



**First Annual Surveillance Report
North West Atlantic Canadian Swordfish Longline Fishery**

Certificate No.: MML-F-120

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 North West Atlantic Canadian swordfish longline fishery.

Species: Swordfish (*Xiphias gladius*)

Area: Atlantic Canadian EEZ and international waters within the ICCAT Northern Swordfish Boundary Area (North of 5°N and west of 30°W)

Method of capture: Longline

Date of Surveillance Visit:	29 th April – 3 rd May, 2013			
Initial Certification	Date: April 19, 2012		Certificate Ref: MML-F-120	
Surveillance stage	1 st	2 nd	3 rd	4 th
Surveillance team:	Lead Assessor: Paul Knapman Assessor(s): Robert O'Boyle, Jean-Jacques Maguire, Michael Sissenwine			
Company Name: Address:	Nova Scotia Swordfishermen's Association (NSSA) RR#3 Shelburne, NS B0T 1W0			
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2. SUMMARY

This report contains the findings of the first annual surveillance audit of this fishery. Progress against the commitments made in the Client Action Plan have been evaluated by the audit team and reported as being, “on target”, “ahead of target” or “behind target” with rationales set out in the “Observations” and “Conclusions” sections below. Where the requirements of a condition are met, the Performance Indicator (PI) is re-scored and the condition is closed.

The conditions, their related performance indicators and scoring indicators are provided in this report along with the scoring rationale taken from the original assessment report, which can found at:

http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/north-west-atlantic/north_west_atlantic_canada_longline_swordfish/assessment-downloads

It should be noted that the assessment of the North Atlantic Swordfish Canadian Longline Fishery was based on the MSCs Fisheries Assessment Methodology (FAM) (v1), and relevant TAB Directives and Policy Advisories. These will continued to be used as the basis of rescoring of PIs throughout the existing certification period, i.e. until April 18th 2017. However, the surveillance audit methodology as defined in the MSC Certification Requirements v1.3 is followed in this audit.

Stakeholder notification advising of the first surveillance audit site visit was posted on the MSC website on 19th March 2013 (See Annex 1) and sent directly to known stakeholders. A second notification was sent directly to stakeholders and the MSC confirming a change in the Lead Auditor - owing to internal re-organisation within Intertek Moody Marine (IMM), Paul Knapman replaced Amanda Park.

The World Wildlife Fund (WWF) requested to observe meetings between the audit team and the client groups. While this is not common practice, it is the decision of the client to allow observers. In this instance, the clients declined the request.

The surveillance audit team consisted of Robert O’Boyle, (Principle 1), Jean-Jacques Maguire (Principle 2), Michael Sissenwine (Principle 3) and Paul Knapman (Lead Auditor). The site visit meetings were conducted by Paul Knapman and Robert O’Boyle, while the remaining team members reviewed the information that was gathered during the site visit and contributed remotely to the report.

Table 1: Summary of progress against Conditions.

Condition No.	Progress Evaluation	Status
1	On Target	Open
2	On Target	Open
3	On Target	Open
4	On Target	Open
5	On Target	Open
6	On Target	Open
7	On Target	Open
8	On Target	Open
9	On Target	Open
10	On Target	Open
11	Behind Target	Open

The overall conclusion is that the client and/or DFO have taken action toward addressing the requirements of this first annual surveillance audit. Condition 11 is behind target and prescribed remedial action will need to be take place within the next annual reporting period. All the conditions remain open.

No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard and the fishery continues to meet the requirements of the MSC Standard.

In future audits, it will be important for the client to comprehensively and clearly summarize the evidence on progress on the deliverables.

MSC Certification should continue.

Based on the results of the risk analysis conducted, in compliance with Section 27.22 of the MSC CR v1.3, the fishery will continue to be subject to normative annual on-site surveillance audits.

Information Sources

Meetings

(NB all stakeholder from the full assessment were contacted prior to the surveillance audit taking place)

Table 2: Meetings conducted as part of the first surveillance audit for the North West Atlantic Canada swordfish longline fishery.

Name	Position/Title	Date
Paul Knapman	Lead Auditor	29 th April 2013
Bob O'Boyle	Team Member	
Wes Toller	ASI Lead Assessor	
Dale Richardson	Swordfish Harpoon Quota Society	
Troy Atkinson	Nova Scotia Swordfishermen's Association	
Paul Knapman	Lead Auditor	1 st May 2013
Bob O'Boyle	Team Member	
Wes Toller	ASI Lead Assessor	
Mike Eagles	DFO Resource	
Scott Coffen-Smout	DFO / OCMD	
Mike James	DFO Science	
Steve Campana	DFO Science	
Jennifer Ford	DFO Policy and Economics	
Bryon Wood	DFO C&P	
Margaret Lever	DFO C&P	
John Neilson	DFO Science	
Alex Hanks	DFO Science	
Gary Melvin	DFO Science	
Paul Knapman	Lead Auditor	2 nd May 2013
Bob O'Boyle	Team Member	
Wes Toller	ASI Lead Assessor	
Jordon Nikoloyuk	Fisheries Coordinator, Ecology Action Centre	

References

- Campana, S.E., W. Joyce and M.J. Manning. 2009. Bycatch and discard mortality in commercially caught blue sharks *Prionace glauca* assessed using archival satellite pop-up tags. *Mar. Ecol. Prog. Ser.* 387: 241 – 253.
- Campana, S.E., J. Brading and W. Joyce. 2011. Estimation of pelagic shark bycatch and associated mortality in Canadian Atlantic fisheries. DFO. Ca. Sci. Advis. Sec. Res. Doc. 2011/067: vi+19p.
- Campana, S.E. 2011b. Project proposal: migratory pathways, mating grounds and stock mixing of shortfin mako sharks

- Campana, S.E. 2011c. Project proposal: post-release survival of porbeagle sharks.
- Campana, S.E., Gibson, A.J.F., Fowler, M., Dorey, A. and Joyce, W. 2012. Population dynamics of Northwest Atlantic porbeagle (*Lamna nasus*), with an assessment of status and projections for recovery. DFO Can. Sci. Advis. Sec. Res. Doc. 2012/096. iv + 84 p.
- DFO. 2009a. Sustainable Fisheries Framework. <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm>)
- DFO. 2009b. Bycatch Workplan. Internal report
- DFO. 2010. Recovery potential assessment for loggerhead sea turtles (*Caretta caretta*) in Atlantic Canada. DFO. Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/042.
- DFO. 2011a. Canadian Atlantic Swordfish and other Tunas – 2011. Integrated Fisheries Management Plan. 113 pp.
- DFO. 2011b. Considerations for the Estimation of Incidental Catch in the Eastern Canadian Swordfish/Other Tunas Longline Fishery. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2011/057.
- DFO. 2011c. Considerations for the Estimation of Incidental Catch in the Eastern Canadian Swordfish/Other Tunas Longline Fishery. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2011/045.
- DFO. 2012. Guidance related to bycatch and discards in Canadian commercial fisheries. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/022.
- DFO. 2013. Progress against actions in the Loggerhead Conservation Action Plan.
- ICCAT. 1999. Recommendation by ICCAT to establish a rebuilding program for North Atlantic Swordfish. ICCAT rec. 99-02.
- ICCAT. 2006. Supplemental recommendation by ICCAT to amend the rebuilding program for North Atlantic Swordfish. ICCAT Rec. 06-02.
- ICCAT. 2009a. Report of the 2009 Atlantic Swordfish Stock Assessment Session, Madrid, September 7 to 11, 2009. SCRS/2009/016 – SWO ATL Stock Assessment. 78pps.
- ICCAT. 2009b. Supplemental Recommendation by ICCAT to amend the rebuilding program for North Atlantic Swordfish. Rec 09-02.
- ICCAT. 2010a. Recommendation by ICCAT for the conservation of North Atlantic Swordfish. Rec 10-02.
- ICCAT. 2011a. Recommendation by ICCAT for the conservation of North Atlantic Swordfish. Rec 11-02.
- ICCAT. 2011b. Report of the 2011 joint meeting of the ICCAT working group on stock assessment methods and Bluefin tuna species group to analyse assessment methods developed under the GBYP and electronic tagging. SCRS 2011/018.
- ICCAT. 2011c. Recommendation by ICCAT on the principles of decision making for ICCAT conservation and management measures. Rec 11-13.

- ICCAT. 2011d. Resolution by ICCAT to standardize the presentation of scientific information in the SCRS annual report and in working group detail reports. Rec 11-14.
- ICCAT. 2011e. Report of the standing committee on research and statistics (Madrid, Spain, 3-7 October 2011). 140 pp.
- ICCAT. 2012a. Report of the Standing Committee on Research and Statistics (SCRS), Madrid, Spain, 1 – 5 October 2012. 303 pp.
- ICCAT. 2012b. 2012 Shortfin Mako stock assessment and ecological risk assessment meeting. Olhao, Portugal, 11 – 18 June 2012.
- ICCAT. 2012c. 2012 inter-sessional meeting of the sub-committee on ecosystems. Sete, France, 2 – 6 July 2012.
- ICCAT. 2013a. Report of the 2013 meeting of the ICCAT working group on stock assessment methods (WGSAM) in Madrid, Spain – March 11 to 15, 2013.
- ICCAT. 2013b. 2013 Atlantic Swordfish data preparatory meeting in Madrid, Spain – June 3 to 10, 2013.
- IMM. 2012. Report of the second surveillance audit of the North West Atlantic Canadian Swordfish Harpoon Fishery.
- Kell, L.T., P. De Bruyn, I. Mosqueira and A. Magnusson. 2011. An evaluation of limit and target reference points as part of a harvest control rule: an Atlantic Swordfish example. SCRS 2011/195.
- Neilson, J.D., S.D. Busawon, I.V. Andrushchenko, S.E. Campana, E.H. Carruthers, L.E. Harris, and M. Stokesbury. 2011. A Review of Approaches to Assess Survival of Released Catch from Canadian Large Pelagic Longline Fisheries. DFO. Can. Sci. Advis. Sec. Res. Doc. 2011/091: iv + 33 p.
- Nielson, J., F. Arocha, S. Cass-Calay, J. Mejuto, M. Ortiz, G. Scott, C. Smith, P. Travassos, G. Tserpes and I. Andrushchenko. 2013. The recovery of Atlantic Swordfish: the comparative roles of the regional fisheries management organization and species biology. Reviews in Fisheries Science. 21: 59-97.
- NSSA. 2011. Letter of 11th February 2011 from T. Atkinson (President NSSA) to Barry Rashotte (Chairman of ALPAC) and Mike Eagles (Chair of SFLPAC) requesting consideration by the department to adopt an explicit policy within the swordfish IFMP consistent with MSC Principles 1 and 2.
- NSSA. 2012. Letter of 5th November 2012 from Troy Atkinson (President NSSA) to Faith Scattolon (Head of Canadian Delegation to ICCAT) requesting SCRS develop a limit reference point and harvest control rules for NW Atlantic swordfish and advancement of the application of the precautionary approach within ICCAT and for ICCAT managed species.
- NSSA. 2013b. Swordfish/other tuna fisheries: work plan to address by-catch / discard issues.
- NSSA. 2013b. Example of Loggerhead safe handling and release training certificate.
- SFLPAC. 2013. Minutes of 13 February 2013 meeting
- NB** References in the rationale and client action plan sections below may not appear in the list above. These can be found in the Public Certification Report.

Standards and Guidelines Used

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Certification Requirements v1.3
3. MSC Guidance to Certification Requirements, v. 1.3
4. TAB Directives – All
5. MSC Fisheries Certification Methodology (FCM), v.6.1

3. RESULTS, CONCLUSIONS AND RECOMMENDATIONS

Stock status and Catch Data	
Update on Stock Status	<p><u>Biology</u></p> <p>IMM (2012) noted that the final year (2010) of a Canadian swordfish tagging program had been undertaken. These data, along with those collected in US waters, are being analysed in a collaboration of DFO Science (St. Andrew's), NMFS (Miami) and South Carolina Department of Natural Resources scientists and will provide new insights on Swordfish movements in the North Atlantic. A report was planned for summer 2012 but is still outstanding.</p> <p>A review paper is being drafted by DFO Science (St. Andrew's) on the development, implementation and success of the ICCAT Swordfish rebuilding plan, along with observations on RFMO contributions. Also, the relative role of the productivity of the North Atlantic Swordfish population in its rebuilding was explored (Neilson et al., 2013).</p> <p><u>Stock Status</u></p> <p>The last full assessment of the North Atlantic swordfish stock was undertaken by ICCAT (2009a). The SCRS report of the next full assessment of stock status and reference points will be available in October 2013, which the Commission will use in November 2013 to consider management actions for the next three – four years. The assessment had initially been planned for fall 2012 but had to be postponed until fall 2013 due to a conflict with the assessment of the Bluefin Tuna populations. It is important to note that the full assessment being conducted by the SCRS in the fall of 2013 will consider a wide range of assessment methodologies, including those used in the last assessment (ICCAT, 2013a). During the audit, it was indicated that if a new assessment method is judged to be superior to those used in 2009, they will be used as the basis of stock status determination and harvest advice for the next 3 – 4 years. Results based on the 2009 methods will be provided for comparison. Some of the new methods (i.e. SS3) are dramatically different from current approaches and may result in a change in stock status. It will be important for future audit teams to assess the consequences of the new assessment methods on all PIs of principle 1.</p> <p>Between full assessments, the SCRS evaluates stock status and the applicability of the projections, considering new catch and catch rate information. It does not update the assessment model or projections and thus does not provide new estimates of current biomass and fishing mortality. The most recent update is provided in ICCAT (2012a) which concluded that 2012 stock status was consistent with that provided in ICCAT (2009a), with no major concerns raised. For information, stock status as outlined in ICCAT (2009a) is provided below.</p> <p>Based on a Surplus Production Model analysis, MSY is estimated at 13,730t, with a corresponding B_{MSY} of 61,860 t. Stock biomass has steadily increased since 2000 and was at or above B_{MSY} ($B_{2009}/B_{MSY} = 1.05$) in 2009. Fishing mortality peaked in 1995, decreased until 2002, slightly increased during 2003-2005 and trended downward thereafter. Fishing mortality has been below F_{MSY} (0.22) since 2005 ($F_{2009}/F_{MSY} = 0.76$). There is greater than 50% probability that the stock is at or</p>

above B_{MSY} , and thus the Commission's rebuilding objective (ICCAT, 1999) is considered to have been achieved (Fig. 1). Since 2003, the catches have been below the TACs, greatly increasing the chances for a fast recovery. Overall, the stock was estimated to be somewhat less productive than the 2006 assessment, with the intrinsic rate of increase, r , estimated at 0.44 compared to 0.49 in 2006. Other analyses conducted by the SCRS (Bayesian surplus production modeling, and Virtual Population Analyses) generally supported the results described for the Surplus Production model above.

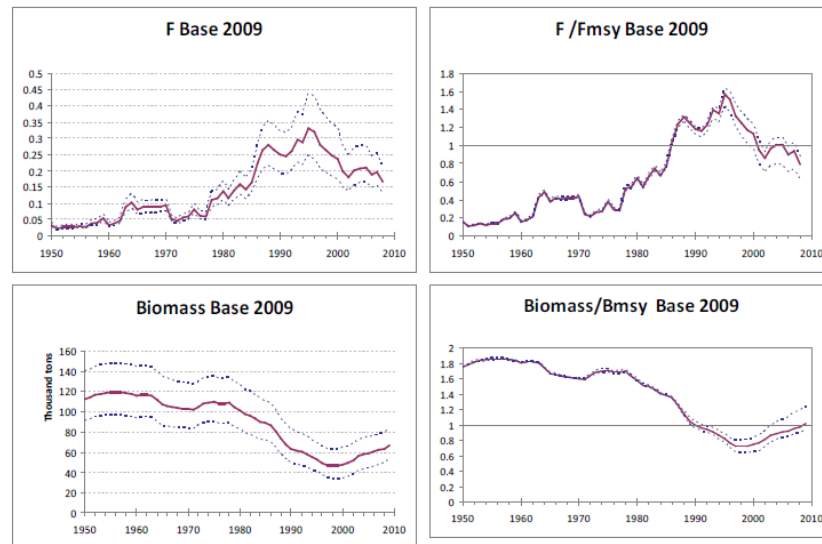


Figure 1. North Atlantic swordfish, biomass, fishing mortality and relative ratio trends for the base production model; solid lines represent point estimates and broken lines represent estimated 80% bias corrected confidence intervals (from ICCAT, 2012a).

Advice

The 2009 stock conditions determined by the assessment were projected to 2018 under constant TAC scenarios of 10, 11, 12, 13, 14 and 15 thousand tonnes (ICCAT, 2012a). Catch in 2009 was assumed to be the average of 2006 – 2008 (11,515 t). Reported catch in 2009 was 12,655 t. Future TACs above B_{MSY} were projected to result in 50% or lower probabilities of the stock biomass remaining above B_{MSY} over the next decade as the probability of fishing mortality (F) exceeding F_{MSY} for these scenarios trends above 50% over time (Fig. 2). A TAC of 13,000 t was judged to provide approximately a 75% probability of maintaining the stock at a level consistent with the Convention objective over the next decade.

Consistent with the goal of the Commission's swordfish rebuilding plan (ICCAT, 1999), in order to maintain the North Atlantic swordfish stock at a level that could produce MSY , with greater than 50% probability, the SCRS recommended reducing catch limits allowed by Rec. 06-02 (15,345 t) to no more than 13,700 t, which reflected the current best estimate of maximum yield that could be harvested from the population under existing environmental and fishery conditions. The SCRS stated that if the Commission wished to have greater assurance that future biomass would be at or above B_{MSY} while maintaining F at or below F_{MSY} , it should select a lower annual TAC, depending on the degree of precaution the Commission chooses to apply in management. The TAC during 2007 - 2009 was 14,000 t while annual reported catch during that period averaged 11,969 t and did not exceed the TAC in any year.

In 2010, in response to the SCRS recommendation, the TAC was reduced to

13,700 t, where it has remained since. Landings in 2011 were 12,522 t. The SCRS again noted (ICCAT, 2012a) that the sum of the country-specific annual catch limits continued to exceed the TAC adopted by the Commission and the scientific recommendations. It reiterated that such potential catches could compromise the rebuilt state of this stock.

It will continue to be important for future audits to monitor stock status in relation to the target B_{MSY} in order to ensure that a condition on PI 1.1.1 is not triggered.

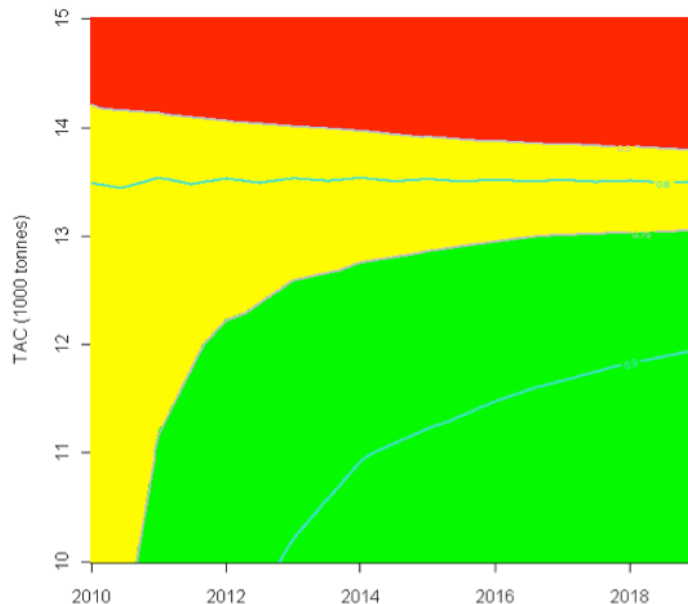


Figure 2. North Atlantic swordfish, probability contours of $B > B_{MSY}$ for the constant catch scenarios indicated over time; red areas represent probabilities less than 50%, yellow from 50-75%, and green above 75%; the 90th, 75th, 60th, and 50th probability contours are also depicted (from ICCAT, 2012a)

The SCRS again noted (ICCAT, 2012a) a concern that, in some cases, national regulations have resulted in the unreported discarding of swordfish caught in the North Atlantic stock and, to a certain extent, could have influenced similar behavior of the fleet that fishes the South Atlantic swordfish stock. The SCRS considers that these regulations may have had a detrimental effect on the availability and consistency of scientific data on catches, sizes and catch rate indices of the Atlantic fleet. It expressed its serious concern over this limitation on data for future assessments.

Total TAC in most recent fishing year (2012)	13,700 mt
UoC share of TAC	1,323.15 mt
Client share of TAC	1,323.15 mt
Green Weight¹ of catch taken by client group	1,323.15 mt

¹ The weight of a catch prior to processing

Condition 1	<p>By the 4th surveillance audit, evidence must be provided to show that the Limit Reference Point (LRP) is set above the level at which there is an appreciable risk of impairing reproductive capacity for the North Atlantic Swordfish stock.</p> <p>Recognizing that ICCAT is the body responsible for the development and implementation of reference points, to address the condition the assessment team requires that the client is to work with DFO to strongly encourage ICCAT to develop an explicit Limit Reference Point for North Atlantic Swordfish stock. This LRP must be set above a stock biomass (t) at which there is an appreciable risk of recruitment being impaired. The client and DFO must submit a formal request to ICCAT to develop an explicit LRP for the stock within four years of certification. A copy of this letter must be provided at the first annual surveillance audit.</p> <p>Milestones:</p> <p>Year 1*</p> <p>By the first surveillance audit the client is required to provide evidence that shows the necessary steps have been taken to ensure that the Department of Fisheries and Oceans (DFO) submits a request to ICCAT for them to develop a limit reference point (LRP) for North Atlantic swordfish. The client shall also provide copies of any ICCAT documentation to confirm that appropriate groups within ICCAT have been tasked with developing an appropriate LRP for North Atlantic swordfish before the next stock assessment for this species.</p> <p>[* In the course of the assessment this milestone was completed but remained due to MSC requirements to harmonise with the North West Atlantic Canada Harpoon Fishery certification.]</p> <p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress, meeting the milestones would likely not result in a change in score at this surveillance audit.</p> <p>Year 2</p> <p>During the second surveillance audit the client will be required to provide evidence that initial discussions commenced within ICCAT groups (i.e. SCRS) to develop an appropriate LRP for North Atlantic swordfish.</p> <p>Milestones associated with the second surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3</p> <p>By the third surveillance audit the client must provide an update on work undertaken by the SCRS to develop an appropriate LRP for North Atlantic swordfish. This would include evidence that work is on-going.</p> <p>Milestones associated with the third surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 4</p> <p>By the fourth surveillance audit the client must provide evidence to indicate that that the SCRS has developed an appropriate LRP for North Atlantic swordfish, as requested by ICCAT and that the LRP has been implemented and is set above the level at which there</p>
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	<p>is an appreciable risk of impairing reproductive capacity for the North Atlantic Swordfish stock.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would likely be re-scored at 80 or higher.</p>
PI 1.1.2	Limit and target reference points are appropriate for the stock
SG 60	<ul style="list-style-type: none"> • Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category
SG 80	<ul style="list-style-type: none"> • Reference points are appropriate for the stock and can be estimated • The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity • The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome • For low trophic level species, the target reference point takes into account the ecological role of the stock
SG 100	<ul style="list-style-type: none"> • Reference points are appropriate for the stock and can be estimated • The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of relevant precautionary issues • The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.
Score	75
Rationale	<p>On 6 September 2010, in Section 4 of Policy Advisory 18 the MSC clarified that: “ <i>In the PISG tables, where identical scoring issues are repeated at different SG levels (in PIs 1.1.2, 1.2.2, 3.1.1, 3.2.2, 3.2.3), the text at the higher SG level/s is hereby deleted, leaving the text to appear only once at the lowest current SG level.</i> ” This new guidance removes the first scoring issue at the 100SG of this PI, thus removing the impact of this issue on the final score.</p> <p>In relation to generic target and limit reference points (RP) under SG60, stock rebuilding was initiated in 1999 when the biomass was 65 % of B_{MSY} or about 33 % of virgin biomass. This is taken as evidence of an implied generic limit RP. Target RPs developed for the stock are based upon a Schaefer Production Model (ICCAT, 2009a), are generally considered appropriate for the stock and can be estimated. B_{MSY} (61.9 kt) and F_{MSY} (0.22), the target RPs, are provided in ICCAT (2009a). A variety of age-based RPs are also available, although these are not used in management. Thus, this PI is scored at least 60.</p> <p>In relation to the first scoring issue, (appropriateness of RPs), under SG80, the assessment team was concerned with the low (13%) Spawner Per Recruit (SPR) associated with target fishing mortality, F_{MSY}. Commonly used F_{MSY} proxies are associated with SPR in the order of 40%. The low SPR is likely a consequence of the domed stock / recruitment relationship. Such relationships are due to cannibalism, crowding in preferred habitat or some other density-dependent process. It is not apparent what process would cause domed stock / recruitment relationships in swordfish. Although the team had concern about the low SPR, the team concluded the first scoring issue was met.</p>

	<p>In relation to the (the second scoring issue, limit RP), under SG80, MSC Fishery Assessment Methodology (FAM) scoring guidance Section 6.2.19 states that when there is no explicitly defined LRP, a default can be used in the scoring of PI 1.1.1, this dependent on whether or not B_{MSY} is smaller or larger than 40% of virgin biomass ($B_{40\%}$ or 49.5 kt). Since B_{MSY} is greater than $B_{40\%}$, the default LRP is $B_{25\%}$ or 31.0 kt which is lower than the biomass when the stock rebuilding action was taken in 1999. The default LRP is likely above the level at which there is an appreciable risk of impairing reproductive capacity although this is uncertain. The team considered that this scoring issue was not met, therefore a condition was imposed.</p> <p>As noted above, a target RP is defined which is consistent with B_{MSY}. Thus, the third scoring element of SG80 is met.</p> <p>As swordfish occupies a higher trophic level, the fourth scoring element is not applicable to the scoring of this PI.</p> <p>The first and third scoring issues were met, the second was not and the fourth was not applicable. A score of 75 was awarded.</p>
Client Action Plan	<p>The Canadian swordfish industry, working through DFO, at the 2009 ICCAT meeting, proposed that the SCRS develop an explicit LRP for the North Atlantic Swordfish stock, before the next North Atlantic Swordfish assessment. This proposal was adopted as part of ICCAT Recommendation # 2009-02 Supplemental Recommendation by ICCAT to Amend the Rebuilding Program for North Atlantic Swordfish, and can be found in paragraph 5 of this document. The next North Atlantic Swordfish stock assessment is scheduled for 2013.</p> <p>The same wording appears in paragraph 6. of ICCAT Recommendation 10-2, entitled “Recommendation by ICCAT for the Conservation of North Atlantic Swordfish”, adopted at the 2010 ICCAT meeting and is scheduled for completion in 2013.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the Nova Scotia Swordfishermen’s Association (NSSA) will provide a copy of the letter to the Department of Fisheries and Oceans (DFO), requesting the Department to request that ICCAT develop a limit reference point (LRP) for North Atlantic swordfish. The NSSA will also provide copies of ICCAT Recommendation # 2009-02 Supplemental Recommendation by ICCAT to Amend the Rebuilding Program for North Atlantic Swordfish and ICCAT Recommendation 10-2, Recommendation by ICCAT for the Conservation of North Atlantic Swordfish to confirm that ICCAT has tasked the SCRS to develop an appropriate LRP for North Atlantic swordfish before the next stock assessment for this species (currently scheduled for 2013).</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit the NSSA will provide a copy of the agenda for and the report of The 2011 Joint Meeting of the ICCAT Working Group on Stock Assessment Methods and Bluefin Tuna Species Group to Analyse Assessment Methods Developed Under the GBYP and Electronic Tagging (Madrid, Spain – June 27-July 1, 2011), where initial discussions by the SCRS were commenced to develop an appropriate LRP for North Atlantic Swordfish.</p>

	<p>3rd Surveillance Audit:</p> <p>At the third Surveillance audit the NSSA will provide an update on work undertaken by the SCRS to develop an appropriate LRP for North Atlantic swordfish.</p> <p>4th Surveillance Audit:</p> <p>At the fourth surveillance audit the NSSA will provide documentation that the SCRS has developed an appropriate LRP for North Atlantic swordfish, as requested by ICCAT.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>The ICATT recommendation that outlines management measures for North Atlantic Swordfish including the requirement for the SCRS to develop an LRP and the Commission to adopt HCR using the LRP. http://www.iccat.int/Documents/Recs/compendiopdf-e/2011-02-e.pdf</p> <p>A letter from the NSSA to the Canadian Head of Delegation to ICCAT requesting the development of an LRP and HCR for North Atlantic swordfish.</p> <p>A report of the 2013 meeting of the ICCAT working group on stock assessment methods (WGSAM) which outlines the conceptual approach that the SCRS intends to take at the June 2013 meeting where the LRP is to be developed.</p>
Observations	<p>The condition requires that by the 4th surveillance audit, evidence must be provided to show that the Limit Reference Point (LRP) is set above the level at which there is an appreciable risk of impairing reproductive capacity for the North Atlantic Swordfish stock. The requirement of the first surveillance audit is for the client to provide evidence that shows the necessary steps have been taken to ensure that the Department of Fisheries and Oceans (DFO) submits a request to ICCAT for them to develop a limit reference point (LRP) for North Atlantic swordfish. The client shall also provide copies of any ICCAT documentation to confirm that appropriate groups within ICCAT have been tasked with developing an appropriate LRP for North Atlantic swordfish before the next stock assessment for this species.</p> <p>The client provided formal letters from the NSSA to the leader of the Canadian delegation to ICCAT (F. Scattolon) in October 2011 (NSSA, 2011) and November 2012 (NSSA, 2012). These reiterated the key points to be addressed in the new Swordfish management plan and included the request that, “the SCRS should develop an appropriate limit reference point for this stock, as outlined in last year’s plan, before the next assessment”.</p> <p>Evidence that ICCAT has committed to the development of an LRP in the 2013 SCRS meeting is provided in ICCAT (2009b; 2010a). Further, at the 2011 annual ICCAT meeting, the following recommendation (ICCAT, 2011a) was made:</p> <p><i>In advance of the next assessment of North Atlantic swordfish, the SCRS shall develop a Limit Reference Point (LRP) for this stock. Future decisions on the management of this stock shall include a measure that would trigger a rebuilding plan, should the biomass decrease to a level approaching the defined LRP as established by the SCRS.</i></p> <p>Related to this recommendation is the work of a joint meeting of the ICCAT Working Group on Stock Assessment Methods and the Bluefin Tuna Species Group (ICCAT, 2011b) which explored generic harvest control rules consisting of limit, threshold and target reference points and which would be used to manage risk. ICCAT (2011c) further</p>

	describes options being explored by the SCRS on how the LRP will be used in the Swordfish Harvest Control Rule (HCR) that is being developed and how the results might be communicated (ICCAT, 2011d). Further consideration has been given (ICCAT, 2013a) to the examination of the performance of limit and target reference points in a Management Strategy Evaluation (MSE). A meeting to prepare the data for the September, 2013 assessment meeting is being held during 3 – 10 June 2013 (ICCAT, 2013b) which indicates further progress towards developing an LRP.
Conclusion	ICCAT is making good progress on the development of biomass limit reference points which will be reviewed in September 2013. The score of PI 1.1.2 is left unchanged and will be revisited in future audits and changed dependent upon the actions of ICCAT. Progress on this condition is on target as the requirements of the 1 st surveillance audit have been met.

Condition 2	<p>By the fourth surveillance audit, evidence must be presented by the fishery client which shows 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.</p> <p>As defined by the first scoring issue of the 80 scoring guidepost, an explicit HCR which stipulates how fishing mortality is reduced as the limit reference point (see PI 1.1.2) is approached needs to be implemented for this stock by ICCAT.</p> <p>Milestones:</p> <p>Year 1 During the first surveillance audit the client is required to provide evidence that industry has asked that the Department of Fisheries and Oceans (DFO) request that ICCAT develop a limit reference point (LRP) as well as harvest control rules (HCRs) for North Atlantic swordfish that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the limit reference point is approached.</p> <p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 2 During the second surveillance audit the client is required to provide evidence that initial discussions by the SCRS were commenced to develop an appropriate LRP and associated HCR, for North Atlantic Swordfish.</p> <p>Milestones associated with the second audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of the score at this surveillance audit.</p> <p>Year 3 At the third surveillance audit the client is required to provide an update on work undertaken by the SCRS to develop an appropriate LRP and associated HCRs for North Atlantic swordfish.</p> <p>Milestones associated with the third audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of the score at this surveillance audit.</p>
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	<p>Year 4</p> <p>By the forth surveillance audit the client must provide evidence that the SCRS has developed an appropriate LRP for North Atlantic swordfish, as requested by ICCAT and that the Commission has adopted HCRs that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>Provided the actions defined in the milestone and the deliverables in the client action plan are met, the PI would be re-scored at 80 or higher at the fourth surveillance audit</p>
PI 1.2.2	There are well defined and effective harvest control rules in place
SG 60	<ul style="list-style-type: none"> 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
SG 80	<ul style="list-style-type: none"> 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
SG 100	<ul style="list-style-type: none"> 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
Score	75
Rationale	<p>Issues on 6 September 2010, in Section 4 of Policy Advisory 18 the MSC clarified that: <i>“In the PISG tables, where identical scoring issues are repeated at different SG levels (in PIs 1.1.2, 1.2.2, 3.1.1, 3.2.2, 3.2.3), the text at the higher SG level/s is hereby deleted, leaving the text to appear only once at the lowest current SG level.”</i> This new guidance removes the first scoring issue at the 100SG of this PI, thus removing the impact of this issue on the final score.</p> <p>The focus of this PI is how fishing mortality and associated management actions (e.g. quotas) are established in order to ensure that limit reference points (e.g. default $B_{25\%}$) are avoided. The harvest control rule (HCR) stated in the rebuilding plan focuses on attainment of the B_{MSY} target rather than avoidance of a biomass limit (ICCAT, 1999). While reference is made in the rebuilding plan to the stock being over-exploited at $F > F_{MSY}$, there is no explicit HCR which reduces fishing mortality as the default limit reference point is approached. ICCAT did reduce fishing mortality when biomass was 65% of B_{MSY} or $B_{33\%}$, which implies that ICCAT has a generally understood HCR which acts to limit exploitation as the limit biomass is approached. However, it is not obvious what ICCAT would do if the resource once again declined towards $B_{33\%}$.</p> <p>The assessment incorporates some of the main observation, process and model uncertainties.</p>

	<p>The main management tool is an annual TAC and there is some evidence (ICCAT, 2009a) this is effective at achieving reduced fishing mortality. However, the TAC has not been caught since 2001. ICCAT (2009a) considers that if the realized catches had reached the catch limits allowed by the recommendations to the ICCAT Commission, the stock biomass would have declined.</p> <p>Thus, all scoring issues of SG 60 are met. The team considered that the second and third scoring issues of the 80 SG were met. The selection of the control rules takes into account the major uncertainties and there is available evidence that the harvest control rules used were appropriate to achieve the rebuilding goal for the stock. The team concluded that there was no clear evidence or definition of how exploitation rate would be reduced as limit reference points are approached. Thus, the first scoring element under the 80SG was not met and this PI is scored at 75.</p>
Client Action Plan	<p>The Canadian swordfish industry, working through DFO, at the 2009 ICCAT meeting, proposed that the SCRS develop an explicit LRP for the North Atlantic Swordfish stock, before the next North Atlantic Swordfish assessment. This proposal was adopted as part of ICCAT Recommendation # 2009-02 Supplemental Recommendation by ICCAT to Amend the Rebuilding Program for North Atlantic Swordfish, and can be found in paragraph 5 of this document. The next North Atlantic Swordfish stock assessment is scheduled for 2013.</p> <p>Following the development of this LRP, by the SCRS, as outlined in ICCAT Resolution # 2009-02, "Future decisions on the management of this stock shall include a measure that would trigger a rebuilding plan, should the biomass decrease to a level approaching the defined LRP as established by the SCRS." (see paragraph 5 of ICCAT Recommendation 2009-02). The Canadian longline swordfish industry, working through DFO, will work to initiate within this rebuilding plan specific rules to establish appropriate harvest levels, should biomass levels begin to approach the LRP developed by the SCRS.</p> <p>The same wording appears in paragraph 6 of ICCAT Recommendation 10-2, entitled "Recommendation by ICCAT for the Conservation of North Atlantic Swordfish", adopted at the 2010 ICCAT meeting.</p> <p>To address concerns about the over exploitation of North Atlantic Swordfish in a given year, ICCAT Recommendation # 2009-02, paragraph 1, bullet 2, states that, "If the total catch in 2010 exceeds 13,700 t, the excess amount shall be deducted from the quota / catch limit for each CPC on a prorata basis in 2011." This was adopted to address concerns that if all countries fished their entire allocation and carry-forward that the total TAC might be exceeded in any given year.</p> <p>The same wording appears in paragraph 4. of ICCAT Recommendation 10-2, entitled "Recommendation by ICCAT for the Conservation of North Atlantic Swordfish", adopted at the 2010 ICCAT meeting.</p> <p>Since the mandate of ICCAT is to maintain or rebuild stock to MSY and since North Atlantic swordfish has just completed a successful rebuilding plan, it would be the position of the Canadian swordfish industry, working through DFO to adopt management measures that would maintain this stock at this level.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p>

	<p>At the first surveillance audit, The Nova Scotia Swordfishermen's Association (NSSA) will provide a copy of the letter to the Department of Fisheries and Oceans (DFO), requesting the Department to request that ICCAT develop a limit reference point (LRP) for North Atlantic swordfish and develop harvest control rules (HCR) that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the limit reference point is approached. The NSSA will also provide copies of ICCAT Recommendation # 2009-02 Supplemental Recommendation by ICCAT to Amend the Rebuilding Program for North Atlantic Swordfish and ICCAT Recommendation 10-2, Recommendation by ICCAT for the Conservation of North Atlantic Swordfish to confirm that ICCAT has tasked the SCRS to develop an appropriate LRP for North Atlantic swordfish before the next stock assessment for this species (currently scheduled for 2013) and propose harvest control rules that are consistent with the harvest strategy and ensure that the exploitation rate is reduced should the limit reference point be approached.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will provide a copy of the agenda for and the report of The 2011 Joint Meeting of the ICCAT Working Group on Stock Assessment Methods and Bluefin Tuna Species Group to Analyze Assessment Methods Developed Under the GBYP and Electronic Tagging (Madrid, Spain – June 27-July 1, 2011), where initial discussions by the SCRS were commenced to develop an appropriate LRP for North Atlantic Swordfish and associated HCRs.</p> <p>3rd Surveillance Audit:</p> <p>At the third Surveillance audit, the NSSA will provide an update on work undertaken by the SCRS to develop an appropriate LRP and associated HCRs for North Atlantic swordfish.</p> <p>4th Surveillance Audit:</p> <p>At the fourth surveillance audit, the NSSA will provide documentation that the SCRS has developed an appropriate LRP for North Atlantic swordfish, as requested by ICCAT and that the Commission has adopted harvest control rules that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>The ICATT recommendation that outlines management measures for North Atlantic Swordfish including the requirement for the SCRS to develop an LRP and the Commission to adopt HCR using the LRP. http://www.iccat.int/Documents/Recs/compendiopdf-e/2011-02-e.pdf</p> <p>A letter from the NSSA to the Canadian Head of Delegation to ICCAT requesting the development of an LRP and HCR for North Atlantic swordfish.</p> <p>A report of the 2013 meeting of the ICCAT working group on stock assessment methods (WGSAM) which outlines the conceptual approach that the SCRS intends to take at the June 2013 meeting where the LRP is to be developed.</p>

Observations	<p>The condition requires that by the fourth surveillance audit, evidence is to be presented by the client which showed that well defined Harvest Control Rules (HCR) are to be in place to ensure that the exploitation rate is reduced as LRPs are approached. The requirement of the first annual audit is for the to provide evidence that industry has asked that DFO request that ICCAT develop a limit reference point (LRP) as well as harvest control rules (HCRs) for North Atlantic swordfish that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the limit reference point is approached.</p> <p>As noted under condition 1, the Canadian swordfish industry, working through DFO, has proposed that the SCRS develop an explicit LPR and associated HCR for the North Atlantic Swordfish stock, before the next North Atlantic Swordfish assessment in fall 2013. A joint meeting of the ICCAT Working Group on Stock Assessment Methods and the Bluefin Tuna Species Group explored the behaviour of a generic HCR consisting of limit, upper threshold and target biomass reference points to manage risk (ICCAT, 2011b). Kell et al. (2011) undertook an exploration of a HCR for swordfish, employing an MSE approach and the Commission has adopted a Strategy Matrix to facilitate presentation of assessment results (ICCAT, 2011d) which will be used to communicate the results of HCRs. This matrix was discussed in the context of North Atlantic Swordfish in the October 2011 report of the SCRS (ICCAT, 2011e). The development of the HCR was discussed in ICCAT (2013a) and will be further considered at a June 2013 meeting (ICCAT, 2013b). During the site visit, it was confirmed by the chair of the SCRS (J. Neilson) that the HCR will be used to provide the Commission with harvest advice during the next 3 – 4 years.</p>
Conclusion	<p>ICCAT has made good progress on the development of a HCR for North Atlantic Swordfish which will be developed by the SCRS in October 2013. This condition will be met when there is evidence that the ICCAT Commission adopts a HCR for the fishery. Progress on this condition is on target as the requirements of the 1st surveillance audit have been met.</p>

Condition 3	<p>By the fourth surveillance audit, the client must provide evidence that partial strategies for shortfin mako and porbeagle sharks have demonstrably effective management measures in place such that the fishery does not hinder their recovery or rebuilding.</p> <p>Milestones:</p> <p>Year 1 At the first surveillance audit the client must provide evidence that the methodologies for the calculation of discards and post release mortality estimates, for incorporation in future assessments, for shortfin mako and porbeagle shark have been reviewed.</p> <p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 2 At the second surveillance audit the client must provide evidence, of management measures that have been adopted to address the conservation and recovery of porbeagle and shortfin mako sharks and how they have been implemented in the Canadian management framework, e.g. the Shark Integrated Fisheries Management Plan, Shark Conservation action Plan.</p>
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	<p>Milestones associated with the second surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3</p> <p>At the third surveillance audit the client must provide: 1. the results of the SCRS assessment for porbeagle sharks, conducted by the SCRS and any associated management measures adopted by ICCAT or DFO, and implemented in the Canadian management framework; 2. provide an update on post-capture survival work undertaken by the Association and DFO and indicate how the results will be incorporated in future assessments.</p> <p>Milestones associated with the third surveillance have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 4</p> <p>At the fourth surveillance audit, the client must provide evidence that the partial strategy in place consists of demonstrably effective management measures that ensure that the fishery does not hinder recovery or rebuilding of the main retained species.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would likely be re-scored at 80 or higher.</p>
PI 2.1.1	The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species.
SG 60	<ul style="list-style-type: none"> • Main retained species are likely to be within biologically based limits or if outside the limits, there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species. • If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based
SG 80	<ul style="list-style-type: none"> • Main retained species are highly likely to be within biologically based limits, or if outside the limits, there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.
SG 100	<ul style="list-style-type: none"> • There is a high degree of certainty that retained species are within biologically based limits. • Target reference points are defined and retained species are at or fluctuating around their target reference points.
Score	75
Rationale	<p>As noted in Section 3.7, the MSC defines main retained species as those that a) are >5% of overall catch volume, b) are commercially valuable or c) because they are required to be retained by management rules. Based on this definition, the main retained species in the fishery under assessment are, bluefin tuna, bigeye tuna, yellowfin tuna, albacore tuna, blue and white marlins, shortfin mako shark and porbeagle shark. Longfin Mako, Mahi mahi, escolar, and wahoo are retained. However, they constitute less than 5% of the overall catch volume and are not required to be retained by management rules. Similarly, these species are also not considered either valuable or vulnerable, and therefore do not require scoring as 'main' retained species.</p>

Many of the Principle 2 performance indicators in the MSC FAM (ver.1) default tree seek to evaluate the management strategy in place for the candidate fishery impacts on P2 components. In order to score PIs referring to management strategy concepts for each scoring element, the assessment team needed to consider the management strategy components being implemented by the fishery. As per FAM, version 1, guidance 7.1.20 – 7.1.26, a strategy is considered to be composed of linked monitoring, analyses, measures and responses. The team interpreted these components as being analogous to the monitoring (e.g. dockside or at-sea observation of landings or catch), assessment (e.g. evaluation of stock status by ICCAT or DFO), tools (e.g. quotas, closed areas, etc.) and harvest control rules (e.g. change in harvest rate in response to stock status) used in Principle 1. The team noted that whereas measures (i.e. tools) can exist in the absence of a strategy, as per FAM 7.1.21, a strategy (partial or comprehensive) requires that all components exist. Monitoring informs analyses which lead to measures based upon a management response.

In PI 2.1.2 below, the team has identified the various management strategy components for all the main species considered in the scoring of the retained species PIs. The scoring rationale provided for the status outcome makes reference to Table 17 in PI 2.1.2. Development of the table of management strategy components is in response to concerns identified by a number of stakeholders.

Shortfin Mako

Multiple assessment models (ICCAT, 2008) indicated that North Atlantic stock depletion by 2008 to about 50% of virgin biomass (1950s levels) whereas other models estimated considerably lower levels of depletion. In light of biological information that places the point at which B_{MSY} is reached with respect to the carrying capacity at levels higher than for blue sharks and many teleost stocks, there is some non-negligible probability that the stock could be below B_{MSY} . On the other hand, SSB is likely to be above 50% of B_{MSY} . Measures, through a 100t TAC are in place so as not to allow the fishery to result in hindering recovery. SG60 is met.

It is not possible to state that the North Atlantic stock is highly likely ($P > 70\%$) to be above biologically based limits, as required in the first part of the SG80. However, while there is a partial strategy (see PI 2.1.2), the assessment team is concerned with its effectiveness. Recognizing that landings are within the bounds of the suggested 100t, and in fact landings have been significantly less than this in most years (See Table 14 of ICCAT, 2008), the catch limit in place is not a hard TAC. Further, there are no estimates of post-capture mortality, so the fate of the significant portion of shortfin mako released alive (based on observer reports) is unknown. Notwithstanding this, Campana et al. (2005) states that while the fishery under assessment accounts for the main source of mako landings from Canadian fisheries, annual catches average 60-80t which is about 4% of that reported for the North Atlantic population (ICCAT, 2004). Campana et al (2005) concluded that it appears unlikely that current exploitation rates in Canada are having an appreciable impact on the population. Furthermore, the shortfin mako shark RPA (DFO 2006a) states that “bycatch by foreign fleets in the North Atlantic are the most significant source of mortality for the population. While it is unlikely that a reduction in bycatch of shortfin makos by the Canadian pelagic longline fishery would have any detectable or biologically significant influence on the population, it would be prudent not to exceed 100 t annually” in the Canadian fisheries.

On balance, the assessment team considered that while the partial strategy was considered appropriate, it was not fully effective; given the unknown impact of post capture mortality. The partial score of 70 is assigned.

	<p><u>Porbeagle Shark</u></p> <p>ICCAT (2010) indicates that the 2009 biomass of the Northwest Atlantic stock is below B_{MSY} and that recent fishing mortality is near or above F_{MSY}. Furthermore, ICCAT (2010) reiterates the findings of the Canadian assessment of the Northwest Atlantic porbeagle stock which found that biomass is depleted to well below B_{MSY}. However, the latter indicated that recent fishing mortality is below F_{MSY} and recent biomass appears to be increasing. It is not possible to state that the stock is within biologically based limit. There are measures, through annual TACs, to ensure that the fishery does not hinder recovery. SG60 is met.</p> <p>While there is a partial strategy for porbeagle shark (see PI 2.1.2), the team is not convinced that it is demonstrably effective as required by the 80 SG. There are two issues in this regard. Firstly, porbeagle shark was assessed by COSEWIC in 2004 as endangered. The Canadian landings of porbeagle shark (192.9t in 2006 under a TAC of 250t) were above that subsequently considered necessary for rebuilding (185t) in 2007 (the candidate fishery being assessed contributes approximately 39t to the Canadian TAC). While the TAC was reduced to 185t in 2007, it was set at the upper range of the scientific advice (Gibson and Campana 2005). Assuming that mid-range of the confidence interval for the proposed TAC is risk neutral, setting the TAC at the upper end of the range, without taking account of discards and mortality caused by non-Canadian fleets, implies that there is more than 50% probability that TAC will hinder recovery. The assessment team considers that a lower, more precautionary TAC for this endangered species would have been prudent.</p> <p>Secondly, the TAC is based on landings. Based on catch data available (see Table 6), a significant number of porbeagle are released from the candidate fishery, some of which experienced post capture mortality (PCM). There are no estimates of PCM for this fishery, which is a significant source of uncertainty in the management of the fishery's impact on this species. It is acknowledged that there is a high percentage use of circle hooks in the fishery, which implies high survivorship of released porbeagle (Carruthers, 2009). Notwithstanding this, there is concern for unobserved post capture mortality. Given that there is monitoring of the fishery's interactions with the species, assessment of stock status and management decisions based on HCR outlined in the recovery potential assessment (Campana et al., 2006), the assessment team considers that there is a partial strategy, see PI 2.1.2, in place for the species such that the fishery does not hinder recovery and rebuilding. However, it does not consider that the strategy is demonstrably effective. Thus, while all the scoring issues of the SG60 are met, the team considers that SG80 is only partially met. PI 2.1.1 for this species scores 70.</p>
<p>Client Action Plan</p>	<p>By the second surveillance audit, the Nova Scotia Swordfishermen's Association, working with Fisheries and Oceans Canada, through the Canadian Shark Integrated Fisheries Management Plan (IFMP) will outline management strategies and measures for porbeagle sharks that ensure that the swordfish longline fishery does not hinder recovery or rebuilding of these species. The final draft of the IFMP will be available for public review in the fall of 2011. Shortfin mako sharks will be managed through a Conservation Action Plan, which will be completed before the 2013 fishing season. Both the IFMP and Conservation Action Plan will be reviewed through the Atlantic Large Pelagics Advisory Committee (ALPAC) and its sub-committee, the Ecosystem Working Group, so that stakeholder input can be considered.</p> <p>As part of Fisheries and Oceans Canada's work plan for by-catch, methodologies for the calculation of discards and post release mortality estimates, for both species, will be reviewed in 2011 for incorporation in future assessments.</p>

A satellite tagging study for shortfin mako sharks will begin in 2011, with a second year of tagging taking place in 2013, to determine post release mortality for the species. A final report is expected to be completed by 2015. Results from this study will be incorporated in the Canadian inputs in future stock assessments for the species when taking into account removals from the stock.

Similarly, a satellite tagging study for porbeagle sharks will be conducted in 2013, to determine post release mortality for the species. A final report is expected to be completed by 2015. Results from this study will be incorporated in the Canadian inputs in future stock assessments for the species when taking into account removals from the stock.

The Nova Scotia Swordfishermen's Association, working with Fisheries and Oceans Canada will, at the second surveillance audit, demonstrate how post capture mortalities for both species will be incorporated in future assessments and demonstrate the impacts on rebuilding.

ICCAT assessments for shortfin mako and porbeagle sharks are scheduled for 2012 and 2014, respectively. Management measures taken based on these stock assessments will be incorporated through the domestic management plans for these species.

While Canada is one of many member countries at ICCAT, Canada will continue to press for regular stock assessments of these species so that the results of management measures can be reviewed and adjusted, as needed, on a regular basis.

Deliverables:

1st Surveillance Audit:

At the first surveillance audit, the NSSA will provide the report of the meeting to explore methodologies for the calculation of discards and post release mortality estimates, for incorporation in future assessments, for both species, that was conducted in July, 2011.

2nd Surveillance Audit:

At the second surveillance audit, the NSSA will provide copies of the Shark Integrated Fisheries Management Plan (IFMP) for porbeagle shark, Swordfish and Other Tunas IFMP, and the Shark Conservation Action Plan (CAP), currently under development by DFO and any other management measures that have been adopted to address the conservation and recovery of porbeagle and shortfin mako sharks.

The NSSA will also provide for review, the latest stock assessment for shortfin mako sharks, conducted by the SCRS and any associated management measures adopted by ICCAT, following this stock assessment and demonstrate how such measures were adopted in the Canadian management framework.

3rd Surveillance Audit:

At the third surveillance audit, the NSSA will provide the results of the SCRS assessment for porbeagle sharks, conducted by the SCRS and any associated management measures adopted by ICCAT, following this stock assessment and demonstrate how such measures were adopted in the Canadian management framework.

The NSSA will also provide an update on post-capture survival work that has been

	<p>undertaken by the Association and DFO and how the results will be incorporated in future assessments.</p> <p>4th Surveillance Audit</p> <p>By the fourth surveillance audit, the NSSA will provide evidence that partial strategies for shortfin mako and porbeagle sharks have demonstrably effective management measures are in place such that the fishery does not hinder their recovery or rebuilding.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery: http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p>
Observations	<p>The condition requires that by the fourth surveillance audit, the client must provide evidence that partial strategies for shortfin mako and porbeagle sharks have demonstrably effective management measures in place such that the fishery does not hinder their recovery or rebuilding. The requirement of the first surveillance audit is for the client to provide evidence that the methodologies for the calculation of discards and post release mortality estimates, for incorporation in future assessments, for shortfin mako and porbeagle shark have been reviewed.</p> <p>The main retained species in the fishery under assessment are bluefin tuna, bigeye tuna, yellowfin tuna, albacore tuna, blue and white marlins, shortfin mako shark and porbeagle shark. The most recent assessments for the tuna and marlin species are provided in ICCAT (2012a). All provide similar evaluations of stock status to those in the Public Certification Report.</p> <p>The shortfin mako assessment (ICCAT, 2012b) indicates improved status. Several assessment models indicate that biomass was above B_{MSY} and fishing mortality below F_{MSY} in 2011. It is highly likely that North Atlantic shortfin mako shark is within biologically based limits, scoring SG80. Also, arguably, there is a high degree of certainty that North Atlantic shortfin mako shark stock is above biologically based limits.</p> <p>The porbeagle assessment has not been updated by ICCAT since 2010. During the site visit, it was noted that the restrictions on the directed porbeagle fishery have made it difficult to develop reliable indices of biomass, which will hinder future assessment efforts. COSEWIC is updating its assessment of porbeagle and the draft status report (to be reviewed by COSEWIC in November 2013), based in part on information provided by Campana et al (2012), indicates that the status is likely still endangered. The results of the COSEWIC review will be provided to DFO by summer 2014. DFO will then undertake a Recovery Potential Assessment sometime during late 2014 – early 2015, as part of the process to consider listing porbeagle under SARA. The final decision on SARA listing is not expected until 2016.</p> <p>Porbeagle shark has been added to appendix II of CITES since the original certification of the swordfish longline fishery. This will require countries trading porbeagle to have import and export permits. Countries have 18 months to put in place the appropriate administrative mechanisms and these trade requirements will come into force in September 2014.</p>

Thus, while the stock status of shortfin mako has improved to the point where this element now meets the SG 80 and perhaps SG 100 scoring issues, that of porbeagle remains poor. As a result shortfin mako can be rescored at 80 and removed from the condition. Porbeagle remains the subject of the condition. The overall score of this PI remains 75.

Discard Estimation

In relation to the estimation of discards, the report of the July 2011 science review on the estimation of incidental catch in the large pelagic fishery (DFO, 2011b; 2011c) was provided, fulfilling the requirement of this audit. The review indicated the allocation of observers to fishing trips was not random, resulting in trips to areas and during time periods that are not covered. It noted that the current sampling strategy could be improved if careful consideration were given to defining the objectives. Specific objectives for precision need to be established on a species-specific basis. The review did not reach consensus on an optimal level and allocation of observer coverage, noting the need for further investigation. It did note that precision of an unbiased estimate of bycatch improves with higher levels of observer coverage. However, during 2011 – 2012, observer coverage in the large pelagic fishery in fact declined to just above 5% from the 10 – 11% that was in place during the previous two years. Five percent observer coverage is considered a minimum by DFO and is likely based upon the ICCAT standard. The recent reduction in observer coverage is due to the fact that DFO no longer provides funding.

Subsequent to the 2011 review, further analyses have been conducted to assess the levels of observer coverage required to detect a given percentage change in bycatch. Preliminary analyses have been presented to the July 2012 ecosystem meeting of ICCAT (2012c). Further work will be pursued during 2014 - 2015 to provide an observer level and allocation for each bycatch species.

A partial strategy with demonstrably effective management measures needs to be in place by the fourth surveillance audit, “effective management measures” will include the appropriate observer coverage to detect a given percentage change in bycatch. Motivated by the July 2011 review, DFO has made administrative changes to adjust observer trip assignments to address gaps and collect more representative samples. A computer randomly chooses which vessel will require an observer at the time of hail out so that the licence holder immediately knows whether an observer is required. The licence holder is not allowed to leave the wharf without an observer. As a result, there is now randomly assigned coverage for all licence holders, all vessel sizes and fishing areas. In addition, should there be specific issues that need to be addressed, the new hail out system can be modified as required (e.g. increased or directed coverage) (Mike Eagles, DFO, pers. comm.).

Post-Release Mortality Estimation

The July 2011 review considered methods to estimate the survival of catch released from large pelagic fisheries (Nielson et al, 2011). Based upon these, a project (Campana, 2011a; 2011b) using satellite tags has been implemented to estimate shortfin mako and porbeagle post-release mortality. During 2011/2012, 13 shortfin mako were tagged with more tagging planned for 2013. During the site visit, it was noted that a minimum of 40 tagged individuals are required to provide reliable estimates of post-release mortality.

Given the revised stock status of shortfin mako, i.e. it is now highly likely that the North Atlantic shortfin mako shark is within biologically based limits, shortfin mako can be rescored at 80 and removed from the condition. Porbeagle remains the subject of the

	<p>condition. The overall score of this PI remains 75.</p> <p>While there is a high probability that shortfin mako is within safe biological limits, it would be useful to continue with the post capture mortality work to better manage by-catch.</p> <p>There are concerns for meeting Year 2 audit requirements as the tagging program is not as far along as hoped.</p>
Conclusion	<p>The initial assessment of the fishery scored the shortfin mako element of this PI at 75. The Scoring Rationale states that, “It is not possible to state that the North Atlantic stock is highly likely (P>70%) to be above biologically based limits, as required in the first part of the SG80. However, while there is a partial strategy (see PI 2.1.2), the assessment team is concerned with its effectiveness. On balance, the assessment team considered that while the partial strategy was considered appropriate, it was not fully effective; given the unknown impact of post capture mortality. The partial score of 70 is assigned.”</p> <p>SG 80 states, “Main retained species are highly likely to be within biologically based limits, or if outside the limits, there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.”</p> <p>The observations provided under Condition 3 indicate that there is a high probability that shortfin mako are within biologically based limits. The PI for this species can therefore be re-scored at 80 and shortfin mako can be removed from the condition.</p> <p>Porbeagle shark remains the subject of the condition. The audit team understand that tagging of porbeagles is due to commence in 2014.</p> <p>The results of analyses on the appropriate level of observer coverage will not be available until 2015, one year before the 4th surveillance audit. Observer coverage has been reduced to minimal levels, although improvements have been made by DFO to improve fleet coverage.</p> <p>Progress on this condition is on target with the requirements of the first audit being met.</p>

Condition 4	<p>By the fourth surveillance audit, the client must provide evidence that there is a partial strategy for conservation of sharks (porbeagle and shortfin mako) that takes account of all sources of fishing related mortality (landings and discards by the assessed fishery, other Canadian fisheries), and international fisheries. There must be an objective scientific basis to conclude that the strategy will maintain these shark stocks within biological limits or ensure that the fishery does not hinder their recovery and rebuilding. The partial strategy must be in place for the assessed fishery so that, at a minimum, it achieves its proportionate share to conserve sharks.</p> <p>Milestones:</p> <p>Year 1</p> <p>At the first surveillance audit the client must provide evidence to confirm that methodologies for the calculation of discards and post release mortality estimates, for incorporation in future assessments for both species, have been reviewed.</p> <p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of the score at this surveillance audit.</p>
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	<p>Year 2</p> <p>At the second surveillance audit the client must provide for review, the latest stock assessment for shortfin mako sharks, conducted by the SCRS and any associated management measures adopted by ICCAT and the Canadian fishery.</p> <p>Milestones associated with the second surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements and would likely not result in a change of score at this surveillance.</p> <p>Year 3</p> <p>At the third surveillance audit client must provide the results of the SCRS assessment for porbeagle sharks, and any associated management measures adopted by ICCAT and the Canadian fishery. The client must also provide an update on post-capture survival work that has been undertaken and how the results will be incorporated in future assessments and management.</p> <p>Milestones associated with the third surveillance audit have been defined as means to monitor progress in meeting the condition, meeting milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 4</p> <p>At the fourth surveillance audit the client must provide evidence that a partial strategy for both shortfin mako and porbeagle sharks that is expected to ensure that the fishery does not hinder recovery or rebuilding is in place and there is evidence that it is being implemented successfully.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met this PI would be re-scored at 80 or higher.</p>
PI 2.1.2	There is a strategy in place for managing retained species that are designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.
SG 60	<ul style="list-style-type: none"> There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding. The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).
SG 80	<ul style="list-style-type: none"> There is a partial strategy in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding. There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved. There is some evidence that the partial strategy is being implemented successfully
SG 100	<ul style="list-style-type: none"> There is a strategy in place for managing retained species. The strategy is mainly based on information directly about the fishery and/or species 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 overall objective.
Score	75

Rationale	<p>Throughout Principle 2 outcome and management strategy performance indicators, the MSC FAM default tree seeks to evaluate the management strategy in place for the candidate fishery impacts on non-target species. In order to score PIs 2.1.1 to 2.2.3 for each scoring element, the assessment team needed to consider the management strategy being implemented by the fishery. As per FAM version 1 guidance 7.1.20 – 7.1.26, a strategy is considered to be composed of linked monitoring, analyses, measures and responses. The team interpreted these components as being analogous to the monitoring (e.g. dockside or at-sea observation of landings or catch), assessment (e.g. evaluation of stock status by ICCAT or DFO), tools (e.g. quotas, closed areas, etc.) and harvest control rules (e.g. change in harvest rate in response to stock status) used in Principle 1. The team noted that whereas measures (i.e. tools) can exist in the absence of a strategy, as per FAM 7.1.21, a strategy (partial or comprehensive) requires that all components exist. Monitoring informs analyses which lead to measures based upon a management response.</p> <p><u>Shortfin Mako</u></p> <p>The shortfin mako shark RPA (DFO 2006a) states that “bycatch by foreign fleets in the North Atlantic are the most significant source of mortality for the population. While it is unlikely that a reduction in bycatch of shortfin makos by the Canadian pelagic longline fishery would have any detectable or biologically significant influence on the population, it would be prudent not to exceed 100 t annually” in the Canadian fisheries. The Canadian fisheries have not exceeded 100 t in recent years and there is observer evidence that a significant portion of shortfin mako is being released alive. The measures that are in place in relation to this species, as outlined above, are considered to meet the requirements of a partial strategy, and there is some evidence that the strategy has been implemented successfully (though the observer and dockside monitoring data available), therefore meeting 2 of the 3 scoring issues of the SG80. However, the assessment team is not confident that there is an objective basis for confidence that the partial strategy will work. Observer coverage is low and there is little information available or consideration of post capture mortality in the management strategy. In order to meet the second scoring issue of the SG80, information regarding the total mortality on the species would be required. As such the second scoring issue is not met and the species scores 75.</p> <p><u>Porbeagle Shark</u></p> <p>Based on the same rationale as provided for shortfin mako, this species scores 75. With respect to porbeagle shark, the assessment team notes that the TAC in place has been set at the upper limit of the advice, despite what is known about species abundance, which contributes to the concerns on whether or not the strategy in place will work. As well, there is little information available on or consideration of post capture mortality in the management strategy. Based on a similar rationale as provided for shortfin mako, this species scores 75.</p>
Client Action Plan	<p>By the second surveillance audit, the Nova Scotia Swordfishermen’s Association, working with Fisheries and Oceans Canada, through the Canadian Shark Integrated Fisheries Management Plan (IFMP) will outline management strategies and measures for porbeagle sharks that ensure that the swordfish longline fishery does not hinder recovery or rebuilding of these species. The final draft of the IFMP will be available for public review in the fall of 2011. Shortfin mako sharks will be managed through a Conservation Action Plan, which will be completed before the 2013 fishing season. Both the IFMP and Conservation Action Plan will be reviewed through the ALPAC and its sub-committee, the Ecosystem Working Group, so that stakeholder input can be considered.</p>

	<p>As part of Fisheries and Oceans Canada's work plan for by-catch, methodologies for the calculation of discards and post release mortality estimates, for both species, will be reviewed in 2011 for incorporation in future assessments.</p> <p>A satellite tagging study for shortfin mako sharks will begin in 2011, with a second year of tagging taking place in 2013, to determine post release mortality for the species. A final report is expected to be completed by 2015. Results from this study will be incorporated in the Canadian inputs in future stock assessments for the species when taking into account removals from the stock.</p> <p>Similarly, a satellite tagging study for porbeagle sharks will be conducted in 2013, to determine post release mortality for the species. A final report is expected to be completed by 2015. Results from this study will be incorporated in the Canadian inputs in future stock assessments for the species when taking into account removals from the stock.</p> <p>The Nova Scotia Swordfishermen's Association, working with Fisheries and Oceans Canada will, at the second surveillance audit, demonstrate how post capture mortalities for both species will be incorporated in future assessments and demonstrate the impacts on rebuilding.</p> <p>ICCAT assessments for shortfin mako and porbeagle sharks are tentatively scheduled for 2012 and 2014, respectively. Management measures recommended based on these stock assessments will be reviewed and incorporated through the domestic management plans for these species.</p> <p>While Canada is one of many member countries at ICCAT, Canada will continue to press for regular stock assessments of these species so that the results of management measures can be reviewed and adjusted, as needed, on a regular basis.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide the report of the meeting to explore methodologies for the calculation of discards and post release mortality estimates, for incorporation in future assessments, for both species, that was conducted in July, 2011.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will provide copies of the Shark Integrated Fisheries Management Plan (IFMP) for porbeagle shark, Swordfish and Other Tunas IFMP, and the Shark Conservation Action Plan (CAP), currently under development by DFO and any other management measures that have been adopted to address the conservation and recovery of porbeagle and shortfin mako sharks.</p> <p>The NSSA will also provide for review, the latest stock assessment for shortfin mako sharks, conducted by the SCRS and any associated management measures adopted by ICCAT, following this stock assessment and demonstrate how such measures were adopted in the Canadian management framework.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide the results of the SCRS assessment for porbeagle sharks, conducted by the SCRS and any associated</p>
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	<p>management measures adopted by ICCAT, following this stock assessment and demonstrate how such measures were adopted in the Canadian management framework.</p> <p>The NSSA will also provide an update on post-capture survival work that has been undertaken by the Association and DFO and how the results will be incorporated in future assessments.</p> <p>4th Surveillance Audit:</p> <p>At the fourth surveillance audit, the NSSA will provide evidence of an effectively implemented strategy for both shortfin mako and porbeagle sharks, which demonstrates that the fishery does not hinder recovery or rebuilding.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery: http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p>
Observations	<p>The condition requires that by the fourth surveillance audit, a partial strategy be in place for the conservation of sharks (shortfin mako and porbeagle) which takes into account all sources of mortality (landings and discards of assessed fishery, other Canadian fisheries and international fisheries).</p> <p>A DFO national plan of action for the conservation and management of sharks was drafted in 2007 (http://www.dfo-mpo.gc.ca/npoa-pan/npoa-pan/npoa-sharks-eng.htm). National progress against this plan is reported at http://www.dfo-mpo.gc.ca/npoa-pan/npoa-pan/sharks-requins-eng.htm#_4. However, regional DFO efforts appeared to have stalled. An IFMP is required for directed shark fisheries (i.e. porbeagle) while a shark conservation plan is required for bycatch species (i.e. shortfin mako). The porbeagle IFMP was supposed to have been available in fall 2011 while the shortfin mako conservation plan is to be available in 2013. Both are to be reviewed through the Ecosystem Working Group (EWG) of ALPAC. Finalization of the porbeagle IFMP has been delayed due to the need for ministerial decisions on the status of exploratory licences. It might transpire that porbeagle is managed along with shortfin mako under the shark conservation plan (Mike Eagles, DFO, pers. comm.). Further, the EWG has not been active for the past two years raising concerns regarding its review of the shark plans. These issues need to be resolved in the coming year for continued progress towards fulfilment of the condition. If they are not, they endanger fulfilment of the requirements of the second audit and, by implication, the condition.</p> <p>As indicated in the observations for condition 3, the stock status of shortfin mako is now considered to be highly likely to be within biologically based limits. However, the assessment team highlighted in their scoring rationale for this performance indicator that, "...observer coverage is low and there is little information available or consideration of post capture mortality in the management strategy." This remains the case, indeed observer coverage has actually reduced. The audit team is therefore of the view that it remains necessary to continue with the shortfin mako post capture mortality study.</p>
Conclusion	<p>The audit team recommend renewed commitment on the part of the client and DFO to finalize management plans and their implementation in order to achieve the requirements of future audits. Progress on this condition is on target with the requirements of the first surveillance audit met.</p>

Condition 5	<p>By the third surveillance audit, the client must provide evidence that there is a demonstrably effective partial strategy of management measures in place to ensure that the Canadian Atlantic Swordfish fishery does not hinder recovery and rebuilding of the blue shark stock. There must be some objective basis of confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved and there must be some evidence that it is being successfully implemented.</p> <p>Milestones:</p> <p>Year 1 By the first surveillance audit the client must provide evidence confirming progress on the work plan to review by-catch, observer coverage level and observer deployment scheme and how this has been incorporated operationally within the fishery.</p> <p>Milestones associated with the first surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements and would likely not result in a change of the score at this surveillance audit.</p> <p>Year 2 By the second surveillance audit, the client is required to provide evidence that the review of the observer deployment scheme has been completed and that any resulting actions of the review have been implemented. Evidence must also be provided that an effective partial strategy for the management of blue sharks has been adopted.</p> <p>Milestones associated with the second surveillance audit are associated with scoring issues 1 and 2 under the 80SG, provided there is evidence to indicate that both these scoring issues have been met, the PI will be re-scored to 70-75.</p> <p>Year 3 By the third surveillance audit, the fishery client must provide evidence that a demonstrably effectively partial strategy has been successfully implemented for the management of blue sharks, which demonstrates that the fishery does not hinder recovery or rebuilding.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher.</p>
PI 2.2.2	There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations.
SG 60	<ul style="list-style-type: none"> • There are measures in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery. • The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).
SG 80	<ul style="list-style-type: none"> • There is a partial strategy in place, if necessary, for managing bycatch that is expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery. • There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved.

	<ul style="list-style-type: none"> There is some evidence that the partial strategy is being
SG 100	<ul style="list-style-type: none"> There is a strategy in place for managing and minimizing bycatch. The strategy is mainly based on information directly about the fishery and/or species 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.
Score	60
Rationale	<p>Using the same approach as applied in PI 2.1.2, the assessment team has identified the applicable management strategy components for the main bycatch species, blue shark.</p> <p>Canada has management measures in place that is expected to maintain main bycatch species within biologically based limits or to ensure that the fishery does not hinder their recovery. The strategy includes observers at sea and dockside monitoring of the landings and the requirement to land fins and carcasses at the same time (equivalent to a no-finning regulation), in addition as per the licence conditions, no person shall under any circumstances return, release or discard a shark carcass to the water (without fins). These measures are believed to work, but implementation issues, such as the percentage of observer coverage and the basis for observer deployment need improvement. These issues are covered by a condition under outcome for ETP species and will at the same time improve information for by-catch species. The requirement to land fins and carcasses at the same time provides evidence that the measures are being implemented successfully. While there are measures in place, meeting the requirements of the SG60, the lack of an explicit response from management based on a HCR it cannot be stated that the management in place qualifies as a partial strategy exists. As a result, this species scores 60.</p>
Client Action Plan	<p>By the third surveillance audit, the Nova Scotia Swordfishermen's Association, working with Fisheries and Oceans Canada, through the Canadian Shark Conservation Action Plan, will outline management strategies and measures for blue sharks that ensure that the swordfish longline fishery does not hinder recovery of the species. The Conservation Plan will be reviewed through the ALPAC and its sub-committee, the Ecosystem Working Group, so that stakeholder input can be considered and will be in place for the 2013 fishing season.</p> <p>As part of Fisheries and Oceans Canada's work plan for by-catch, observer coverage level and observer deployment schemes are being examined in 2011. The findings from this work will be reviewed by the ALPAC Ecosystem Working Group for consideration in the Conservation Plan for blue shark.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide evidence that will confirm that progress on the work plan to review by-catch, observer coverage level and observer deployment scheme has been made and will demonstrate how this has been incorporated, operationally, within the fishery.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will confirm that there has been a review by ALPAC of the observer deployment scheme and that it has been put in place</p>

	<p>operationally.</p> <p>Further, the NSSA will provide evidence of a partial strategy for the management of blue sharks, that will work has been adopted.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide evidence that a demonstrably effectively partial strategy has been implemented for the management of blue sharks, which demonstrates that, the fishery does not hinder recovery or rebuilding.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery: http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p> <p>A copy of a DFO internal document entitled, “The Workplan to Address Incidental Catch in Canadian Large Pelagic Fisheries” (DFO 2009a).</p>
Observations	<p>The condition requires that by the third surveillance audit, there is an effective partial management strategy in place to ensure that the fishery does not hinder the recovery and rebuilding of the blue shark stock (the only main bycatch species). The basis of the condition was required improvements in observer coverage (to be addressed under condition 3) and the lack of an explicit response from management based on a harvest control rule, thus implying the lack of a partial strategy. The intent of the condition is to ensure that all elements of a partial strategy (monitoring, analysis, measures and response) are in place by the fourth audit. The first surveillance audit requires evidence of progress on the workplan to review bycatch and observer coverage as well as demonstration of how this progress has been incorporated operationally into the assessed fishery.</p> <p>The ICCAT blue shark assessment referenced in the Public Certification Report is still the most recent evaluation of stock status. During the site visit, DFO noted that the assessment, while indicating that the stock is above biologically based limits, is hindered by the ability to collect reliable catch data and the development of indices of abundance.</p> <p>The audit team was provided with a document entitled ‘Swordfish/Other Tuna Longline Fisheries: Work plan to address by-catch/discard issues’, the source of which was clarified by DFO. A regional DFO Bycatch Workplan was initiated in 2009 (DFO, 2009b) to outline research and management activities of six key bycatch species: bluefin tuna, porbeagle, shortfin mako, blue shark, leatherback turtle, loggerhead turtle as well as discarding of swordfish. Stakeholders were consulted on the document through the ALPAC Ecosystem Working Group. This plan is a ‘living’ document in that it is updated by DFO as needed to address changing priorities. DFO provided a copy of an updated workplan too late in the audit process to review. Better preparation by the client for the audit would have avoided this and the audit team highlight the need for the client to provide timely evidence for future audits.</p> <p>Notwithstanding this, there has been progress towards achievement of the condition. Studies on the appropriate level of observer coverage which follows on from the July 2011 review (DFO, 2011b; DFO 2011c) are underway (see condition 3). However, the results of these investigations will not likely be available until the 3rd surveillance audit, which puts at risk achievement of the requirements of the 2nd surveillance audit of this</p>

	<p>condition. Also, administrative changes have been made to improve the allocation of observer coverage of the fishery (see condition 3). Notwithstanding this, estimates of shark discards, including blue sharks, have been made based upon the available observer information (Campana et al., 2011). Based on estimates of post-capture mortality (Campana et al., 2009) which indicate that there is about a 33% discard mortality in the fishery, in 2010, about 495t of the 1,414t of blue shark caught did not survive.</p> <p>In relation to development of a partial strategy for blue shark, during the site visit, it was not apparent what actions DFO was contemplating to manage blue shark discards. As noted in condition 4, the development of the Shark Conservation Plan appears to have stalled. It will be important for the client and DFO to renew their commitment to the requirements of this condition, otherwise there is a danger of not fulfilling the requirements of the second audit and, by implication, the condition.</p>
Conclusion	<p>Progress on this condition is on target with achievement of the requirements of the 1st surveillance audit. However, overall progress in meeting the condition appears to have slowed, which endangers meeting the requirements of future audits.</p>

Condition 6	<p>Within four years of certification, the client must provide evidence that demonstrates that direct effects of the fishery are highly unlikely to create unacceptable impacts to loggerhead turtles. The client should refer to Section 7 of the FAM for the specific performance requirements associated with the term “highly unlikely” that pertain to this PI.</p> <p>Milestones:</p> <p>Year 1 By the first surveillance audit the client must: 1. Provide evidence that confirms that training and certification in the use of safe handling and release equipment has been completed; that the requirement for the training and use of this equipment has been incorporated in the license condition; and, provide evidence that other aspects of the Loggerhead Turtle Conservation Action Plan (LCAP) have been adopted within the management plan or license conditions for the fishery. 2. Provide an update on the activities conducted in relation to the examination of the precision and stratification of observer data.</p> <p>Milestones associated with the first surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements and would likely not result in a change of score at this surveillance audit.</p> <p>Year 2 By the second surveillance audit, the client must provide an update on fieldwork to determine post-capture survival of loggerhead turtles, which interact with the longline fishery. The update is to include the number of loggerhead turtles tagged to date and available updates on survival rates.</p> <p>Milestones associated with the second surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements and would likely not result in a change of score at this surveillance audit.</p> <p>Year 3 By the third surveillance audit, the client is required to provide: 1. An update on fieldwork and research completed to determine post-capture survival of loggerhead turtles. This update will include the number of loggerhead turtles tagged to date and</p>
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	<p>available updates on survival rates. 2. An update of the information, additional data or research that will be considered in the analysis to demonstrate that direct effects of the fishery are highly unlikely to create unacceptable impacts to loggerhead turtle.</p> <p>Milestones associated with the third surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements and would likely not result in a change of score at this surveillance audit.</p> <p>Year 4</p> <p>By the fourth surveillance audit the client must provide the results of the completed post-capture survival study and information on how the results of this study will be incorporated in an analysis to demonstrate that direct effects of the fishery are highly unlikely to create unacceptable impacts to loggerhead turtle.</p> <p>The client will be required to provide an updated Loggerhead Turtle Recovery Potential Assessment (RPA) or other scientific assessment, as conducted by DFO or other scientific party, which will demonstrate the impacts to loggerhead turtles that result from interactions with the swordfish longline fishery.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher.</p>
PI 2.3.1	<p>The fishery meets national and international requirements for protection of ETP species.</p> <p>The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.</p>
SG 60	<ul style="list-style-type: none"> Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species. Known direct effects are unlikely to create unacceptable impacts to ETP species.
SG 80	<ul style="list-style-type: none"> The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species. Direct effects are highly unlikely to create unacceptable impacts to ETP species. Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.
SG 100	<ul style="list-style-type: none"> There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species. There is a high degree of confidence that there are no significant detrimental effects (direct and indirect) of the fishery on ETP species.
Score	75
Rationale	<p>The MSC Fisheries Assessment Methodology, Version 1, July 2008 provides the following guidance in relation to categorization of endangered, threatened and protected (ETP) species.</p> <p><i>ETP (endangered, threatened or protected) species are those that are recognized by national legislation and/or binding international agreements (e.g. CITES) to which the jurisdictions controlling the fishery under assessment are party. The SGs refer to 'national and international requirements' and 'unacceptable impacts'. These terms relate to the requirements or impacts specified in relevant national legislation or binding international agreements.</i></p> <p>Noting this MSC guidance, it is important to identify which national and international</p>

	<p>requirements have triggered species evaluations within the ETP performance indicators. Canada's international requirements stem from its signatory status to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Within Canada, the implementation and administration of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) are shared among federal and provincial/territorial agencies to make the best use of existing organizational structures. (CITES in Canada web site, http://www.cites.ec.gc.ca/ (March 29, 2010)).</p> <p>As the representative of Canada, the Canadian Wildlife Service is responsible for managing CITES species in Canada <i>vis à vis</i> the international community. Fisheries and Oceans Canada (DFO) is responsible for CITES activities in Canada that relate to species managed under the Fisheries Act.</p> <p>DFO advises on matters regarding marine and freshwater species. In addition, regional DFO officers issue CITES Export Permits for marine and freshwater species. DFO's responsibilities are divided within the department between the Science and Fisheries Management sectors. Their respective responsibilities can be summarized as follows:</p> <p>The science sector assumes the role of the Scientific Authority for CITES marine and freshwater species.</p> <ol style="list-style-type: none"> 1. it participates in biennial Conferences of Parties where proposal to list species in the Appendices and policy matters are debated, 2. it formulates Canada's positions and policies on listing of CITES marine and freshwater species in the Appendices, 3. it contributes to CITES debate on criteria for listing species that are at risk due to commercial trade in the Appendices, 4. it assesses status of stocks and, when appropriate, issues non-detriment findings for exports of Appendix I and II species. <p>The Fisheries Management Sector assumes the role of Management Authority for CITES marine and freshwater species,</p> <ul style="list-style-type: none"> • it issues export permits, • it maintains a permit-issuing service across the country (and recruits and trains a network of individuals in major population centers), • it compiles and maintains a database of CITES export permit issuance, • it reports annually to the CITES Management Authority at the Canadian Wildlife Service on permit issuance and related activities, monitors trade to ensure compliance with Canada's obligations to CITES, • it circulates information on CITES requirements to potential exporters, and responds to public inquiries on import and export matters. <p>[Information above cited (CITES in Canada web site, http://www.cites.ec.gc.ca/ (March 29, 2010)).]</p> <p>Nationally, Canada proclaimed the Species at Risk Act (SARA) in 2003. The purpose of SARA is to protect wildlife species at risk in Canada. Within the Act, COSEWIC (Committee on the Status of Endangered Wildlife in Canada) was established as an independent body of experts responsible for identifying and assessing wildlife species considered to be at risk. This is the first step towards protecting wildlife species at risk. Subsequent steps include COSEWIC reporting its results to the Canadian government and the public, and the Minister of the Environment's official response to the assessment results. Wildlife species that have been designated by COSEWIC may then qualify for legal protection and recovery under SARA.</p> <p>It is up to government to legally protect wildlife species designated by COSEWIC.</p>
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COSEWIC assessments do not take into account political, social or economic factors. The potential impacts of legal listing are for Government to analyse, and the Act applies only to wildlife species on the SARA legal list. (see COSEWIC and the Species At Risk Act. (http://www.cosewic.gc.ca/eng/sct6/sct6_6_e.cfm, March 29, 2010).

Endangered, Threatened and Protected (ETP) species identified in the course of this fishery evaluation and the international or national requirements which triggered the ETP categorization are as follows:

Species	International/ National Requirement
leatherback turtles (<i>Dermochelys coriacea</i>)	CITES/ SARA
loggerhead turtle (<i>Caretta caretta</i>)	CITES
green turtle (<i>Chelonia mydas</i>)	CITES
Kemp's Ridley turtle (<i>Lepidochelys kempii</i>)	CITES
pilot whale (<i>Globicephala melas, long finned</i>)	CITES
northern bottle nose whale (<i>Hyperoodon ampullatus</i>)	CITES (Grand Banks population)/ SARA (Scotian Shelf population)

All marine turtle and whale species identified here are listed under CITES, either in Appendix I (Species threatened with extinction; trade in specimens of these species is permitted only in exceptional circumstances) or Appendix II (species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival).

The leatherback turtle and the northern bottlenose whale Scotian Shelf population are listed under the SARA. Loggerhead sea turtles were assessed as Endangered by COSEWIC in April 2010. DFO is currently considering whether or not to list it under SARA. It has implemented a Loggerhead Conservation Action Plan (LCAP) with the following objective:

“Ensure that human-induced harm in Canadian waters does not exceed levels that would impede population recovery and encourage increases in abundance toward what might be considered to be historical levels, through implementation of practical solutions, with industry cooperation, for monitoring and mitigating incidental capture and post-release mortality of sea turtles by Canadian commercial fleets”.

Kemp's Ridley sea turtle are currently identified as a low priority candidate for COSEWIC evaluation and are not scheduled to be evaluated.

Following guidance from FAM Version 1, the assessment team scored each species individually and the final scores were determined in accordance with the scoring guidance identified in Section 4 of the FAM.

Loggerhead Turtle

The assessed fishery satisfies the CITES requirements as loggerhead turtle are not permitted to be retained or landed by the fishery. Canada does not allow trade of turtle products, internationally or domestically. Thus the international requirement stated in the first scoring issue is met at the 100 SG. There are no current national protection

	<p>requirements for loggerhead turtle so the national protection requirement for the first scoring issue under the 100 SG is not applicable to loggerhead. Therefore the team considers the first scoring issue under all SGs to be met.</p> <p>The second scoring issue of PI 2.3.1, ETP outcome status, requires a determination of whether or not the direct effects of the candidate fishery are considered to be unlikely (SG60) or highly unlikely (SG80) to create unacceptable impacts to ETP species.</p> <p>According to the DFO RPA, the assessed fishery interacted with an estimated average of 1,200 loggerhead turtles between 2002 and 2008. While there is mandatory release, post hooking mortality does occur, and is estimated to range between 20 and 45%. This results in 200-500 loggerhead deaths annually in the Canadian longline fishery (DFO, 2010). While the Atlantic adult population (females) has been demonstrated to be declining since 1998, it is highly unlikely that the assessed candidate fishery is the cause of the endangered status of the species, and Atlantic pelagic longline fisheries is one of several current threats (based on the analyses in the US Recovery Plan for the species. In this regard, the US Recovery Plan provides mortality estimates in units of “adult equivalencies”, wherein mortalities at each life stage are adjusted for expected lifetime reproductive contribution, given the individual’s age, probability of reaching maturity and expected life span. Conversion of the life stages caught in the Canadian tuna and swordfish longline fisheries (oceanic and neritic juveniles) to adult equivalents using survivorship rates provided in the US Recovery Plan results in an estimate of 5-15 adult equivalent mortalities annually for 2002-2008. For comparison, estimates of total annual mortalities in adult equivalents for the North Atlantic overall are 9,417 individuals for trawl fisheries and 872 individuals for pelagic longline fisheries.</p> <p>The 2009 US assessment of loggerhead turtles indicates that individuals taken in pelagic longline fisheries are primarily juveniles, not breeding age adults or even large sub-adults. Mortality of juveniles is higher and only a fraction of pelagic juveniles are expected to contribute to the population through reproduction; thus pelagic juveniles were not deemed as important to the population as breeding age adults in the US assessment. The loss of a certain number of pelagic juveniles, therefore, is less of a threat to the species’ survival and recovery compared to an equal loss of sexually-mature adults. The growth of the population, however, would be expected to be sensitive to changes in the mortality rates of juveniles.</p> <p>In addition, according to the Canadian RPA:</p> <ul style="list-style-type: none"> • Published population studies suggest that the Northwest Atlantic loggerhead sea turtle population is likely to continue to decline given current estimates of population growth rates and the effects of human-induced mortality. However, these studies also indicate scope for recovery if total mortality is reduced. • Reduction or elimination of mortality in Canadian waters alone is highly unlikely to be sufficient to achieve recovery. In addition to minimizing threats to loggerhead sea turtles in Canadian waters, international cooperation to reduce threats to the population as a whole is needed to achieve recovery of this species. <p>Based on the fact that current mortality from the candidate fishery is only a fraction of a percent of the total mortality on the Atlantic population, it is recognized that the candidate fishery is neither the sole cause of the endangered status of the species nor the primary threat. The assessment team concludes that impacts are marginal such that reduction of mortality by this fleet alone would not significantly change recovery prospects of the species. Thus, the assessment team considers that the second scoring issue of the SG60 has been met. It is ‘unlikely’ that the direct effects of the fishery are</p>
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	<p>creating unacceptable impacts to loggerhead turtles.</p> <p>The RPA is clear that reducing or eliminating mortality in Canadian waters is not enough to recover the species. However, the RPA does not state whether the species can recover without reducing bycatch by the Canadian swordfish longline fishery or how much bycatch by this fishery would delay loggerhead recovery if all other sources of mortality were eliminated. While the marginal impact of the Canadian fishery is small, the LCAP outlines a set of regulations designed to reduce Canadian impact. Based on the fact that there is no national statement of acceptable impact, the assessment team does not consider the second scoring issue of the 80SG to be met – that is, it is not ‘highly likely’ that direct effects of the candidate fishery are considered to create unacceptable impacts.</p> <p>Measures for Atlantic wide reduction of turtle bycatch by pelagic longliners are being considered by ICCAT. The assessment team does not consider the need for international cooperation as rationale to postpone additional Canadian regulations to further reduce bycatch in the Canadian swordfish longline fishery.</p> <p>The assessment team considered the indirect effects of the candidate fishery due to the loggerhead bycatch, such as disruption of the food chain, habitat alternation and trophic interactions are unlikely to create unacceptable impacts. The species spends only a portion of its life cycle in the area of the candidate fishery.</p> <p>In summary, the assessment team concludes that the effects of the candidate fishery on loggerhead turtles are highly likely to be within limits of national and international requirements for protection of ETP species, as required by the first scoring issue under the SG 80. Similarly, the assessment team agrees that the third scoring issue of the SG80 has been met, in that the indirect effects of the fishery are considered unlikely to create unacceptable impacts on loggerhead sea turtles. However, it has been concluded that the second scoring issue has not been met under the SG80. Therefore, a score of 75 has been assigned to this scoring element of ETP outcome status.</p>
Client Action Plan	<p>The Atlantic Canadian Loggerhead Turtle Conservation Action Plan (LCAP) will introduce regulatory and process / protocol changes aimed at reducing both the interaction and post release mortality of loggerhead turtles.</p> <p>Some of the operational aspects of the LCAP will come into force immediately while others will not be implemented until year two of the plan.</p> <p>An evaluation of the LCAP performance alone may not be sufficient to demonstrate a reduction in mortality estimates within such a short time period. Updated information on post-release survival is required. DFO Science, collaborating with the swordfish longline industry, is proposing to develop new estimates of post-release survival after being hooked in pelagic longline fishing gear by conducting work between 2011 and 2013; final results are expected to be available in 2014.</p> <p>Other planned research that could lead to potential regulatory changes, proposed by the regulator is outlined in both the LCAP and the Loggerhead Turtle RPA. Details of this research and scheduling time lines are covered under the Client Action Plan for Condition 8, below.</p> <p>While the introduction of gear changes and handling protocols outlined in the LCAP, may allow us to meet the condition, depending on the definition of “highly unlikely” and the actual performance requirements, it may be difficult to evaluate / measure the effectiveness of the gear / handling protocol changes, as these could be offset by other factors.</p>

A RAP review was held on 11, 12 July 2011 to evaluate the precision and stratification of observer data and to recommend changes, if required, to improve monitoring, deployment strategies and schedules, including coverage.

Additional observer training and protocols are currently under development by the regulator and will be implemented for the 2011 fishing season. The aim of these changes is to use a data collection and recording system consistent with that used in the U.S. to help better understand the life stages of loggerhead turtles that are encountered in the Canadian fishery.

A training and certification program, in the proper use of safe handling and release equipment, and data recording protocols was conducted in March of 2011. Training was mandatory for vessel operators and at-sea observers.

Deliverables:

1st Surveillance Audit:

At the first surveillance audit, the NSSA will confirm that training and certification in the use of safe handling and release equipment has been completed, that the requirement for the training and use of this equipment has been incorporated in the license condition for this fishery and demonstrate that other aspects of the LCAP have been adopted within the management plan or license conditions for the fishery.

The NSSA will also provide an update on the meeting to examine the precision and stratification of observer data, recommendations from this meeting to improve monitoring and deployment, and changes resulting from these recommendations.

2nd Surveillance Audit:

At the second surveillance audit, the NSSA will provide an update on fieldwork to determine post-capture survival of loggerhead turtles, which interact with the longline fishery. This update will include the number of loggerhead turtles tagged to date and available updates on survival rates.

3rd Surveillance Audit:

At the third surveillance audit, the NSSA will provide a further update on fieldwork to determine post-capture survival of loggerhead turtles, which interact with the longline fishery. This update will include the number of loggerhead turtles tagged to date and available updates on survival rates.

4th Surveillance Audit:

At the fourth surveillance audit the NSSA will provide the results of the completed post-capture survival study and provide information on how the results of this study and other data collected will be incorporated in an analysis to determine the likelihood that the fishery is within limits of national and international requirements.

The NSSA will also provide an updated Loggerhead Turtle Recovery Potential Assessment (RPA) or other scientific assessment as conducted by DFO or other scientific party, that will demonstrate the impacts to loggerhead turtles that result from interactions with the candidate fishery.

Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>The 2011 Swordfish IFMP and referred to page 81, Sections 35, 36, and 37 with respect to the requirement for license conditions to contain the requirement for vessels to have safe handling and release equipment and training.</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery: http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p>
Observations	<p>The condition requires that by the fourth surveillance audit, evidence is provided that the direct effects of the fishery are highly unlikely to create unacceptable impacts to loggerhead turtles. In the 1st surveillance audit, confirmation of training on the safe handling and release of loggerheads is required as well as demonstration of other aspects of the LCAP. In addition, progress on the evaluation of the appropriate levels of observer coverage is to be provided.</p> <p><u>Loggerhead Handling and Release Training</u></p> <p>Participants in the US Swordfish fishery are required to undertake training in the safe handling and release of sea turtles. A training program based on the US system was established in 2011. US trainers have provided the US training program to the crews in the fishery with a three year certificate provided (example in NSSA, 2013b). This certificate is a condition of licence in the fishery. Consequently, 100% of the fleet has taken the training. K. Martin of the Canadian Sea Turtle Network has taken the training and will provide this service to the fishery in the future.</p> <p><u>Progress against LCAP</u></p> <p>The audit team was provided with a synopsis of progress against LCAP actions by DFO Resource Management (see observations under Condition 7 below). A number of the projects have been completed with progress made against others. Some are still outstanding.</p> <p>A key element of the LCAP is the determination of post-capture survival of loggerheads through satellite tagging studies. These will be assessed during the 2nd and 3rd audits. During the site visit, it was reported that while tagging has been undertaken, marine fouling of the tags has significantly reduced the percent of the tags reporting information. It was not clear to the audit team what the ultimate impact of this would be on the estimation of post-capture survival rates.</p> <p><u>Observer Coverage</u></p> <p>This is addressed under condition 3, where it is noted that while progress has been made, it appears to have slowed. The results of analyses on the appropriate level of observer coverage will not be available until 2015, one year before the 4th surveillance audit. During 2011 – 2012 observer coverage in the large pelagic fishery declined to just above 5% from the 10 – 11% that was in place during the previous two years. Five percent observer coverage is considered a minimum by DFO and is likely based upon the ICCAT standard. The recent reduction in observer coverage is due to the fact that DFO no longer provides funding.</p> <p>While observer coverage has been reduced to minimal levels, improvements have been</p>

	made to fleet coverage.
Conclusion	Progress on this condition is on target with achievement of the requirements of the 1 st surveillance audit (training, progress on LCAP and analysis of observer coverage). While there has been progress on the actions outlined in the LCAP, there is concern on the estimation of loggerhead post-capture survival rates, which will be considered in future audits.

Condition 7	<p>By the first surveillance audit, the client must provide evidence that the Loggerhead Turtle Conservation Action Plan (LCAP) is in place for managing the fishery's impact on ETP species, including measures to minimize mortality, that is designed to be highly likely to achieve national and international requirements for the protection of ETP species. Additionally by the fourth surveillance audit evidence must be presented to show that the strategy is being implemented successfully.</p> <p>Milestones:</p> <p>Year 1 By the first surveillance audit the client must provide evidence that the LCAP is in place.</p> <p>Milestones associated with the first surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at the surveillance audit.</p> <p>Year 2 By the second surveillance audit the client must provide evidence that LCAP measures have been included in the fishery management plan or license conditions and that measures are in place to monitor the effectiveness of implementation.</p> <p>Milestones associated with the second surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3 By the third surveillance audit the client must provide evidence that demonstrates the fleets conformance with the LCAP measures.</p> <p>Milestones associated with the third surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at the surveillance audit.</p> <p>Year 4 By the fourth surveillance audit the fishery client must provide evidence that the strategy has been implemented successfully and includes measures to minimize loggerhead mortality.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher.</p>
PI 2.3.2	<p>The fishery has in place precautionary management strategies designed to:</p> <ul style="list-style-type: none"> • Meet national and international requirements; • Ensure the fishery does not pose a risk of serious or irreversible harm to ETP species;

	<ul style="list-style-type: none"> • Ensure the fishery does not hinder recovery of ETP species; and • Minimize mortality of ETP species.
SG 60	<ul style="list-style-type: none"> • There are measures in place that minimize mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species. • The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).
SG 80	<ul style="list-style-type: none"> • There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality, that is designed to be highly likely to achieve national and international requirements for the protection of ETP species. • There is an objective basis for confidence that the strategy will work, based on some information directly about the fishery and/or the species involved. • There is evidence that the strategy is being implemented successfully.
SG 100	<ul style="list-style-type: none"> • There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality, that is designed to achieve above national and international requirements for the protection of ETP species. • The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis 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 evidence that the strategy is achieving its objective.
Score	75
Rationale	<p>The assessed Endangered, Threatened and Protected (ETP) species are leatherback turtles, loggerhead turtle, green turtle, Kemp's Ridley turtle, pilot whale and northern bottle nose whale. The leatherback turtle and the northern bottlenose whale Scotian Shelf population are listed under the Canadian Species at Risk Act (SARA), the loggerhead, green, Kemp's Ridley turtles and the pilot whale are listed under CITES.</p> <p>This performance indicator was evaluated for each individual ETP species to ascertain if a strategy is indeed in place. This evaluation, however, need not be as detailed as for PI 2.3.1. As indicated above under 2.3.1, interactions of the assessed fishery with green turtle, Kemp's Ridley turtle, pilot whales and northern bottlenose whales are rare to very rare. Canada does not permit any domestic or international trade of these species and therefore the assessed fishery meets the CITES requirements.</p> <p>Recovery potential assessments have been done for leatherback turtles and northern bottle nose whales (Scotian Shelf sub-population) and allowable harm assessments through the SARA legislation process have been done for leatherback turtles and bottle nose whales. Recovery plans have been developed and specific management measures (e.g. the Gully MPA to protect bottle nose whales) have been put in place in accordance with SARA requirements.</p> <p>Loggerhead turtles have been assessed by COSEWIC and determined to be Endangered. Loggerhead is awaiting evaluation in the SARA process. DFO has also conducted a recovery potential assessment for loggerhead turtle in Canadian waters and has developed a Conservation Action Plan for loggerhead turtles which include appropriate management measures cited above. The assessed fishery has demonstrated its willingness to comply with national management measures and international requirements to protect ETP species.</p>

	<p>Of their own volition, the client association (NSSA) had developed a code of conduct for responsible sea turtle handling and mitigation measures which were previously added to the Conservation and Harvesting Plan. The fishing vessels are equipped with de-hooking kits and representatives of all vessels attended a NOAA compliant workshop on the safe handling and release of ETP species and were certified. The assessed fishery has also adopted other voluntary measures to decrease interactions with turtles (larger circle hooks) or decrease the effect of the interactions (longer leaders allowing the turtle to reach the surface).</p> <p>The assessment team concludes that there is a strategy in place for managing the fishery's impact on certain ETP species (leatherback turtles, loggerhead turtles, northern bottle nose whales), including measures to minimize mortality, that is designed to be highly likely to achieve national requirements for species listed under SARA and international requirements for the protection of ETP species. Canada does not allow domestic or international trade of ETP species listed under CITES and recovery plans have been adopted for those species listed under SARA. There is an objective basis for confidence that the strategy will work, e.g. the Gully MPA has been implemented and vessel activity is monitored through VMS. Information is available for the assessed fishery and for the species involved. There is evidence that the strategy is being implemented successfully for leatherback turtles and northern bottlenose whales, therefore, a score of 80 is assigned to these species. Similarly, a score of 80 is assigned to the other ETP species for which there is rare interaction as it is the team's opinion that specific strategies would further reduce the interactions with green turtle, Kemp's Ridley turtle and pilot whales. However, as the Loggerhead Turtle Conservation Action Plan is newly developed, and is due to be fully implemented for the 2011 season, with respect to loggerhead turtles the final scoring issue of the 80SG is not met; there is not yet evidence that the strategy is being implemented successfully.</p> <p>The majority of the scoring elements (species) within this performance indicator scored 80 in relation to outcome status with the exception of loggerhead turtles which scored 65. The LCAP defines the strategy for managing the fishery's impact on ETP, however, as required in the first scoring issue of the 80SG, it will not be clear that the measures defined will minimize mortality of loggerheads. The first scoring issue was not considered to be met. In accordance with MSC scoring methodology, the fishery is scored at 75. As noted above, the Loggerhead Conservation Action Plan will not be implemented until 2011, and while there is confidence the strategy will work, the first and final SG80 scoring issues were not met.</p>
Client Action Plan	<p>The Atlantic Canadian Loggerhead Turtle Conservation Action Plan (LCAP) was finalized in October of 2010. Measures outlined in the LCAP are scheduled to be included in the 2011 Conditions of License for Swordfish and Other Tunas, the Swordfish Longline Conservation / Harvesting Plan (CHP) and the Swordfish / Other Tuna Integrated Fisheries Management Plan (IFMP). A copy of these documents will be available for review for the first surveillance audit to demonstrate that the measures have been implemented successfully.</p> <p>Other planned research that could lead to potential regulatory changes, proposed by the regulator are outlined in both the LCAP and the Loggerhead Turtle RPA. Details of this research and scheduling time lines are covered under the Client Action Plan for Condition 8, below.</p> <p>A RAP review was conducted on 11, 12 July 2011 to evaluate the precision and stratification of observer data and to recommend changes, if required, to improve monitoring, deployment strategies and schedules, including coverage.</p>

	<p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide evidence that LCAP is in place for managing the fisheries impact on ETP species, particularly loggerhead turtles.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will confirm that identified LCAP measures have been included in the fishery management plan or license conditions and what measures are in place to monitor the effectiveness of implementation.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide evidence that demonstrates conformance of these measures identified in the strategy with the fleet.</p> <p>4th Surveillance Audit:</p> <p>At the fourth surveillance audit, the NSSA will confirm that the strategy has been implemented successfully and includes measures to minimize loggerhead mortality.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>The 2011 Swordfish IFMP and referred to page 81, Sections 35, 36, and 37 with respect to the requirement for license conditions to contain the requirement for vessels to have safe handling and release equipment and training.</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p>
Observations	<p>The condition requires the successful implementation of the LCAP by the 4th surveillance audit. Evidence that the plan is in place is the requirement of the 1st surveillance audit.</p> <p>The responsibility for implementation of the plan is shared between DFO Resource Management and DFO Science (Jennifer Ford, DFO, pers. comm.). An update on the Strategies and Actions for the Bycatch Mitigation section of the LCAP was provided by DFO Resource Management and Science after the site visit. As a result, the audit team did not have the benefit of being able to query progress against each planned activity.</p> <p>The audit team would like the client to provide a detailed update on the LCAP each year of the certification.</p>
Conclusion	<p>The audit team received a summarised update on progress against specific actions within the plan after the site visit. DFO indicate that they have met many of the actions. The audit team requires that the client provides detailed evidence of the actions undertaken in relation to the LCAP at subsequent audits. Progress on this condition is on target with respect to the requirement of the 1st surveillance audit.</p>

Condition 8	<p>By the fourth surveillance audit, the client must present information considered sufficient to determine whether the fishery poses a threat to protection and recovery of the ETP species, specifically loggerhead turtle. Information must be sufficient to not only measure trends but also to support a full strategy to manage impacts.</p> <p>Milestones:</p> <p>Year 1 By the first surveillance audit the client must to provide: 1. A confirmed work plan, including an outline of the information to be collected and examined to determine whether the fishery poses a threat to protection and recovery of ETP species, specifically loggerhead turtles. 2. A final version of the RAP report conducted on observer coverage and by-catch. 3. As outlined under other conditions pertaining to loggerhead turtles, an update on changes to at-sea observer protocols and deployment strategies.</p> <p>Milestones associated this surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 2 By the second surveillance audit, the client must provide an update on the deployment of satellite tags to determine post release survival of loggerhead turtles as well as any results of the post release survival work conducted to date.</p> <p>Milestones associated with the second surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3 By the third surveillance audit, the client must provide a further update on fieldwork to determine post-capture survival of loggerhead turtles, which interact with the longline fishery. It is expected that the update will include details on the number of loggerhead turtles tagged to date and any available updates on survival rates.</p> <p>Milestones associated with the third surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 4 By the fourth surveillance audit the client must: 1. Present the results of the completed post-capture survival study and provide information on how the results of this study and other data collected will be incorporated in an analysis to determine the likelihood that the fishery is within limits of national and international requirements. 2. Provide an updated Loggerhead Turtle Recovery Potential Assessment (RPA) or other scientific assessment as conducted by DFO or other scientific party that will demonstrate the impacts to loggerhead turtles that result from interactions with the candidate fishery.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher</p>
PI 2.3.3	<p>Relevant information is collected to support the management of fishery impacts on ETP species, including:</p> <ul style="list-style-type: none"> Information for the development of the management strategy;

	<ul style="list-style-type: none"> • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species.
SG 60	<ul style="list-style-type: none"> • Information is adequate to broadly understand the impact of the fishery on ETP species. • Information is adequate to support measures to manage the impacts on ETP species. • Information is sufficient to qualitatively estimate the fishery related mortality of ETP species
SG 80	<ul style="list-style-type: none"> • Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts. • Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species
SG 100	<ul style="list-style-type: none"> • Information is sufficient to quantitatively estimate outcome status with a high degree of certainty. • Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives. • Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
Score	70
Rationale	<p>Qualitative and some quantitative information is available on the amount of ETP species affected by the fishery. This information is sufficient to estimate outcome status with respect to biologically based limits for some but not all main ETP species. The information is adequate to support a partial strategy to manage the fishery, but the assessment team considers that there is insufficient data collected to detect any increase in risk to ETP species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy). The team considers that all the 60 scoring guideposts are met.</p> <p>The assessment team is concerned that there may be insufficient observer coverage, particularly when the numbers of animals sampled go down and that the robustness of the sampling design for the observer coverage has not been evaluated. The team considered that the first requirement of the first scoring issue under the 80SG, (i.e. information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species), was not fully met. The team's assessment was that the current information is not sufficient to determine whether the fishery may be a threat to the recovery of loggerhead turtle. The assessment team assigns a score of 70 for this PI.</p>
Client Action Plan	<p>The swordfish longline industry, through the at-sea observer program and data collected in the SARA logbooks, will continue to collect information that will assist Fisheries and Oceans Canada to determine whether the fishery poses a threat to protection and recovery of loggerhead turtles.</p> <p>As part of the LCAP adopted in October 2010, a RAP review was held on 11, 12 July 2011 to evaluate the precision and stratification of observer data and to recommend changes, if required, to improve monitoring, deployment strategies and schedules, including coverage.</p> <p>Deliverables:</p>

	<p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide a work plan, including an outline of the information to be collected and examined to determine whether the fishery poses a threat to protection and recovery of ETP species, specifically loggerhead turtles. Also, a final version of the July 2011 RAP report conducted on observer coverage and by-catch in this fishery will be provided. As outlined under other conditions pertaining to loggerhead turtles, the NSSA will also provide an update on changes to at-sea observer protocols and deployments.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will provide an update on the deployment of satellite tags to determine post release survival of loggerhead turtles and any results to date.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide a further update on fieldwork to determine post-capture survival of loggerhead turtles, which interact with the longline fishery. This update will include the number of loggerhead turtles tagged to date and available updates on survival rates.</p> <p>4th Surveillance Audit:</p> <p>At the fourth surveillance audit, the NSSA will provide the results of the completed post-capture survival study and provide information on how the results of this study and other data collected will be incorporated in an analysis to determine the likelihood that the fishery is within limits of national and international requirements.</p> <p>The NSSA will also provide an updated Loggerhead Turtle Recovery Potential Assessment (RPA) or other scientific assessment as conducted by DFO or other scientific party, that will demonstrate the impacts to loggerhead turtles that result from interactions with the candidate fishery.</p>
Client Progress	<p>The client provided a verbal update and the following information:</p> <p>The 2011 Swordfish IFMP and referred to page 81, Sections 35, 36, and 37 with respect to the requirement for license conditions to contain the requirement for vessels to have safe handling and release equipment and training.</p> <p>A DFO Science Advisory Report (2011/057, October 2011) entitled Consideration for the Estimation of Incidental Catch in the Eastern Canadian Swordfish /other Tunas Longline Fishery http://www2.mar.dfo-mpo.gc.ca/science/rap/internet/SAR_2011_057_E.pdf.</p> <p>The document was generated following a July 2011 meeting that explored methodologies for the calculation of discards and post release mortality estimates.</p>
Observations	<p>The condition requires that by the fourth surveillance audit, the information collection mechanisms are in place to allow the determination and management of the fishery's impacts on loggerhead turtles. The requirements of the 1st surveillance audit are for the client to provide:</p> <ol style="list-style-type: none"> 1. A confirmed work plan, including an outline of the information to be collected and examined to determine whether the fishery poses a threat to protection and recovery of ETP species, specifically loggerhead turtles.

	<p>2. A final version of the RAP report conducted on observer coverage and by-catch.</p> <p>3. An update on changes to at-sea observer protocols and deployment strategies.</p> <p><u>Work plan</u></p> <p>Within the client's submission, the audit team were provided with a copy of a DFO bycatch work plan that outlines research and management activities of six key bycatch species: bluefin tuna, porbeagle, shortfin mako, blue shark, leatherback turtle, loggerhead turtle as well as discarding of swordfish. This plan is a 'living' document in that it is updated by DFO as needed to address changing priorities. Issues with the work plan were noted by the audit team (see condition 11). These made it difficult for the audit team to ascertain which projects have been undertaken and what progress has been made to date.</p> <p>On review of the draft surveillance report, the client indicated that the audit team mistakenly referred to the DFO work plan rather than the LCAP. The team was surprised that the LCAP was considered to be the work plan. To avoid confusion at future audits, the team requires that the client to provide information that clearly demonstrates that the loggerhead turtle work associated with the LCAP and DFO bycatch work constitutes a work plan.</p> <p><u>Observer Coverage</u></p> <p>This is addressed under condition 3, where it is noted that while progress on the determination of appropriate observer coverage levels has been made, it appears to have slowed. The results of analyses on the appropriate level of observer coverage will not be available until 2015, one year before the 4th surveillance audit.</p> <p><u>Observer Protocols and Deployments</u></p> <p>As noted under condition 3, during 2011 – 2012, observer coverage in the large pelagic fishery declined to just above 5% from the 10 – 11% that was in place during the previous two years. Five percent observer coverage is considered a minimum by DFO and is likely based upon the ICCAT standard. The recent reduction in observer coverage is due to the fact that DFO no longer provides funding. This may also has ramifications for DFO's capacity to direct observer coverage to address specific issues (e.g. tagging loggerhead turtles). Motivated by the July 2011 review, DFO has made administrative changes (Mike Eagles, DFO, pers. comm.) to randomly assign observers to all licence holders, all vessel sizes and fishing areas.</p>
Conclusion	<p>While the requirements of the 1st surveillance audit are met, the audit team requires that the work being undertaken within the DFO bycatch workplan and LCAP is more clearly described in a single work plan for the next surveillance audit.</p>

Condition 9	<p>By the third surveillance audit, evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the Canadian longline swordfish management policy.</p> <p>Milestones:</p> <p>Year 1</p> <p>At the first surveillance audit the client must provide documented evidence to confirm that a request has been made to both ALPAC and SFLPAC for the adoption of an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery. The policy should address both MSC Principles 1 and</p>
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	<p>2.</p> <p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 2</p> <p>At the second surveillance audit the client must provide a copy of the Swordfish and Other Tunas IFMP and other relevant management measures, to document that the precautionary approach to management has been implemented for this fishery.</p> <p>Milestones associated with the second surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3</p> <p>At the third surveillance audit the client must provide evidence of Canadian efforts at ICCAT to encourage the adoption of a policy for application of the precautionary approach to fishery management decisions. Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher</p>
PI 3.1.3	The management policy has clear long-term objectives to guide decision-making that are consistent with MSC principles and criteria, and incorporates the precautionary approach.
SG 60	<ul style="list-style-type: none"> Long-term objectives to guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are implicit within management policy.
SG 80	<ul style="list-style-type: none"> Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within management policy.
SG 100	<ul style="list-style-type: none"> Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy.
Score	75
Rationale	<p>A key difference between indicator 3.1.1 and indicator 3.1.3 is the latter's implicit or explicit application of the precautionary approach within the management policy. As noted for 3.1.1, ICCAT and Canadian fishery management objectives are generally consistent with MSC principles. However, this does not necessarily mean that decision making applies the precautionary approach.</p> <p>It is the judgment of the Assessment Team that Canada implicitly applies the precautionary approach as a high level policy guiding domestic management and in the policy positions it advocates at ICCAT. Canada was one of "forces" behind the UN Fish Stocks Agreement, which formalizes the precautionary approach for Highly Migratory Species and Straddling Stocks. It took the initiative to convene an ICCAT workshop on the application of the precautionary approach to Atlantic bluefin tuna. The precautionary approach is stated as one of the guiding principles and approaches of the Eastern Scotian Shelf Integrated Ocean Management Plan (ESSIM). However, the area of the Canadian longline and harpoon swordfish fisheries extend beyond the boundaries of the ESSIM.</p>

	<p>The explicit application of the precautionary approach as a matter of high level policies required for a score of 80 or more is lacking for ICCAT. Furthermore, the precautionary approach should be applied to decisions associated with both principles 1 and 2. ICCAT has been slow to respond to uncertainty information on the status of some stocks under its jurisdiction. In the candidate fishery, there is little evidence of the application of the precautionary approach in the face of uncertain scientific information on the potential threat to vulnerable species (e.g., sea turtles, sharks) posed by longline bycatch. The fishery scores 75 for this PI, there are long term objectives within both ICCAT and Canada which are consistent with MSC P1. Canada implicitly applies the precautionary approach in its management decisions. A score of 80 was not achieved because there are not clear long term objectives which are applied in relation to P2 species for which there is still high uncertainty.</p>
Client Action Plan	<p>The swordfish longline industry will raise this issue at the first meeting of both ALPAC and SFLPAC following certification. The industry will recommend that Canada adopt an explicit policy consistent with MSC Principles 1 and 2 and the precautionary approach within the Canadian Swordfish IFMP. While the recommendation will be made by industry within the time period suggested by this condition, the adoption within the Canadian Swordfish IFMP will be dependent upon the timing of final certification of the fishery. It is anticipated that the new Canadian Swordfish IFMP will be completed in 2011.</p> <p>Canada has been a leader in putting forward the use of the precautionary approach at the ICCAT level in recent years and will continue to do so in future. Canada has hosted an ICCAT precautionary approach workshop and continues to work within the ICCAT precautionary approach working group to work towards the adoption of the precautionary approach to management of ICCAT species. A meeting of this working group was held in April 2010 with Canadian participation and Canada will continue to participate in future working group meetings to forward the adoption of the precautionary approach by ICCAT.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide documentation of its request at both ALPAC and SFLPAC that Canada should adopt an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery. The policy must address both MSC Principles 1 and 2 components. A copy of the Swordfish and Other Tunas IFMP will be provided to document that this approach to management has been implemented domestically for this fishery.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will provide a copy of the Swordfish and Other Tunas IFMP and other relevant management measures, will be provided to document that this approach to management has been implemented domestically for this fishery as evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the management policy.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide evidence of Canadian efforts at</p>

	<p>ICCAT to encourage the adoption of a policy by ICCAT for application of the precautionary approach to fishery management decisions within its competency. This would include, but not be limited to, the report of The 2011 Joint Meeting of the ICCAT Working Group on Stock Assessment Methods and Bluefin Tuna Species Group to Analyze Assessment Methods Developed Under the GBYP and Electronic Tagging (Madrid, Spain – June 27-July 1, 2011), where discussions were to include applying the precautionary approach to species managed by ICCAT.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>Letters from the NSSA and SHQ Swordfish Harpoon Quota Society to the Head of the Canadian Delegation to ICCAT (Faith Scattolon), indicating a desire for Canada to continue to work to advance the application of the precautionary approach within ICCAT and for ICCAT managed species, as well as at the national level (NSSA 2012).</p> <p>A letter from the NSSA to the Chairs of ALPAC and SFALPAC highlights a request that the Department adopts an explicit policy within the swordfish IFMP to address the condition (NSSA 2011).</p> <p>Canadian Atlantic Swordfish and Other Tunas – 2011 IFMP as evidence that the precautionary approach has been adopted within the Canadian management system associated with this fishery.</p> <p>An ICCAT document entitled Recommendations by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures (REC 11-13 GEN), which was adopted at the 2011 ICCAT Annual Meeting and sets principles that will be used to guide the development of management measures for ICCAT managed stocks. (ICCAT 2011c)</p>
Observations	<p>The condition requires that by the third surveillance audit, evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the Canadian longline swordfish management policy. The requirement for the first annual audit is the client must provide documented evidence to confirm that a request has been made to both ALPAC and SFLPAC for the adoption of an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery. The policy should address both MSC Principles 1 and 2.</p> <p>ALPAC & SFALPAC</p> <p>Evidence was provided that shows the NSSA requested through the Chairs of ALPAC and SFALPAC that DFO adopt an explicit policy within the swordfish IFMP to address the condition. Thus meeting the first year requirements.</p> <p>ICCAT</p> <p>A letter from the NSSA to the Head of the Canadian Delegation to ICCAT (Faith Scattolon), indicating a desire for Canada to continue to work to advance the application of the precautionary approach within ICCAT for ICCAT managed species, was also provided.</p> <p>The Recommendations by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures (REC 11-13 GEN), which was adopted at the 2011 ICCAT Annual Meeting and sets principles that will guide the development of management measures for ICCAT managed stocks is considered to articulate a management approach that is consistent with the precautionary approach. It stems from the Commission's recommended course of actions from the first global summit of Tuna</p>

	<p>RFMOs in Kobe, Japan. A ‘Strategy Matrix’ (termed the Kobe matrix) has been adopted to provide fisheries managers with the statistical probability of meeting management targets, including ending overfishing and rebuilding overfished stocks in as short a period as possible. This framework is to guide the management of all ICCAT fisheries. The HCR being developed for North Atlantic Swordfish (see condition 2) is to be consistent with this framework and thus with the precautionary approach.</p> <p>DFO</p> <p>The Atlantic Swordfish and other Tunas IFMP (DFO, 2011a) was approved in 2011. However, the department has decided that due to the length of the document only a summary will be placed on the website. As yet, the summary has been approved at the DFO Resource Branch level, is expected to be regionally approved soon, after which it will be sent to DFO Ottawa for placement on the website (Mike Eagles, DFO, pers. comm.).</p> <p>The IFMP uses the new national template which includes long-term objectives and a section on the precautionary approach with emphasis on MSC Principle 1.</p> <p>The precautionary approach is described in the plan’s glossary as a, “<i>Set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.</i>”</p> <p>There is also mention of, keeping “<i>...fishing mortality of sharks moderate by maintaining precautionary management measures that, where possible, are species-specific</i>”.</p> <p>There is no specific mention of the precautionary approach with regard to other P2 elements, e.g. turtles, although sections of the plan describe how other Canadian initiatives and protection mechanisms with respect to turtles are, or will, apply to the pelagic longline fleet.</p> <p>It is noted that the same condition, but without milestones, was set for the harpoon swordfish fishery in 2010. Given that the harpoon fishery was not considered to have any P2 interactions, unlike the longline fishery, there was no requirement to demonstrate the implementation of the precautionary approach and so it was closed out at the 2012 audit.</p>
Conclusion	<p>Progress on this condition is on target. Next year’s audit will need to confirm how the precautionary approach has been implemented particularly with respect to MSC Principle 2.</p>

Condition 10	<p>By the third surveillance audit, evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the Canadian longline swordfish management policy.</p> <p>Milestones:</p> <p>Year 1</p> <p>During the first surveillance audit the client shall provide documentary evidence of its request at both ALPAC and SFLPAC that Canada should adopt an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery. The policy should address both MSC Principles 1 and 2.</p>
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	<p>Milestones associated with the first surveillance audit have been defined as a means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 2</p> <p>At the second surveillance audit the client is required to provide evidence that this approach to management has been implemented domestically for this fishery as evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the management policy.</p> <p>Milestones associated with the second surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of score at this surveillance audit.</p> <p>Year 3</p> <p>At the third surveillance audit, the client is required to provide evidence of Canadian efforts at ICCAT to encourage the adoption of a policy by ICCAT for application of the precautionary approach to fishery management decisions within its mandate.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher.</p>
PI 3.2.2	The fishery-specific management system includes effective decision making processes that result in measures and strategies to achieve the objectives.
SG 60	<ul style="list-style-type: none"> • There are informal decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. • Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.
SG 80	<ul style="list-style-type: none"> • There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. • Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. • Decision-making processes use the precautionary approach and are based on best available information. • Explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
SG 100	<ul style="list-style-type: none"> • There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. • Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. • Decision-making processes use the precautionary approach and are based on best available information. • Formal reporting to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.

Score	75
Rationale	<p>In accordance with the Remand issued by the Independent Adjudicator on 7 February 2012, the original scoring rationale for this PI was revised as below.</p> <p>On 6 September 2010, the MSC issued Policy Advisory 18, which Section 4 clarified: “<i>In the PISG tables, where identical scoring issues are repeated at different SG levels (in PIs 1.1.2, 1.2.2, 3.1.1, 3.2.2, 3.2.3), the text at the higher SG level/s is hereby deleted, leaving the text to appear only once at the lowest current SG level.</i>” This new guidance removes the first and third scoring issue at the 100SG of this PI, thus removing the impact of these scoring issues on the final score.</p> <p>FAM v1, section 8.3.4 provides specific guidance related to this performance indicator: “The performance indicator states: “...decision-making processes that result in measures and strategies etc.”. In this context, the relevant performance-related issue is whether the decision-making processes actually produce measures and strategies, not an evaluation of the quality of those measures and strategies which is covered elsewhere in the Assessment Tree structure under Principles 1 and 2. The assessment issue is about the decision-making processes themselves.”</p> <p>Section 8.3.4 clarifies that the PI evaluates whether the decision making processes results in measures and strategies. The scoring rationales provided in Principle 1 and Principle 2 clearly demonstrates that ICCAT and DFO produce measures and strategies. ICCAT is responsible for management decisions associated with both Principle 1 (swordfish) as well as a number of other species evaluated under Principle 2 and clearly produces strategies and measures for swordfish and other species. In 1999, ICCAT responded to scientific evidence that the North Atlantic Swordfish population was overfished and needed to be rebuilt. ICCAT management decisions have a degree of transparency as the organization allows its formal meetings to be observed and there are publically available records of meetings, decisions (resolutions and recommendations) and scientific work. Most negotiations typically take place in private, and there is no formal process for explaining those negotiations although Commission decisions are clearly communicated.</p> <p>The Atlantic Large Pelagic Advisory Committee (ALPAC) and the Scotia Fundy Large Pelagics Advisory Committee (SFLPAC) are the voice of stakeholders in the Canadian management process. However, the membership of ALPAC and SFLPAC is dominated by fishing industry interests and the relationship between their advice and DFO decisions is not always clear. Minutes of these meetings are produced and are distributed to members and are available upon request to interested stakeholders.</p> <p>The Canadian Species at Risk Act is the management framework that is most relevant to Principle 2 species. SARA listing determinations are informed by scientific analyses conducted by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Information on the impact of the longline swordfish fishery on potentially vulnerable species such as sea turtles and sharks is inherently uncertain. The allowable catch of porbeagle sharks (all fisheries including longliners) was set within the range that would have allowed for the recovery of the population according to COSEWIC. Leatherback sea turtles have been listed under Part 2 (Endangered Species) of SARA for several years, but an Atlantic Recovery Action Plan has not been released. In 2004, DFO recommended that all feasible measures to minimize harm to leatherbacks should be taken. Loggerhead turtles have been designated as Endangered by COSEWIC, however, to date have not been legally protected through listing on Schedule 1 of SARA. A Recovery Potential Assessment was conducted by DFO in response to the designation by COSEWIC of loggerhead turtles.</p>

	<p>The 2008 Report of the Independent Review of ICCAT demonstrates clearly that the RFMO responds to serious and important issues as identified in relevant research, monitoring and evaluation. That report goes on to clearly describe how decisions are made and how implications of decisions are considered in both the scientific and Commission settings. The report indicates that the RFMO produces generally sound approaches to fisheries management, its standing committee and panel structure are sound and provide timely advice to ICCAT, the SCRS provides sound advice and the performance of the Secretariat is sound and well regarded as both efficient and effective by CPCs. The Independent Review panel concluded that many of the performance issues related to management of all stocks are caused by CPCs failing to provide timely and accurate data.</p> <p>Similar to 3.1.2, there is a recommendation under this PI that the client works to formalize the membership of the advisory committee, which should be expanded to include a broader representation of non-commercial fishing interests. Additionally, advisory committees and DFO should adopt and apply operational guidelines that formalize stakeholder recommendations. DFO should acknowledge these recommendations in decision making and explain the rationale for deviations. Such changes would improve the consultation process within the candidate fishery.</p> <p>The team is satisfied that the first scoring issue of SG80 is met. There are established decision making processes both within ICCAT and DFO which result in measures and strategies to achieve fishery-specific objectives.</p> <p>Decision making is transparent and responds to serious and other important issues. There was concern that at the broader level, some ICCAT decision making processes were not always timely (i.e. second 80SG scoring issue) however the team considered that for many matters concerning swordfish and other species, ICCAT has been timely. The team considers the second scoring issue met.</p> <p>There is no implicit or explicit evidence that ICCAT decision processes use the precautionary approach. The Independent Review Panel recommended that the CPCs should adopt a precautionary approach to fisheries management where data is poor or lacking. The team considered the third scoring issue not met.</p> <p>ICCAT recommendations and resolutions typically provide rationales which explain recommended actions for its members. DFO management actions are clearly communicated and the management objectives of those actions are clearly explained. The team considers the fourth scoring issue met.</p> <p>A score of 75 was awarded for this PI. The team was satisfied that the first, second and fourth scoring issues of the SG80 were met. The team concluded that ICCAT did not explicitly or implicitly employ the precautionary approach (i.e. third 80SG scoring issue). As one scoring issue was not met and three were, the team awarded a score of 75.</p>
Client Action Plan	<p>The swordfish longline industry will raise this issue at the first meeting of both ALPAC and SFLPAC following certification. The industry will recommend that Canada adopt an explicit policy consistent with MSC Principles 1 and 2 and the precautionary approach within the Canadian Swordfish IFMP. While the recommendation will be made by industry within the time period suggested by this condition, the adoption within the Canadian Swordfish IFMP will be dependent upon the timing of final certification of the fishery. It is anticipated that the new Canadian Swordfish IFMP will be completed in 2011.</p> <p>Canada has been a leader in putting forward the use of the precautionary approach at the</p>

	<p>ICCAT level in recent years and will continue to do so in future. Canada has hosted an ICCAT precautionary approach workshop and continues to work within the ICCAT precautionary approach working group to work towards the adoption of the precautionary approach to management of ICCAT species. A meeting of this working group was held in April, 2010 with Canadian participation and Canada will continue to participate in future working group meetings to forward the adoption of the precautionary approach by ICCAT.</p> <p>Deliverables:</p> <p>1st Surveillance Audit:</p> <p>At the first surveillance audit, the NSSA will provide documentation of its request at both ALPAC and SFLPAC that Canada should adopt an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit the NSSA, will provide a copy of the Swordfish and Other Tunas IFMP and other relevant management measures, in order to show that this approach to management has been implemented domestically for this fishery and provides evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the management policy.</p> <p>3rd Surveillance Audit:</p> <p>At the third surveillance audit, the NSSA will provide evidence of Canadian efforts at ICCAT to encourage the adoption of a policy by ICCAT for application of the precautionary approach to fishery management decisions within its competency. This would include, but not be limited to, and the report of The 2011 Joint Meeting of the ICCAT Working Group on Stock Assessment Methods and Bluefin Tuna Species Group to Analyze Assessment Methods Developed Under the GBYP and Electronic Tagging (Madrid, Spain – June 27-July 1, 2011), where discussions were to include applying the precautionary approach to species managed by ICCAT.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>Letters from the NSSA and SHQ Swordfish Harpoon Quota Society to the Head of the Canadian Delegation to ICCAT (Faith Scattolon), indicating a desire for Canada to continue to work to advance the application of the precautionary approach within ICCAT and for ICCAT managed species, as well as at the national level (NSSA 2012).</p> <p>A letter from the NSSA to the Chairs of ALPAC and SFALPAC highlights a request that the Department adopts an explicit policy within the swordfish IFMP to address the condition (NSSA 2011).</p> <p>Canadian Atlantic Swordfish and Other Tunas – 2011 IFMP as evidence that the precautionary approach has been adopted within the Canadian management system associated with this fishery.</p> <p>An ICCAT document entitled Recommendations by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures (REC 11-13 GEN), which was adopted at the 2011 ICCAT Annual Meeting and sets principles that will be used to guide the development of management measures for ICCAT managed</p>

	stocks. (ICCAT 2011c)
Observations	<p>The condition requires that by the third surveillance audit, evidence that clear long-term objectives which guide decision-making, are consistent with MSC Principles and Criteria, and the precautionary approach, must be explicit within the Canadian longline swordfish management policy. The requirement for the first annual audit is the client must provide documented evidence to confirm that a request has been made to both ALPAC and SFALPAC for the adoption of an explicit policy for application of the precautionary approach to management decisions for the longline swordfish fishery. The policy should address both MSC Principles 1 and 2.</p> <p>ALPAC & SFALPAC</p> <p>Evidence was provided that shows the NSSA requested through the Chairs of ALPAC and SFALPAC that DFO adopt an explicit policy within the swordfish IFMP to address the condition, thus meeting the first year's audit requirements.</p> <p>ICCAT</p> <p>A letter from the NSSA to the Head of the Canadian Delegation to ICCAT (Faith Scattolon), indicating a desire for Canada to continue to work to advance the application of the precautionary approach within ICCAT for ICCAT managed species, was also provided.</p> <p>The Recommendations by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures (ICCAT 2011c), which was adopted at the 2011 ICCAT Annual Meeting and sets principles that will guide the development of management measures for ICCAT managed stocks is considered to articulate a management approach that is consistent with the precautionary approach. It stems from the Commission's recommended course of actions from the first global summit of Tuna RFMOs in Kobe, Japan. A 'Strategy Matrix' (termed the Kobe matrix) has been adopted to provide fisheries managers with the statistical probability of meeting management targets, including ending overfishing and rebuilding overfished stocks in as short a period as possible. This framework is to guide the management of all ICCAT fisheries. The HCR being developed for North Atlantic Swordfish (see condition 2) is to be consistent with this framework and thus with the precautionary approach.</p> <p>No mention is made of the use of the precautionary approach with respect to other ecosystem considerations, i.e. MSC Principle 2.</p> <p>DFO</p> <p>The Atlantic Swordfish and other Tunas IFMP (DFO, 2011a) was approved in 2011. However, the department has decided that due to the length of the document only a summary will be placed on the website. As yet, the summary has been approved at the DFO Resource Branch level, is expected to be regionally approved soon, after which it will be sent to DFO Ottawa for placement on the website (Mike Eagles, DFO, pers. comm.).</p> <p>The IFMP uses the new national template which includes long-term objectives and a section on the precautionary approach with emphasis on MSC Principle 1.</p> <p>The precautionary approach is described in the plan's glossary as a, "<i>Set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.</i>"</p>

	<p>There is also mention of, keeping “...<i>fishing mortality of sharks moderate by maintaining precautionary management measures that, where possible, are species-specific</i>”.</p> <p>There is no specific mention of the precautionary approach with regard to other P2 elements, e.g. turtles, although sections of the plan describe how other Canadian initiatives and protection mechanisms with respect to turtles are, or will, apply to the pelagic longline fleet.</p> <p>It is noted that the same condition, but without milestones, was set for the harpoon swordfish fishery in 2010. Given that the harpoon fishery was not considered to have any P2 interactions, unlike the longline fishery, there was no requirement to demonstrate the implementation of the precautionary approach and so it was closed out at the 2012 audit.</p>
Conclusion	<p>Progress on this condition is on target. Next year’s audit will need to confirm how the precautionary approach has been implemented particularly with respect to MSC Principle 2.</p>

Condition 11	<p>By the second surveillance audit the client, in cooperation with the management body, must have in place a research plan which provides a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC Principles 1 and 2, in particular with respect to the fisheries interaction and impact on ETP species. While there is a research plan in place, it is focused on Principle 1 related issues, and there is minimal research on methods for reducing longline interactions with endangered, threatened and protected species. As such, to meet the 80SG, a research plan to reduce longline interactions with ETP species shall be designed and implement by the fishing industry in cooperation with DFO.</p> <p>Milestones:</p> <p>Year 1</p> <p>By the first surveillance audit the client must provide an update and evidence of its efforts, through consultations with industry, other stakeholders, and the management, body to develop a comprehensive short-term and long-term research plan with respect to retained species, by-catch species, and ETP species encountered in the fishery. It must be evident that the research plan being developed will provide information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. This plan must incorporate the research outlined in both the LCAP and the Loggerhead Turtle RPA and also contain further research on species considered in this assessment under the Retained and By-Catch headings.</p> <p>Milestones associated with the first surveillance audit have been defined as means to monitor progress in meeting the condition, meeting the milestone requirements would likely not result in a change of the score at this surveillance audit.</p> <p>Year 2</p> <p>By the second surveillance audit, the client must provide a copy of the final version of the research plan which provides a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC Principles 1 and 2.</p> <p>Provided the actions defined in the milestones and the deliverables in the client action plan are met, the PI would be rescored at 80 or higher</p>
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PI 3.2.4	The fishery has a research plan that addresses the information needs of management.
SG 60	<ul style="list-style-type: none"> Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are available to interested parties.
SG 80	<ul style="list-style-type: none"> 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. Research results are disseminated to all interested parties in a timely fashion.
SG 100	<ul style="list-style-type: none"> 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. Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available.
Score	70
Rationale	<p>Fisheries and Oceans Canada (DFO) prepares an annual research plan for large pelagic species. The research plan is reviewed with ALPAC. Canada also participates in research and scientific assessments coordinated by the Standing Committee on Research and Statistics (SCRS) of ICCAT. Canada collects catch and effort data and reports it to ICCAT as required as the basis for scientific assessments. It also conducts research on some demographic (e.g., age and growth) and behavioural (migratory patterns) aspects of the North Atlantic swordfish population. Canadian scientists play a prominent role in the activity of SCRS (e.g., one currently chairs the swordfish assessment group).</p> <p>The research plan generally provides reliable and timely information on the status of the North Atlantic swordfish population (SG 80 for Principle 1). The Plan would be deemed more comprehensive (and therefore qualify for a higher score according to the scoring guideline) if it allowed for more sophisticated assessment methodology based on reliable information on catch at age.</p> <p>While there is on-going research conducted by various groups, including academic organizations and the industry pertaining to the impact of the fishery on Principle 2 components, the assessment team does not consider the research plan itself sufficiently achieves the objectives consistent with MSC's Principle 2 components. As such, while the research plan in place is considered sufficient to achieve the objectives consistent with MSC's Principle 1, a weakness of the Canadian longline swordfish research program is that there is minimal research on methods for reducing longline interactions with endangered, threatened and protected species. In 2001 and 2002, observer coverage was increased to a level that might have been sufficient to better document the nature of these interactions, but in recent years the number of observed trips has probably been insufficient to reliably estimate the number of interactions, or to support research to reduce interactions.</p> <p>Scientific information and advice resulting from Canadian research is widely distributed through scientific publications, DFO reports and ICCAT reports. Research planning, updates and results are discussed in several forums including between DFO and the industry and at both ALPAC and ASLPAC. Discussion and dissemination of results at these forums allows for interested stakeholders to provide input. As such the second scoring issue of the 80SG is considered met.</p>

	Given that the candidate fishery meets all requirements of the 60SG, as well as meets the second scoring issue under the 80SG, this fishery is scored at 70.
Client Action Plan	<p>Through consultations with industry and other stakeholders, the management body is currently in the process of developing a comprehensive short-term and long-term research plan with respect to retained species, by-catch species, and ETP species encountered in the fishery that will provide information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. This plan will incorporate the research outlined in both the LCAP and the Loggerhead Turtle RPA, but will also contain further research on species considered in this assessment under the Retained and By-Catch headings.</p> <p>The purpose of the plan is to assist in better quantifying interaction levels and determine possible measures to reduce both interaction levels and harm levels where appropriate. It is anticipated that this plan will be finalized and underway in 2011 and a copy of the research plan will be available for the review during the second surveillance audit.</p> <p>The research plan will include, but not be limited to the following actions:</p> <p>Research Work Currently Underway</p> <ol style="list-style-type: none"> 1. Investigate the effects of gear deployment (e.g. set time, set duration) on the frequency of encounters. <ol style="list-style-type: none"> a. Analysis of the 2011 / 2002 interaction data to propose improved fishing practices to mitigate turtle interactions (Tech report 2011) 2. Analysis of data from enhanced Observer coverage undertaken in 2001 and 2002 to improve monitoring, if improvements are required. <ol style="list-style-type: none"> a. Years with enhanced observer coverage of large pelagic fleet (Evaluate the utility of higher observer coverage conducted in 2001/2002) with respect to quantifying an improvement in precision. (RAP July 11-12, 2011) 3. Use improved data collection identified in the Monitoring section above to enhance estimation of post-release mortality of by-caught turtles. <ol style="list-style-type: none"> a. Enhanced data collection protocols for recording the type of information required to understand the condition of release. (2011) b. Improve handling practices to mitigate post release mortality 4. Best practices for by-catch estimation. <ol style="list-style-type: none"> a. Work with U.S. counterparts on a consistent approach to by-catch estimation (this is on-going work using existing data) <p>Proposed and Long Term</p> <ol style="list-style-type: none"> 1 Documentation of current fishing practices and literature review. <ol style="list-style-type: none"> a. Analysis of current fishing practices 2 Keep abreast of international studies investigating post-release survival of loggerhead sea turtles. <ol style="list-style-type: none"> a. Improve knowledge of loggerhead turtle post release mortality in the Canadian pelagic longline fishery using satellite pop up tags (IGS proposal 2011-2014) <p>Deliverables:</p> <p>1st Surveillance Audit:</p>

	<p>At the first surveillance audit, the NSSA will provide an update on its efforts, through consultations with industry and other stakeholders, the management body to develop a comprehensive short-term and long-term research plan with respect to retained species, by-catch species, and ETP species encountered in the fishery that will provide information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. This plan will incorporate the research outlined in both the LCAP and the Loggerhead Turtle RPA, but will also contain further research on species considered in this assessment under the Retained and By-Catch headings.</p> <p>2nd Surveillance Audit:</p> <p>At the second surveillance audit, the NSSA will provide a copy of the final version of this work plan and provide an update of work under way, work completed to date, and future work, with anticipated time lines for completion.</p>
Client Progress	<p>The client provided a verbal update and the following supporting information:</p> <p>A copy of a DFO internal document entitled, “The Workplan to Address Incidental Catch in Canadian Large Pelagic Fisheries” (DFO 2009a).</p>
Observations	<p>The condition requires that by the second surveillance audit the client, in cooperation with the management body, must have in place a research plan which provides a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC Principles 1 and 2, in particular with respect to the fisheries interaction and impact on ETP species.</p> <p>The requirement of the first surveillance audit is for the NSSA to provide an update of its efforts, through consultations with industry, other stakeholders and the management body to develop a comprehensive short-term and long-term research plan with respect to retained species, by-catch species, and ETP species encountered in the fishery. It must be evident that the research plan being developed will provide information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. This plan must incorporate the research outlined in both the LCAP and the Loggerhead Turtle RPA and also contain further research on species considered in this assessment under the Retained and By-Catch headings.</p> <p>During the site visit, the NSSA provided the audit team with a document entitled ‘Swordfish/Other Tuna Longline Fisheries: Work plan to address by-catch/discard issues’, the source of which was clarified by DFO. A regional DFO Bycatch Work Plan was initiated in 2009 (DFO, 2009b) to outline research and management activities targeted at six key bycatch species.</p> <p>The plan is an internal DFO document (e.g. it has been presented to the Regional DFO Directors’ Committee) and was consulted upon with stakeholders through the ALPAC Ecosystem Working Group. This plan is a ‘living’ document in that it is updated by DFO as needed to address changing priorities. The audit team was informed by DFO that the last update was made in March 2012, with the need for a 2013 update noted. The audit team were provided with the 2013 work plan after the site visit but did not have the time to review it in detail.</p> <p>On review of the draft surveillance report, the client indicated that the audit team mistakenly referred to the DFO work plan as the research plan rather than the LCAP.</p> <p>The team considered the LCAP is what it suggests, an action plan, and while it may indicate areas of research, it is not a research plan.</p>

Conclusion	Progress on this condition is considered to be behind target. A clear research plan is required. Progress must be back 'on target' within 12 months of falling 'behind target' otherwise, in accordance with MSC CR 27.22.9.1 & 27.22.9.2, progress will be considered inadequate and suspension or withdrawal of the certificate will be applied.
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Any complaints against the certified operation; recorded, reviewed and actioned
No formal complaints were submitted to the client or the management body in this reporting period.

Any relevant changes to legislation or regulation
<p>The most significant update to legislation and regulation relevant to the longline fishery has been approval of the new IFMP (DFO, 2011a). Owing to the documents length, the Department has decided that only a summary will be placed on the website. As yet, the summary has been approved at the DFO Resource Branch level, is expected to be regionally approved soon, after which it will be sent to DFO Ottawa for placement on the website (Mike Eagles, DFO,pers. comm.).</p> <p>The IFMP conforms to the new DFO national template which outlines explicit inclusion of objectives and the precautionary approach. The latter is based on the new Sustainable Fisheries Framework (SFF) that DFO has been implementing in fisheries across Canada (DFO, 2009a). It provides national guidance on lower (0.4 B_{MSY}) and upper (0.8 B_{MSY}) biomass thresholds which define critical / cautious and cautious / healthy stock boundaries and on risk tolerances on management actions within each zone. The new Swordfish IFMP, while dependent upon the HCRs articulated by ICCAT, must also be consistent with DFO policies such as the SFF.</p> <p>While there is mention of maintaining precautionary management measures with respect to fishing mortality on sharks, there is no specific mention of the precautionary approach with regard to other P2 elements, e.g. turtles, although sections of the plan describe how other Canadian initiatives and protection mechanisms with respect to turtles are, or will, apply to the pelagic longline fleet.</p> <p>A number of other policies have recently emerged:</p> <ul style="list-style-type: none"> • Rebuilding policy • Bycatch policy • Forage species policy • Sensitive benthic habitat policy <p>The national bycatch policy is directly pertinent to the UoC. Guidance has been developed for implementation of this policy (DFO, 2012).</p> <p>Regarding the Species at Risk Act, while there have been some additions to Schedule 1, none are influential for the UoC.</p> <p>Regarding the Oceans Act, efforts to implement an Ecosystem Approach to Management are continuing with the IFMP (DFO, 2011a) outlining its requirements for the Swordfish fishery. These are positive steps but do not, as of yet, influence scoring of the UoC.</p>

Any relevant changes to management regime
ICCAT

Contracting party to the ICCAT convention (CPC) have been allowed to carry over to the following year 50% of their country's annual catch limits, if uncaught (underage). Prompted by concerns raised by the SCRS, at the 2011 ICCAT annual meeting (ICCAT, 2011a), the Commission limited the maximum underage that a CPC may carry over in any given year to 25% of the initial catch limit for those CPCs holding catch limits more than 500 t, and 50% for other CPCs.

TACs during 2012 - 2013 are also not to be exceeded. Overages will be addressed through reduction of the country allocation on a pro-rata basis (ICCAT, 2011a).

DFO

An ITQ system is now operating in the fishery.

Personnel changes – One of the two scientists (based at the St. Andrew's Biological station) dedicated to the large pelagic assessment and research program (John Neilson) will be retiring but will be continuing as chair of the ICCAT data preparatory meeting in June 2013 and SCRS assessment meeting in September 2013. He will be replaced by a scientist who will be sharing duties on another species (herring). Thus, there will be a reduction of resourcing to 1.5 person years, implying a reduced capacity on future large pelagic assessment and research.

Overall Conclusions

General Observations

The audit team noted that the full stock assessment being conducted by the SCRS in fall 2013 will consider a wide range of assessment methodologies, including those used in the last assessment (ICCAT, 2013a). During the site visit, it was indicated that if a new assessment method is judged to be superior to those used in 2009, it will be used as the basis of stock status determination and harvest advice for the next 3 – 4 years. The results of the 2009 methods will be provided for comparison. Some of the new methods (i.e. SS3) are dramatically different from current approaches and may result in a change in stock status. It will be important for future audit teams to assess the consequences of the new assessment methods on all PIs of Principle 1.

The audit team noted that while most of the requirements of the 1st surveillance audit have been met, it considered that the progress on condition fulfilment, particularly those of Principle 2, appears to have slowed. The team strongly advises the client, with DFO, to review the conditions, milestones and commitments made in their Action Plan.

In preparation for the site visit, the client provided the audit team with documents as evidence of progress towards meeting the deliverables of each condition. However, much more information came to light during the meeting with DFO. This required the audit team to synthesize the information from the various sources in order to judge progress against the deliverables. In future audits, it will be important for the client to comprehensively summarize the evidence on progress on the deliverables.

Audit Conclusion

The client and/or DFO have taken action toward addressing the requirements of this first annual surveillance audit. Condition 11 is behind target and prescribed remedial action will need to be taken place within the next annual reporting period. All the conditions remain open.

No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard and the fishery continues to meet the requirements of the MSC Standard.

MSC Certification should continue.

Based on the results of the risk analysis conducted, in compliance with Section 27.22 of the MSC CR v1.3, the fishery will continue to be subject to normative annual on-site surveillance audits.

Annex 1: Notification of Surveillance Audit**Found at:**

<http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/north-west-atlantic/north-west-atlantic-canada-harpoon-swordfish/assessment-downloads>

North West Atlantic Canada Harpoon Swordfish**MSC Certification**

Certification Body: Intertek Moody Marine

Surveillance Audit

Following certification of the above noted fishery, Intertek Moody Marine is now continuing the process of annual surveillance audits for the fishery. As per the variation request granted by the MSC, the third surveillance audit for this fishery will be conducted in conjunction with the first annual surveillance audit for the North West Atlantic Canada Longline Swordfish 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 Full Assessment

During the audit, or at separate meetings, we shall be speaking with representatives of the fishery and fishery management organisations; as well we will be available to meet with interested stakeholders to discuss matters related to the fishery.

The surveillance audits for both fisheries will take place in Halifax, Nova Scotia, over the course of **April 29th – May 3rd, 2013**, and will be conducted by the following assessment team:

Amanda Park	Lead Auditor	On site
Robert O'Boyle	Expert team member	On site
Jean Jacques Maguire	Expert team member	Conducting work remotely
Michael Sissenwine	Expert team member	Conducting work remotely

The assessment team will be available to meet with stakeholders as appropriate. Should you have any information on this fishery that you feel should be considered in the assessment, and would like to arrange a meeting, please advise Amanda Park, no later than **April 22, 2013** 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

Information relevant to the fishery may be provided as written submissions, for consideration by the assessment team. Written submissions are to be submitted to Amanda Park, by **April 22, 2013**, in order to be considered during the surveillance audit.

Sincerely,

Amanda Park
Lead Assessor
March 18, 2013

E-mail: amanda.park@intertek.com
Fax: 1 902 422 9780
Address: Intertek Moody Marine
1801 Hollis Street
Suite 1220
Halifax, NS
B3J 3N4
Canada

Audit Team Members:

Robert O'Boyle

Mr. O'Boyle received his B Sc. and M Sc. from McGill and Guelph Universities in 1972 and 1975 respectively. He joined Canada's Department of Fisheries and Oceans (DFO) at the Bedford Institute of Oceanography (BIO) in Dartmouth, Nova Scotia in 1977 as a stock assessment scientist and was with DFO for over 30 years, retiring in October 2007. During his first 10 years at DFO, he was heavily involved in the development of stock assessment approaches and conducted assessments of most of the Maritime region's fish resources (herring, capelin, cod, haddock, pollock, the flatfishes, and more recently, the large pelagic sharks). He started his career in science program management about this time, heading up the Scotian Shelf Ichthyoplankton Program, the Biomathematics and Computer Section, and the Population Dynamics Section. In 1987, he became a division manager with responsibility for the finfish research programs and assessment-related activities of over 70 scientific and support staff. He remained in this position until 1996, at which time he became responsible for the peer review of the science and advice on the Maritimes Region's finfish, invertebrate and marine mammal resources, on its habitat management, and on its ocean management practices and approaches. He became the Associate Director of Science in 2000, a position that he held until his retirement in 2007, and as such was heavily involved in DFO science program management at the regional and national level. He has been involved in a number of national and international reviews, ranging from science program design to resource assessment. He is president of Beta Scientific Consulting Inc, which provides a variety of services on ocean management including meeting / workshop organization and facilitation, technical analyses, reviews, and outreach. He is also an emeritus scientist with BIO, pursuing research projects related to resource and ocean management and assessment. Robert was involved the full assessment of the North West Atlantic Swordfish Canadian Longline and Harpoon fisheries, as well as surveillance audits conducted to date for the certified harpoon fishery.

Jean-Jacques Maguire

Jean-Jacques Maguire worked for the Canadian Department of Fisheries and Oceans (DFO) from 1977 to 1996. He has led stock assessment teams in DFO and participated in stock assessment review processes on both coasts of North America in both Canada and in the USA, in the International Council for the Exploration of the Sea (ICES) and in the International Commission for the Conservation of Atlantic Tunas (ICCAT) whose bluefin tuna working group he chaired. He chaired both the pelagic and the groundfish subcommittees of the former Canadian Atlantic Fisheries Scientific Advisory Committees before chairing its Steering Committee. He was a member of the Advisory Committee on Fisheries Management (ACFM) of the International Council for the Exploration of the Sea during 1989-1999. As a consultant in fisheries science and fisheries management since 1996 he chaired the ACFM of ICES, he works regularly for the Food and Agriculture Organization of the UN, for national and international organizations as well as for fishermen organizations and environmental non-governmental organizations. He has been a member of the Canadian Fishery Resource Conservation Council since 2002. Jean-Jacques

Maguire was involved the full assessment of the North West Atlantic Swordfish Canadian Longline and Harpoon fisheries, as well as surveillance audits conducted to date for the certified harpoon fishery.

Michael Sissenwine

Dr. Michael Sissenwine is a Visiting Scholar of the Woods Hole Oceanographic Institution, Adjunct Professor at the School for Marine Science and Technology of the University of Massachusetts, and an independent marine science consultant with projects worldwide. He was President (2004-2006) of the International Council for Exploration of the Sea (ICES) and chair (2008-20010) of its Advisory Committee. ICES coordinates marine science and advises European governments (including the European Union) on marine ecosystems. He was the Director of Scientific Programs and Chief Science Advisor for the U.S. National Marine Fisheries Service (2002-2005). He was responsible for about 25 Laboratories, research on eight offshore research vessels and 1,400 staff throughout the USA. His organization's mission was to provide the scientific basis for conservation and management of marine living resources and their ecosystems. He also led eleven NOAA programs, funded at a total of about one billion dollars annually that supports the Agency's stewardship mission (2002-2004). From 1996-2002, he served as Director of the Northeast Fisheries Science Center, comprised of five laboratories and approximately 300 staff. Previously, Dr. Sissenwine served almost six years as the Senior Scientist of the National Marine Fisheries Service, overseeing the Agency's scientific programs throughout the USA.

Dr. Sissenwine has over 35 years of experience as a research scientist and scientific leader, authoring over 100 scientific reports and publications on a wide range of topics including ecosystem dynamics, fisheries oceanography, resource assessments and fishery management theory and case studies. He is also the co-editor of three books. Dr. Sissenwine has convened several international scientific conferences. He has given testimony to the US Congress and a European Parliamentary Committee, participate in radio talk shows and frequently been interviewed by the news media.

Dr. Sissenwine is a former Scientific Council member for the North Atlantic Fisheries Organization; a US delegate to the Pacific Science Association (PSA) and former chair of the National Academy of Sciences' National Committee for PSA; a former member of the scientific steering committee for the US Global Ecosystem Dynamics program (GLOBEC) and a former co-director of GLOBEC; member of the Fishery Resources Commission of the World Humanity Action Trust of the UK; the former chair of the Advisory Committee on Fisheries Research of the United Nations Food and Agricultural Organization (FAO); participant in FAO "Expert Consultations" on Fisheries Management Techniques, the Precautionary Approach, Indicators of Sustainability, and Ecosystem Approaches to Fisheries; and past member of several National Research Council Panels and Committees, including the Ocean Studies Board and the National Academies of Sciences' Board on International Scientific Organizations. He served as the chair of the Interagency Working Group of the National Oceanographic Partnership Program. He served as an advisor to the Pew Foundation Conservation Fellows Program. He was a member of the President's panel on Ocean Exploration. He serves on many other advisory and scientific review groups and he has advised on research and resource management problems worldwide. Throughout Dr. Sissenwine's career, he has provided scientific advice to policy makers and managers. He is currently a member of the Scientific and Statistical Committees of the New England and Caribbean Fishery Management Councils.

Dr. Sissenwine received a Presidential Rank Award, Silver Metal, and Distinguished Career Award from the US Government. The American Fisheries Society honored him with three awards for career excellence named in honor of William Ricker, Elton Sette and Dwight Webster. In 2011, he received Outstanding Achievement Awards from both ICES and the American Institute of Research Fishery Biologist. He holds a Ph.D. in Oceanography from the University of Rhode Island (1975), from whom he received the 2009 Dean's List Award for distinguished alumni.

Dr. Sissenwine was been involved, as the Principle 3 team member, in the full assessment of the North West Atlantic Swordfish Canadian Longline and Harpoon fisheries, as well as in surveillance audits conducted to date for the certified harpoon fishery.

Amanda Park, Lead Assessor

Amanda is a lead assessor with Moody Marine and is responsible for project coordination and conducting both fishery and chain of custody audits. Amanda completed a Masters of Marine Management at Dalhousie University in 2002, and a B.Sc (Environmental Biology) from Memorial University of Newfoundland and Labrador. She has worked in a variety of fisheries research positions which include at-sea observer, policy analyst, habitat impact analyst and as an educator on Species at Risk in Newfoundland and Labrador. Amanda has received MSC RBF and CoC training, and has been involved in several MSC pre- and full certification assessments, including the full assessment for the North West Atlantic Swordfish Canadian longline and harpoon fisheries as well as the surveillance audits for the harpoon fishery.

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

North West Atlantic Canada Longline Swordfish**MSC Certification****Certification Body: Intertek Moody Marine****Normal on-site Surveillance Audit**

There has been a change in the membership of the normal on-site annual surveillance audit for the above fishery. Owing to internal reorganisation the Lead Auditor for this audit will be Paul Knapman.

Paul is a Lead Assessor/Auditor and is the General Manager for Intertek Moody Marine (IMM). He has extensive experience of the fishing industry in North America and Europe. He was previously Head of an inshore fisheries management organisation, a senior government advisor on fisheries and environmental issues, a fisheries officer and a fisheries consultant working in Europe and Canada.

A CV is available on request from IMM

April 2013

Annex 2: Revised Scoring Summary**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	NW Atlantic Swordfish Longline
1. Default Assessment Tree		
Yes	0	0
No	2	
2. Number of Conditions		
Zero Conditions	0	
1-5 Conditions	1	
>5 Conditions	2	2
3. Principle Level Scores		
≥ 85	0	
<85	2	2
4. Conditions on outcome PIs?		
Yes	2	2
No	0	
Total		6

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

			Years after certification or re-certification			
Surveillance score	Surveillance level		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 Northwest Atlantic Swordfish Longline Fishery scores 6 and so will require an on-site audit in 2014.