strategy”. With respect to the footprint of the fishery, information on distribution of offshore fishing effort has been compiled, and information on distribution of effort by the inshore fleet will be compiled in the near future. Information on distribution of bottom habitats will be available from DFO and other sources. A consultant with prior experience on mapping fishery footprints has been engaged to do the data mapping. A template and analytical approach which have been used by the client to assess habitat and ecosystem impacts in other fisheries will be used in this analysis. The client has compiled a bibliography of studies on impacts of shrimp fisheries on habitats and ecosystems.

DFO is not directly involved in implementing the Strategy but will be providing information (fishery distribution, habitat distribution) and will be contributing to oversight of the work through their participation on the NSAC.

In addition to the Strategy to be implemented by the client, the team was advised of the continuing development of a strategy for protection of sponge-coral areas in Newfoundland-Labrador Region of DFO. This will be part of DFO’s Coral and Sponge Conservation Strategy for Eastern Canadian Waters. In 2010/11 DFO’s Newfoundland and Labrador and Central and Arctic Regions consulted with stakeholders (governments, Aboriginal, fishing industry, oil and gas, ENGOs) on elements to be included in the strategy. One outcome of these consultations was specific targets and actions to achieve conservation, management and research objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.

Development of this habitat strategy follows from a series of policy and science initiatives related to impacts of fishing in benthic environments in recent years, including, for example:

- development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)
- mapping of coral and sponge areas, based on available information, in all Atlantic Canadian ocean areas, and establishing thresholds for protecting these

	<p>areas (Kenchington et al 2010; DFO 2010a)</p> <ul style="list-style-type: none"> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009  DFO 2010a  DFO 2011b  DFO 2012c  Kenchington, <i>et al</i> 2010</p>
<p><b>Conclusion</b></p>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p> <p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 60.</p>

<b>Condition</b>	<b>4</b>
<b>PI</b>	2.4.3 Habitat Information: Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.
<b>SG 60</b>	There is a basic understanding of the types and distribution of main habitats in the area of the fishery. Information is adequate to broadly understand the main impacts of gear use on the main habitats, including spatial extent of interaction.
<b>SG 80</b>	The nature, distribution and vulnerability of all main habitat types in the fishery area are known at a level of detail relevant to the scale and intensity of the fishery. Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent, timing and location of use of the fishing gear. Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).
<b>SG 100</b>	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types. Changes in habitat distributions over time are measured. The physical impacts of the gear on the habitat types have been quantified fully.
<b>Score</b>	70
<b>Scoring Rationale</b>	The fishery meets all the scoring issues of the 60 SG in that there is a basic understanding of types and distribution of habitats in the fishery, and of the impacts of the fishery on habitats. The fishery is assigned a score above 60 because there is detailed information on nature and distribution of sensitive habitats (coral and sponge areas) and reliable information on spatial extent, timing and location of the fishery.
<b>Condition</b>	The client is required to demonstrate by the fourth annual audit that: <ul style="list-style-type: none"> <li>i. A partial strategy is in place such that the fishery is expected to be highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</li> <li>ii. There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or habitats involved.</li> </ul> There is some evidence that the partial strategy is being implemented successfully
<b>Client Action Plan</b>	The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach in association with Conditions 2 and 3 both of which relate to performance indicators for habitat: <ul style="list-style-type: none"> <li>• CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to</li> </ul>

	<p>enhance the collection of information, and (b) to conduct an evaluation of the nature and distribution of habitat types, their vulnerability, and the related impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies, including with respect to Sensitive Benthic Areas as it applies to the conduct of shrimp fishing in this area.</p> <ul style="list-style-type: none"> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will be documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and are being implemented as appropriate for this fishing activity.</p>
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.
<b>Observations</b>	<p>The Audit Team reviewed the “Elements of a Strategy to evaluate, manage &amp; monitor the impact of the Northern Shrimp Fishery on Habitats and Ecosystems within the respective certification units” discussed by the NSAC MSC Working Group on November 1, 2012. This outlines a stepwise approach to assembling information, assessing impacts, and putting in place additional measures to manage impact of the fishery on habitats and ecosystems, if necessary.</p> <p>The team sought clarification on several elements of the strategy.</p> <p>With respect to the Ecological Risk Assessment Framework (ERAF) to be used in assessing risk of serious or irreversible harm to coral and sponge areas, the Audit Team reviewed a draft of this Framework which is being developed by DFO (DFO 2012c). The approach is consistent with other ecological risk approaches, including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.</p> <p>The team noted that assessment and management actions for benthic habitats and ecosystems would be triggered if analyses of the fisheries footprint indicated that 10% of sensitive habitats or 30% of less sensitive habitats were affected by the fishery, and questioned the source of the 10%/30% thresholds. The client advised that the 30% threshold (assessment and management action would be triggered if analyses determined that the fishery impacts more than 30% of less sensitive habitats for more than 100 days) was based on the MSC guideline for determining whether it was “highly likely” that the fishery was not causing serious or</p>

	<p>irreversible to habitats and ecosystems (MSC Certification Requirements Table CB18 p.C88) – there should be no more than a 30% probability that the true status of the component is within the range where there is risk of serious or irreversible harm. While noting that the two contexts were different (probability of harm vs proportion of habitat impacted by the fishery) the team agreed that this was a reasonable threshold for the client strategy. The client advised that the 10% threshold for assessment and management action on sensitive habitats was a judgment based on the fact that a higher level of caution should be applied to sensitive than to non-sensitive habitats. The team agreed that this was reasonable; although not based on modeling or analysis, this threshold is a reasonable judgment-based level to guide action.</p> <p>While concurring that the 10%/30% guidelines were appropriate thresholds for action, the team noted that it would be critical to clearly define “of what” 10% and 30% were being taken – these percentages should be applied to habitats within the depth range or general area of operation of the fishery, not, for example, to all continental shelf areas.</p> <p>The team was advised that data assembly had begun as indicated in the client action plan and in the “Elements of a Strategy”. With respect to the footprint of the fishery, information on distribution of offshore fishing effort has been compiled, and information on distribution of effort by the inshore fleet will be compiled in the near future. Information on distribution of bottom habitats will be available from DFO and other sources. A consultant with prior experience on mapping fishery footprints has been engaged to do the data mapping. A template and analytical approach which have been used by the client to assess habitat and ecosystem impacts in other fisheries will be used in this analysis. The client has compiled a bibliography of studies on impacts of shrimp fisheries on habitats and ecosystems.</p> <p>DFO is not directly involved in implementing the Strategy but will be providing information (fishery distribution, habitat distribution) and will be contributing to oversight of the work through their participation on the NSAC.</p> <p>In addition to the Strategy to be implemented by the client, the team was advised of the continuing development of a strategy for protection of sponge-coral areas in Newfoundland-Labrador Region of DFO. This will be part of DFO’s Coral and Sponge Conservation Strategy for Eastern Canadian Waters. In 2010/11 DFO’s Newfoundland and Labrador and Central and Arctic Regions consulted with stakeholders (governments, Aboriginal, fishing industry, oil and gas, ENGOs) on elements to be included in the strategy. One outcome of these consultations was specific targets and actions to achieve conservation, management and research objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.</p> <p>Development of this habitat strategy follows from a series of policy and science initiatives related to impacts of fishing in benthic environments in recent years, including, for example:</p> <ul style="list-style-type: none"> <li>• development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)</li> <li>• mapping of coral and sponge areas, based on available information, in all</li> </ul>
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	<p>Atlantic Canadian ocean areas, and establishing thresholds for protecting these areas (Kenchington et al 2010; DFO 2010a)</p> <ul style="list-style-type: none"> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009  DFO 2010a  DFO 2011b  DFO 2012c  Kenchington, <i>et al</i> 2010</p>
<p><b>Conclusion</b></p>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p> <p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 70.</p>

<b>Condition</b>	5
<b>PI</b>	<p><b>2.5.1 Ecosystem Outcome</b></p> <p>The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function.</p>
<b>SG 60</b>	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
<b>SG 80</b>	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
<b>SG 100</b>	There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm
<b>Score</b>	70
<b>Scoring Rationale</b>	One identified ecosystem element (changes in trophic relationships due to removal of the target species) meets the 80 SG, another (non-catch impacts on benthic communities) meets the 60. Overall it appears highly unlikely that the fishery is causing serious or irreversible harm to ecosystems. Accordingly an intermediate score of 70 is assigned.
<b>Condition</b>	The client is required to present evidence by the fourth annual audit that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
<b>Client Action Plan</b>	<p>The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach in association with Conditions 6 and 7, both of which relate to performance indicators for the ecosystem:</p> <ul style="list-style-type: none"> <li>• CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to enhance the collection of information, and (b) to conduct an evaluation of the vulnerability of ecosystem components and the inferred impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies as they applies to the conduct of shrimp fishing in this area.</li> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and</p>

	are being implemented as appropriate for this fishing activity.
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.
<b>Observations</b>	<p>The Audit Team reviewed the “Elements of a Strategy to evaluate, manage &amp; monitor the impact of the Northern Shrimp Fishery on Habitats and Ecosystems within the respective certification units” discussed by the NSAC MSC Working Group on November 1, 2012. This outlines a stepwise approach to assembling information, assessing impacts, and putting in place additional measures to manage impact of the fishery on habitats and ecosystems, if necessary.</p> <p>The team sought clarification on several elements of the strategy.</p> <p>With respect to the Ecological Risk Assessment Framework (ERAF) to be used in assessing risk of serious or irreversible harm to coral and sponge areas, the Audit Team reviewed a draft of this Framework which is being developed by DFO (DFO 2012c). The approach is consistent with other ecological risk approaches, including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.</p> <p>The team noted that assessment and management actions for benthic habitats and ecosystems would be triggered if analyses of the fisheries footprint indicated that 10% of sensitive habitats or 30% of less sensitive habitats were affected by the fishery, and questioned the source of the 10%/30% thresholds. The client advised that the 30% threshold (assessment and management action would be triggered if analyses determined that the fishery impacts more than 30% of less sensitive habitats for more than 100 days) was based on the MSC guideline for determining whether it was “highly likely” that the fishery was not causing serious or irreversible to habitats and ecosystems (MSC Certification Requirements Table CB18 p.C88) – there should be no more than a 30% probability that the true status of the component is within the range where there is risk of serious or irreversible harm. While noting that the two contexts were different (probability of harm vs proportion of habitat impacted by the fishery) the team agreed that this was a reasonable threshold for the client strategy. The client advised that the 10% threshold for assessment and management action on sensitive habitats was a judgment based on the fact that a higher level of caution should be applied to sensitive than to non-sensitive habitats. The team agreed that this was reasonable; although not based on modeling or analysis, this threshold is a reasonable judgment-based level to guide action.</p> <p>While concurring that the 10%/30% guidelines were appropriate thresholds for action, the team noted that it would be critical to clearly define “of what” 10% and 30% were being taken – these percentages should be applied to habitats within the depth range or general area of operation of the fishery, not, for example, to all continental shelf areas.</p> <p>The team was advised that data assembly had begun as indicated in the client</p>

	<p>action plan and in the “Elements of a Strategy”. With respect to the footprint of the fishery, information on distribution of offshore fishing effort has been compiled, and information on distribution of effort by the inshore fleet will be compiled in the near future. Information on distribution of bottom habitats will be available from DFO and other sources. A consultant with prior experience on mapping fishery footprints has been engaged to do the data mapping. A template and analytical approach which have been used by the client to assess habitat and ecosystem impacts in other fisheries will be used in this analysis. The client has compiled a bibliography of studies on impacts of shrimp fisheries on habitats and ecosystems.</p> <p>DFO is not directly involved in implementing the Strategy but will be providing information (fishery distribution, habitat distribution) and will be contributing to oversight of the work through their participation on the NSAC.</p> <p>In addition to the Strategy to be implemented by the client, the team was advised of the continuing development of a strategy for protection of sponge-coral areas in Newfoundland-Labrador Region of DFO. This will be part of DFO’s Coral and Sponge Conservation Strategy for Eastern Canadian Waters. In 2010/11 DFO’s Newfoundland and Labrador and Central and Arctic Regions consulted with stakeholders (governments, Aboriginal, fishing industry, oil and gas, ENGOS) on elements to be included in the strategy. One outcome of these consultations was specific targets and actions to achieve conservation, management and research objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.</p> <p>Development of this habitat strategy follows from a series of policy and science initiatives related to impacts of fishing in benthic environments in recent years, including, for example:</p> <ul style="list-style-type: none"> <li>• development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)</li> <li>• mapping of coral and sponge areas, based on available information, in all Atlantic Canadian ocean areas, and establishing thresholds for protecting these areas (Kenchington et al 2010; DFO 2010a)</li> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009  DFO 2010a  DFO 2011b  DFO 2012c  Kenchington, <i>et al</i> 2010</p>
<p><b>Conclusion</b></p>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project</p>

	<p>provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p> <p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 70.</p>
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<b>Condition</b>	<b>6</b>
<b>PI</b>	<p><b>2.5.2 Ecosystem strategy</b></p> <p>There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function.</p>
<b>SG 60</b>	<p>There are measures in place, if necessary, that take into account potential impacts of the fishery on key elements of the ecosystem.</p> <p>The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ ecosystems).</p>
<b>SG 80</b>	<p>There is a partial strategy in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.</p> <p>The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ ecosystems).</p> <p>There is some evidence that the measures comprising the partial strategy are being implemented successfully.</p>
<b>SG 100</b>	<p>There is a strategy that consists of a plan, containing measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.</p> <p>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.</p> <p>The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.</p> <p>There is evidence that the measures are being implemented successfully.</p>
<b>Score</b>	70
<b>Scoring Rationale</b>	<p>A partial strategy is in place to ensure that adequate forage is maintained for predators (guideline exploitation rate, ongoing monitoring) (SG 80). Measures are in place to ensure that non-catch impacts on benthic communities are low (light gear, soft-bottom areas with communities which recover relatively quickly are fished) (SG 60). Accordingly a score of 70 is assigned.</p>
<b>Condition</b>	<p>The client is required to demonstrate by the fourth annual audit that:</p> <ol style="list-style-type: none"> <li>i. There is a partial strategy in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.</li> <li>ii. The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ ecosystems).</li> </ol> <p>There is some evidence that the measures comprising the partial strategy are being implemented successfully.</p>

<b>Client Action Plan</b>	<p>The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach and in association with Conditions 5 and 7, both of which relate to performance indicators for the ecosystem:</p> <ul style="list-style-type: none"> <li>• CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to enhance the collection of information, and (b) to conduct an evaluation of the vulnerability of ecosystem components and the inferred impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies as they applies to the conduct of shrimp fishing in this area.</li> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and are being implemented as appropriate for this fishing activity.</p>
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	<p>The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.</p>
<b>Observations</b>	<p>The Audit Team reviewed the “Elements of a Strategy to evaluate, manage &amp; monitor the impact of the Northern Shrimp Fishery on Habitats and Ecosystems within the respective certification units” discussed by the NSAC MSC Working Group on November 1, 2012. This outlines a stepwise approach to assembling information, assessing impacts, and putting in place additional measures to manage impact of the fishery on habitats and ecosystems, if necessary.</p> <p>The team sought clarification on several elements of the strategy.</p> <p>With respect to the Ecological Risk Assessment Framework (ERAF) to be used in assessing risk of serious or irreversible harm to coral and sponge areas, the Audit Team reviewed a draft of this Framework which is being developed by DFO (DFO 2012c). The approach is consistent with other ecological risk approaches, including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.</p> <p>The team noted that assessment and management actions for benthic habitats and ecosystems would be triggered if analyses of the fisheries footprint indicated that 10% of sensitive habitats or 30% of less sensitive habitats were affected by the</p>

fishery, and questioned the source of the 10%/30% thresholds. The client advised that the 30% threshold (assessment and management action would be triggered if analyses determined that the fishery impacts more than 30% of less sensitive habitats for more than 100 days) was based on the MSC guideline for determining whether it was “highly likely” that the fishery was not causing serious or irreversible to habitats and ecosystems (MSC Certification Requirements Table CB18 p.C88) – there should be no more than a 30% probability that the true status of the component is within the range where there is risk of serious or irreversible harm. While noting that the two contexts were different (probability of harm vs proportion of habitat impacted by the fishery) the team agreed that this was a reasonable threshold for the client strategy. The client advised that the 10% threshold for assessment and management action on sensitive habitats was a judgment based on the fact that a higher level of caution should be applied to sensitive than to non-sensitive habitats. The team agreed that this was reasonable; although not based on modeling or analysis, this threshold is a reasonable judgment-based level to guide action.

While concurring that the 10%/30% guidelines were appropriate thresholds for action, the team noted that it would be critical to clearly define “of what” 10% and 30% were being taken – these percentages should be applied to habitats within the depth range or general area of operation of the fishery, not, for example, to all continental shelf areas.

The team was advised that data assembly had begun as indicated in the client action plan and in the “Elements of a Strategy”. With respect to the footprint of the fishery, information on distribution of offshore fishing effort has been compiled, and information on distribution of effort by the inshore fleet will be compiled in the near future. Information on distribution of bottom habitats will be available from DFO and other sources. A consultant with prior experience on mapping fishery footprints has been engaged to do the data mapping. A template and analytical approach which have been used by the client to assess habitat and ecosystem impacts in other fisheries will be used in this analysis. The client has compiled a bibliography of studies on impacts of shrimp fisheries on habitats and ecosystems.

DFO is not directly involved in implementing the Strategy but will be providing information (fishery distribution, habitat distribution) and will be contributing to oversight of the work through their participation on the NSAC.

In addition to the Strategy to be implemented by the client, the team was advised of the continuing development of a strategy for protection of sponge-coral areas in Newfoundland-Labrador Region of DFO. This will be part of DFO’s Coral and Sponge Conservation Strategy for Eastern Canadian Waters. In 2010/11 DFO’s Newfoundland and Labrador and Central and Arctic Regions consulted with stakeholders (governments, Aboriginal, fishing industry, oil and gas, ENGOS) on elements to be included in the strategy. One outcome of these consultations was specific targets and actions to achieve conservation, management and research objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.

Development of this habitat strategy follows from a series of policy and science

	<p>initiatives related to impacts of fishing in benthic environments in recent years, including, for example:</p> <ul style="list-style-type: none"> <li>• development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)</li> <li>• mapping of coral and sponge areas, based on available information, in all Atlantic Canadian ocean areas, and establishing thresholds for protecting these areas (Kenchington et al 2010; DFO 2010a)</li> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009  DFO 2010a  DFO 2011b  DFO 2012c  Kenchington, <i>et al</i> 2010</p>
<p><b>Conclusion</b></p>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p> <p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 70.</p>

<b>Condition</b>	<b>7</b>
<b>PI</b>	<b>2.5.3 Ecosystem Information</b> There is adequate knowledge of the impacts of the fishery on the ecosystem.
<b>SG 60</b>	Information is adequate to identify the key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity).  Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail.
<b>SG 80</b>	Information is adequate to broadly understand the functions of the key elements of the ecosystem.  Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but may not have been investigated in detail.  The main functions of the Components (i.e. target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.  Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.  Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).
<b>SG 100</b>	Information is adequate to broadly understand the key elements of the ecosystem.  Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.  The impacts of the fishery on target, Bycatch, Retained and ETP species and Habitats are identified and the main functions of these Components in the ecosystem are understood.  Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.  Information is sufficient to support the development of strategies to manage ecosystem impacts.
<b>Score</b>	70
<b>Scoring Rationale</b>	Very good information is available on the ecological relationships of <i>Pandalus</i> and on abundance of this target species, such that impacts of the fishery on predator-prey relationships can be assessed and mitigated if need be. Monitoring continues. As such the fishery meets the 80 SG for this issue.  Partial knowledge of potential non-catch impacts of the fishery on benthic species; general knowledge of benthic communities; however information has not been compiled in such a way as to allow consequences on benthic communities to be assessed. As such the fishery meets the 60 SG for this issue.  As a result a score of 70 is assigned.
<b>Condition</b>	The client is required to demonstrate by the fourth annual audit that:

	<p>i. Sufficient information is available on the impacts of the fishery on habitats to allow some of the main consequences for the ecosystem to be inferred.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p>
<b>Client Action Plan</b>	<p>The client has set out their actions and expected outcomes for this performance indicator in a logical step wise approach and in association with Conditions 5 and 6, both of which relate to performance indicators for the ecosystem:</p> <ul style="list-style-type: none"> <li>• CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), towards development of a program (a) to enhance the collection of information, and (b) to conduct an evaluation of the vulnerability of ecosystem components and the inferred impact of otter trawl fishing for shrimp in this area. A “project team” will be assembled for this purpose, which more generally will also ensure implementation of DFO’s Sustainable Fisheries Framework Policies as they applies to the conduct of shrimp fishing in this area.</li> <li>• By the first annual audit there will documented evidence that a plan for the assembly of available information and a program for evaluation has been developed by the “project team”, and data collection and assembly for this purpose has commenced.</li> <li>• By the second annual audit there will documented evidence showing the information that has been assembled and the results of analysis to date.</li> <li>• By the third annual audit there will documented evidence showing that at least a provisional evaluation has been completed.</li> </ul> <p>By the fourth annual audit there will be documented evidence that at least a partial strategy is in place, and incremental mitigation measures have been identified and are being implemented as appropriate for this fishing activity.</p>
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	The client advised that the Northern Shrimp Advisory Committee (NSAC) has formed an MSC Working Group, which functions as the “project team”. The Project Team reviewed and generally endorsed a draft plan at its meeting held May 15/12 and subsequently reviewed/accepted minor adjustments that are reflected in the plan. Data collection has commenced.
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including the Scale Intensity Consequence Analysis (SICA) approach used by MSC, and as such appears to be appropriate for use in this fishery. The team noted that the Framework applies to “significant benthic areas”, and that limited guidance is provided on identifying these.

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	<p>objectives. Subsequently development of the strategy was expanded to cover all Atlantic and eastern Arctic areas. Once consultations and definition of targets and actions in the remaining areas (Maritimes, Gulf, Québec Regions) have been completed, further consultations on a draft strategy will be undertaken. Consultations on the draft strategy are expected to be complete by March 31, 2013. The strategy will be finalised and implemented following this date.</p> <p>Development of this habitat strategy follows from a series of policy and science initiatives related to impacts of fishing in benthic environments in recent years, including, for example:</p> <ul style="list-style-type: none"> <li>• development of a Policy on Managing the Impacts of Fishing on Sensitive Benthic Areas (DFO 2009)</li> <li>• mapping of coral and sponge areas, based on available information, in all Atlantic Canadian ocean areas, and establishing thresholds for protecting these areas (Kenchington et al 2010; DFO 2010a)</li> <li>• development of science advice on encounter protocols for fishing gear which may impact corals and sponges (DFO 2011b)</li> </ul> <p>References</p> <p>DFO 2009 DFO 2010a DFO 2011b DFO 2012c Kenchington, <i>et al</i> 2010</p>
<b>Conclusion</b>	<p>The Audit Team concludes that progress is on track toward meeting the condition in Year 4 of the certification, and that milestones set for the first annual audit in the Client Action Plan have been met. In particular, a project team has been established to carry through work required, a draft strategy has been prepared to address the conditions, and data assembly has begun.</p> <p>The Team considers that the “Elements of a Strategy” outlined by the project provide an appropriate framework for meeting the Condition by Year 4 of the certification. We note that with respect to the 10% and 30% thresholds for action on sensitive and non-sensitive habitats, it would be important to clarify that these percentages apply to habitats within the general area where the fishery operates (for example within the depth range in which the fishery operates).</p> <p>The Team notes that the strategy will address both sensitive and less sensitive habitats and ecosystems, a broader scope than the recent DFO initiatives, which focus on protecting coral-sponge areas.</p> <p>Progress is considered on target with respect to meeting conditions and milestones. While progress has been made at meeting the 80SG, there was no re-scoring of this PI during the first surveillance audit, therefore the score remains at 70.</p>

<b>Condition</b>	<b>8</b>
<b>PI</b>	<b>3.2.1 Fishery Specific Objectives</b> The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.
<b>SG 60</b>	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system.
<b>SG 80</b>	Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
<b>SG 100</b>	Well-defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
<b>Score</b>	60
<b>Scoring Rationale</b>	Short and long-term objectives in the domestic fishery are well described in the management system. The lack of explicit mention of application of the precautionary approach to Principle 2 related issues and specific measurement indicators makes evaluation of some of the objectives difficult and keeps this indicator from achieving a higher score. The score would have also been higher if maintenance of biodiversity and maintenance of shrimp biomass to support predators had been included in the objectives. Additionally, there is a lack of explicit objectives in the NAFO management scheme for this stock.
<b>Condition</b>	The client is required to present evidence by the first annual audit that short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
<b>Client Action Plan</b>	CAPP and NC will collaborate with other stakeholders and the Department of Fisheries & Oceans Canada (DFO), to amend the IFMP with explicit references to the precautionary approach being applicable to managing the impact of fishing on sensitive habitat, species and the ecosystem.
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	"Fishery Objectives" are contained in section 1.1 of the Integrated Fishery Management Plan (IFMP) for shrimp fishing areas (SFAs) 0-7 and the Flemish Cap. This section of the IFMP has been amended to include umbrella references to the Precautionary Approach for the Strategies and Management Measures, and special reference to the precautionary approach when setting exploitation rates for the directed fishery. The revised "Fishery Objectives" may be viewed at the following link: <a href="http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/shrimp-crevette/shrimp-crevette-2007-eng.htm#n1.1">http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/shrimp-crevette/shrimp-crevette-2007-eng.htm#n1.1</a> . Any proposal for the adoption of specific stock management objectives by NAFO's Fisheries Commission has been deferred pending the determination of whether a stock assessment model is likely to be utilized for this stock, and the completion of NSAC's review of Annex I of the IFMP. Proposed objectives with respect to the target stock will likely be submitted for potential adoption by NAFO in 2014. P2 issues are not relevant in a NAFO context, as the certified Canadian fishery occurs within the Canadian zone and is managed by DFO.

<p><b>Observations</b></p>	<p>The Audit Team confirmed that an expanded set of objectives, strategies and management measures has been added to section 1.1 of the IFMP at the request of the MSC Working Group of the Northern Shrimp Advisory Committee. Long-term objectives related to mitigating impacts on habitats, protecting biodiversity and ecosystem structure and function, and explicitly recognizing the role of shrimp as a forage species in setting TACs have been added, along with strategies and management measures related to these.</p> <p>As such, the suite of long-range objectives outlined in the IFMP now covers the range of P1 and P2 issues as required in the MSC assessment tree, within the context of Canadian Management.</p> <p>Although the IFMP does not include a section entitled “short-term objectives”, the Team considers that the strategies and management measures outlined in section 1.1 of the IFMP (along with the long-term objectives) constitute medium- and short-term objectives for management of the fishery consistent with the MSC requirements. The Team also noted that “Fisheries Management Decisions” are published annually at the start of the fishing year, outlining TACs for the year and any other management changes (DFO 2012d, DFO 2012e); these are considered to represent publication of short-term (annual) objectives for the fishery.</p> <p>The Team notes that although these new objectives were added to the IFMP during 2012, the date of the IFMP on the DFO internet site remains May 19, 2010. As such, the recommendation from the certification report that a version tracking system be added to the IFMP has not yet been addressed.</p> <p>With respect to the final paragraph of the Client Progress report, the Team understands that adoption of formal long and short term management objectives by NAFO presents particular challenges; however given that such objectives have been adopted by Canada for management, the Canadian portion of the NAFO TACs is considered by the Audit team to meet the condition. Our understanding is that present catches entering the MSC Chain of Custody are from the Canadian portion of the NAFO stock area (Canadian SFA 7), subject to DFO management of impacts on habitats and ecosystems, which is the basis for the statement in the client progress report that “P2 issues are not relevant in a NAFO context”; our understanding is that any present Canadian catches from outside the Canadian EEZ (in the NAFO Regulatory Area) would not enter the MSC Chain of Custody.</p> <p>References DFO 2012d</p>
<p><b>Conclusion</b></p>	<p>The Team concludes that this condition has been met. This PI has been re-scored to 80 and the condition has been closed out.</p>

<b>Condition</b>	<b>9</b>
<b>PI</b>	<p><b>3.2.4 Research Plan</b></p> <p>The fishery has a research plan that addresses the information needs of management.</p>
<b>SG 60</b>	<p>Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2</p> <p>Research results are available to interested parties.</p>
<b>SG 80</b>	<p>A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.</p> <p>Research results are disseminated to all interested parties in a timely fashion.</p>
<b>SG 100</b>	<p>A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2</p> <p>Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available</p>
<b>Score</b>	75
<b>Scoring Rationale</b>	<p>While there is significant ongoing research activity to support the fishery, there is no actual research plan that provides the management system with a strategic approach to research as is required by the 80 scoring guidepost.</p> <p>The research survey and assessment program is described and published as part of the IFMP (Annex D) and provides management with important information. However it is not comprehensive in that it does not address all issues identified in the stock assessments as requiring resolution through research. In addition, although some ecosystem issues are addressed in ongoing research, there is not a comprehensive range of research topics identified to resolve issues related to ecosystem impacts of fishing".</p> <p>The research being conducted is circulated to all interested parties in a timely fashion, either directly to stakeholders, at advisory committee meetings or via the Canadian Science Advisory Secretariat (CSAS) system on the DFO website.</p> <p>The score would have been higher if there was a research plan that provided the management system with a strategic approach to research as is required by the 80 scoring guidepost.</p>
<b>Condition</b>	The client is required to present a research plan by the fourth annual audit that assembles current activity, identifies gaps, and provides the management system with a strategic approach to research including reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.
<b>Client Action Plan</b>	<p>CAPP and NC will collaborate with other stakeholders and the Department of Fisheries &amp; Oceans Canada (DFO), in assembling a working group to codify existing activity and develop a Research Plan for the short-to-mid term, that are linked to the objectives established for the fishery and for MSC Principles 1 and 2.</p> <p>By the first annual audit there will be documented evidence that a plan to conduct</p>

	<p>gap analysis has been developed by the working group.</p> <p>By the second annual audit there will be documented evidence that a gap analysis has been completed.</p> <p>By the fourth annual audit there will be documented evidence that a research plan is in place.</p>
<b>Conclusions of previous audit</b>	This is the first audit.
<b>Client Progress</b>	<p>The client provided information that the “plan to conduct a gap analysis” has been developed for the working group. "DFO conducts an annual internal audit ("The Fishery Checklist") of various functions/activities within the Department, that also identifies gaps in research and stock assessment activities. The assembly of this checklist occurs annually during the October through March period, with a consolidated "checklist" being completed soon thereafter. In the late Spring of 2013, NSAC's MSC Working Group will review information from the updated checklist as it pertains to shrimp in SFAs 1-7, categorize research issues/activities into what may be “needed vs. simply desirable”, what may be cost-effective to achieve in the short-to-medium-to-long term, and prioritize these where possible. The result of this analysis will be vetted through the next Regional Assessment Process (RAP), likely to occur in 2015. The final result of this process, i.e. the Research Plan, will be forwarded to NSAC and the Regional Director of Science."</p>
<b>Observations</b>	<p>The Audit Team noted the Client Progress report and considers that the milestone outlined in the Action Plan has been met. The milestones in the Client Action Plan represent a rigorous approach to defining research priorities and should result in a sound research plan by Year 4 of the certification.</p>
<b>Conclusion</b>	<p>The Audit team concludes that progress on the action plan is on track to meet the Condition by Year 4 of the certification period. The PI was not re-scored at this time, and the score remains at 70.</p>

**Any complaints against the certified operation; recorded, reviewed and actioned.**

No written submissions of significant complaint have been recorded over the past 12 months.

**Any relevant changes to legislation or regulation.**

DFO confirms there have been no relevant changes to legislation or regulation that would materially affect the assessment or MSC certification of this fishery, since the fishery was first certified in 2011.

**Overall Conclusions.**

No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard.

During this first annual audit, the audit team closed one condition and re-scored the PI to 80 (Condition 8 PI: 3.2.1) and concluded that progress on the action plan is on track to meet the other eight conditions. MSC Certification should therefore continue with annual audits.

**Annex 1**

**Written stakeholder submissions to the surveillance audit and IMM responses to points raised.**

There were no written submissions except the progress report of the client with respect to this audit.

**Annex 2****Notification of surveillance audit**

## CANADA NORTHERN AND STRIPED SHRIMP TRAWL FISHERIES: SHRIMP FISHING AREAS (SFA) 1-7

### MSC Certification

Certification Body: Intertek Moody Marine

### Surveillance Audit

Following certification of this fishery, we are now continuing the process of annual surveillance audit of the fishery. These audits have two principal functions:

1. To review any changes in the management of the fishery, including regulations, key management or scientific staff, or stock evaluation
2. To evaluate the progress of the fishery against any Conditions of Certification raised during the Main Assessment

During the audit, or at separate meetings, we shall be speaking with representatives of the fishery and fishery management organisations. We expect to carry out meetings on **November 22, 2012**.

Meetings will be held at **Courtyard Marriott Hotel in St. John's Newfoundland, Canada** and will be attended by Audit Team members:

<b>Don Aldous</b>	<b>Coordinator</b>	<b>On site</b>
<b>Colin Bannister</b>	<b>P1</b>	<b>Conducting work remotely</b>
<b>Howard Powles</b>	<b>P2</b>	<b>On site</b>
<b>Don Aldous</b>	<b>P3</b>	<b>On site</b>

Full CVs of the team members are available on request from IMM

Should you have any information on this fishery that you feel should be considered in the assessment, please advise us. We may be available to meet with stakeholders as appropriate. If you would like to arrange a meeting, please advise us of:

- a) your name and contact details
- b) your association with the fishery
- c) the issues you would like to discuss (in order for us to arrange appropriate representation)
- d) where and when you would like to meet

Yours

Don Aldous

Lead Assessor

October 15, 2012

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Fax: +44 1332 675020

Address: below

**Annex 3****Determination of surveillance level**

A surveillance audit may be conducted as either an “on-site” or “offsite audit”. This is determined by using criteria set out by the MSC:

Criteria	Surveillance Score	Insert name of fishery and complete scores
<b>1. Default Assessment Tree</b>		
Yes	0	0
No	2	
<b>2. Number of Conditions</b>		
Zero Conditions	0	
1-5 Conditions	1	
>5 Conditions	2	2
<b>3. Principle Level Scores</b>		
≥ 85	0	
<85	2	2
<b>4. Conditions on outcome PIs?</b>		
Yes	2	2
No	0	
<b>Total</b>		<b>6</b>

The score for the fishery is used to determine the surveillance level appropriate to the fishery using the table below:

Surveillance score	Surveillance level	Years after certification or re-certification				
		Year 1	Year 2	Year 3	Year 4	
2 or more	Normal surveillance	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit & recertification visit	
1	Remote surveillance	Option 1	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & recertification visit
		Option 2	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit	
0	Reduced surveillance	Review new information	On-site surveillance audit	Review new information	On-site surveillance audit & recertification visit	

The *Pandalus borealis* SFA 7 Fishery scores 6 because 9 Conditions remain open and Principles 1, 2 and 3 scored <85 (84.4, 84.0 and 81.6 respectively) in the assessment, and so will require an on-site audit.