



**North Atlantic Swordfish (*Xiphias gladius*)
Canadian Pelagic Longline Fishery**

**Volume 3: Public Certification Report,
Appendices 7-9**

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MSC reference standards:

MSC Principles and Criteria for Sustainable Fishing, Nov, 2004.
MSC Accreditation Manual Version 5, August 2005
MSC Fisheries Certification Methodology (FCM) Version 6, September 2006
MSC TAB Directives (All)
MSC Chain of Custody Certification Methodology (CoC CM) Version 6. November 2005
MSC Fisheries Assessment Methodology, Version 1, July 2008

Accredited Certification Body:

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Appendix 7.2: Site Visit Meeting Summaries

APPENDIX 7.1 – WRITTEN SUBMISSIONS RECEIVED PRIOR TO THE SITE VISIT



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July 17, 2009

The Canadian Atlantic pelagic longline fishery for swordfish has applied for certification with the Marine Stewardship Council. We at the Canadian Shark Conservation Society have grave concerns over the status afforded pelagic sharks in this assessment plan and the overall consideration of this fishery as being sustainable with its current practices. It requires considerable reforms in order to meet the certification it is seeking.

Pelagic sharks in general are seriously reduced in number globally due to both directed and indirect fisheries. Three species of concern are the blue shark (*Prionace glauca*), the porbeagle shark (*Lamna nasus*), and the short fin mako (*Isurus oxyrinchus*) shark. All of these species have been listed with COSEWIC. The porbeagle is listed as endangered (COSEWIC 2004), the shortfin mako as threatened (COSEWIC 2006a), the blue as a species of special concern (COSEWIC 2006b). The IUCN have listed the porbeagle and mako as vulnerable and the blue shark as near threatened (Camhi *et al.* 2009).

The Porbeagle Shark

While the porbeagle population has crashed twice due to overfishing and is currently listed as endangered by COSEWIC (COSEWIC 2004), the government has rejected listing it on SARA based on socioeconomic reasons and the belief that the species can recover based on current management practices and forward-projecting age- and sex-structured population dynamics models as seen in Campana and Gibson (2008a).

It is unlikely however, with current fishing and reporting practices that the population will ever recover to levels which will take it off the endangered list. Despite fishing quotas (185 mt) that are said to be below that necessary to allow the species to recover the species is still not healthy. The average age of at maturity has declined due to overexploitation and in the Northwest Atlantic and faster growth rates likely due to reduced competition have been shown. However the authors state that these growth rates may be explained by other various hypotheses (Cassoff *et al.* 2007). Number of pups per litter and the duration of the life cycle have not changed however (Cassoff *et al.* 2007).

As with most shark species, the Canadian pelagic longline industry is a serious threat where the porbeagle is the fourth most common bycatch species. Unless you have observers on board these vessels to monitor the amount caught, landings will tend to be underestimated as there will be no way to monitor discards accurately. These will lead to total landed catch to be underestimated. There are obvious indicators of overexploitation for these sharks and at best, management states that sustainability “may” be possible at

best and it remains to be seen if the porbeagle population can be fished sustainably (Campana et al. 2008b).

The Blue Shark

Blue sharks have suffered a decline of 60% between 1986-2000 (Baum et al. 2003). Currently no measures are being taken to reduce the bycatch of blue sharks and this longline industry and this poses a significant risk to this species. Currently there are no limits set on the bycatch of this species. In fact, little is known about the abundance of this species and no real management plan exists.

Blue sharks are the most frequently discarded fish species by the longline fishing industry, and often exceed 100% of the catch, and mortality estimates are based at 35% (Campana et al. 2009). Discard estimates may exceed over 860,000 blue sharks and they also suffer high post-release mortality (Campana et al. 2009). A way to reduce such high mortality is to change fishing and handling practices. Handling of the sharks by the fishers would play a major role in the survival of the sharks and would likely vary depending on the presence of an observer aboard the vessel. Having 100% observer coverage aboard the vessels would likely ensure proper handling of the sharks and increase survival rates.

Campana et al (2009) also indicated, as do other studies, that hook type, hook size, soak time, fishing vessel and shark length are all major factors influencing mortality rates. J-shaped hooks produce higher mortality than circle hooks as they reduce the probability of being gut-hooked (Kerstetter and Graves 2006, Kaplan et al. 2007). Currently circle hooks are used by a majority of the industry but it is suggested that the industry move to larger hooks to significantly reduce bycatch.

The Shortfin Mako

Shortfin mako sharks are commonly caught in the pelagic longline industry. According to the 2008 ICCAT assessment, stocks have declined and that overfishing is likely occurring. Given the serious decline in both abundance and size of the shortfin mako, it should be considered as ETP regardless of the government's lack of foresight to list it under SARA. There is clearly no real management plan for this shark species and bycatch limits are not set by any biological or scientific data.

Conclusion

The technology exists to lessen the impact of the Canadian pelagic fishery for swordfish on the ecosystem. Selectivity of longline technology is already in use by other nations and should be implemented as a priority for Canada in meeting its domestic and international obligations. Better management and monitoring of the industry must be implemented to ensure that bycatch limits are set or reduced based on sound scientific data, follow the precautionary principle, and are strictly enforced.

Overall, based on the current practices of the longline sword fishing industry and the fact that the bycatch associated with the larger pelagic sharks remains a serious issue, the industry does not meet the MSC standards set out in the certification process. We feel that this fishery does not meet the MSC standard for a sustainable fishery and as such, can not support its certification.

We do recommend that the current industry along with DFO develop technology and practices the reduce or eliminate bycatch and that the industry have 100% observer coverage to closely monitor the landings and discards of the large pelagic sharks and to ensure proper handling of these sharks to ensure higher survival rates upon release.

Sincerely,

S. D. Turnbull
Executive Director
Canadian Shark Conservation Society

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July 17, 2009

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Re: Stakeholder submission for the Marine Stewardship Council's Assessment of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries

Dear Ms. Park,

The Caribbean Conservation Corporation (CCC) appreciates the opportunity to provide stakeholder comments on the MSC's Assessment of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries. Headquartered in Gainesville, Florida, CCC is the world's oldest sea turtle conservation and research organization. Since our founding in 1959, CCC has worked to conserve and recover populations of endangered and threatened sea turtles in the U.S., the Wider Caribbean and the Atlantic. In recent years our work has expanded to include national and international policy initiatives to reduce the incidental capture of these species in fisheries. CCC is a staunch advocate of research, technological modification, and international cooperation to reduce the significant effects of pelagic longlining on loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*) turtles. In supporting efforts to maintain and restore healthy ecosystems, CCC seeks solutions to protect sea turtles which do not come at the expense of other species.

This submission focuses on the bycatch and status of loggerhead and leatherback turtles incidentally taken in the longline component of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries and measures needed to reduce these levels of capture. While we do not have concerns about the harpoon component of these fisheries, we have concluded that at the present time extensive sea turtle bycatch in the longline fishery disqualify the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries as sustainable MSC fisheries.

Introduction

The Nova Scotia Swordfish Fishermen's Association and Swordfish Harpoon Association, with 77 license holders and 180 members, respectively, in Nova Scotia, Newfoundland, and New Brunswick, have requested the MSC to assess their swordfish (*Xiphias gladius*) fisheries. These fisheries operate inside Canada's Exclusive Economic Zone and in international waters within the ICCAT Northern Swordfish

Boundary Area north of 35° N and west of 30° West. These fisheries are managed internationally by ICCAT and domestically by the Department of Fisheries and Oceans Canada (DFO). The longline component of the fishery has 90% of the Canadian quota and lands 1,200 tons of swordfish each year while the harpoon component of the fishery lands 10% of the quota or about 130 tons.

ETP species

In this assessment, both leatherback and loggerhead turtles are addressed as ETP species although current legal protection is different for these species in Canada.

I. Loggerhead Turtle

Loggerheads in Canadian waters are currently not protected by legislation, but the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is reviewing their status.

Loggerhead turtles are categorized as at risk from extinction by the IUCN Red List of Threatened Animals (listed as “Endangered”). They are listed as threatened under the U.S. Endangered Species Act. Loggerheads are also listed on Appendix I by CITES, the Convention on International Trade in Endangered Species, and on Appendices I and II of the Convention on Migratory Species.

In the Northwest Atlantic U.S. nesting populations of loggerheads have been declining dramatically since 1998. Listed as threatened under the U.S. Endangered Species Act in 1978, the species is currently under review by the National Marine Fisheries Service and Fish and Wildlife Service for uplisting to endangered. U.S. loggerheads represent one of the world’s two large remaining nesting assemblages (the other is in Oman). In Florida, where 90% of U.S. loggerheads nest, nesting increased between 1989 and 1998 but has been declining for the last decade. This population declined 26% from 1989-2008 and 41% since 1998 (Witherington *et al.*, 2009). The nesting season currently underway in Florida is comparable to 2007, the lowest nesting year on record since systematized record keeping began in the 1980s.

These declines are occurring on the same beaches where green and leatherback nesting numbers are increasing, leading biologists to conclude loggerheads are subject to significant mortality in the marine environment (Witherington *et al.*, 2009). The 2009 Recovery Plan for the Northwest Atlantic loggerhead identifies incidental capture in fishing gear as the greatest threat to the species’ survival. Loggerheads are especially at risk as they forage in places where they are likely to interact with fisheries on the high seas and in near-shore waters. Large juveniles, which are critical to population growth, are especially at risk from high seas longline fisheries.

Loggerheads leaving their nesting beaches head into the open ocean where they associate with drifting mats of Sargassum for some period of years. As juveniles, they become pelagic foragers for 6-12 years or more before settling into near-shore benthic habitats. Important foraging areas for Northwest Atlantic loggerheads include the western Mediterranean and the Azores and emerging evidence indicates that offshore Canadian

waters provide important foraging habitat for large juveniles, subadults and perhaps even adults.

Canada's pelagic longline fleet of 35 vessels targeting swordfish and tuna has been implicated in thousands of sea turtle interactions in recent years. A recent report by Brazner and McMillan (2008) conservatively estimated the fleet caught 9,592 loggerheads between 1999 and 2006, or an average of 1,199 loggerheads each year during this period. The Canadian fleet's loggerhead bycatch appears to be increasing, with 3,368 interactions in 2006. Interaction rates of 0.75 turtles per 1,000 hooks is a very high catch per unit effort, and well in excess of bycatch in other areas. The majority of bycaught loggerheads are released alive, but estimates of post-release mortality vary and are as high as 40-50%, depending on the location and type of injury, the amount of trailing line left on the turtle, and the condition of the turtle on its release. Hooked turtles take a long time to recover; satellite telemetry suggests that minimum post-hooking mortality is at least 30% (Hays et al., 2003).

Post-hooking mortality in U.S. fisheries, which have numerous mandatory requirements to improve the turtles' chances of survival, are estimated to be 20-25% although the U.S. target net mortality for loggerheads is 17% (2004 Biological Opinion). No genetic studies have been undertaken on loggerheads captured by the Canadian pelagic longline fleet, but turtles captured in the adjacent U.S. longline fishery originate from nesting beaches in Florida, Georgia and the Carolinas and thus can be expected to be captured by the Canadian fleet as well.

Recognizing high rates of interaction are occurring in Canadian waters, the U.S. Recovery Plan for Northwest Atlantic loggerheads identifies minimizing bycatch in Canadian waters as a category '1' priority. Loggerheads in Canadian waters are currently not protected by legislation, but the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is reviewing their status. It is anticipated that loggerheads will be classified as endangered, or at least as threatened, in Canada and provided with legal protection under Schedule I of the Species at Risk Act (SARA).

Relevant MSC Performance Indicators and Scoring Guideposts for Loggerheads

PI: Outcome Status

The description of this performance indicator is that "the fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species."

As noted above, Canada's small pelagic longline fishery for swordfish and tuna captures significant numbers of loggerheads each year. The fishery has made few efforts to address this problem although numerous modifications to gear and fishing methodology have been proven successful in reducing bycatch. The extent of bycatch poses a risk of serious or irreversible harm and undermines the recovery of this species in the Northwest Atlantic, as demonstrated by nesting declines on U.S. beaches over the last decade or more. Moreover, pelagic longlining has been identified as likely the most significant source of mortality for the western North Atlantic population of loggerhead turtles (NMFS & USFWS, 2008). The Canadian pelagic longline fleet is not constrained by any

catch limits on loggerheads, and catches significantly more turtles each year than the larger U.S. fleet.

PI: Management Strategy

This performance indicator has explicit goals of preventing irreversible harm, ensuring recovery is not hindered, and minimizing mortality.

The Canadian longline fishery for swordfish has no legal or binding requirements to meet the general intent of this performance indicator.

Bycatch reduction is identified as an important need, but neither the industry nor the DFO have addressed these concerns, even after estimates of loggerhead bycatch in 2006 were identified as 3,368 turtles. Proven bycatch reduction techniques in the U.S. pelagic longline fleet, which do not reduce the capture of target species, have been ignored. Thus, the Canadian longline swordfish fishery does not meet the 60 scoring guidepost because there is no management strategy and the measures in place to reduce or minimize mortality of ETP species are inadequate. In other areas, time and area closures, larger circle hooks, bait changes significantly reduce sea turtle bycatch in longline fisheries.

Most of Canada's longline vessels carry dehookers and other handling gear to adhere to the Code of Conduct, but crews are not trained in their proper use. While mandatory training in safe handling and release techniques improves the chances of survival for the turtles which are caught, neither DFO nor the pelagic longline industry has addressed this important need.

It is clear the Canadian government and the longline industry do not have a strategy to reduce mortality. The longline fishery does not meet the 60 scoring guidepost for this performance indicator.

PI: Information /monitoring

The intent of this performance indicator is to ensure that information is collected from the fishery that is relevant to managing ETP species including: - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species.

Available information on the incidental capture of loggerheads is based solely on low levels of observer coverage. Canadian fishermen are not obligated to report loggerhead capture, but in all likelihood self-reporting would underestimate capture, as it does for leatherback capture. In recent years levels of observer coverage have varied considerably, with coverage declining since 2002. High levels of observer coverage of 20% or more are needed for at least some period of time to determine the extent of interactions with protected species, especially in the places and at times when interactions are most prevalent, such as Georges Bank in the summer months. Another shortcoming is that no research has been undertaken on loggerheads captured in the fishery.

II. Leatherback turtle

Leatherback turtles are categorized as at risk from extinction by the IUCN Red List of Threatened Animals (listed as “Critically Endangered”). They are listed as endangered under SARA in Canada and the ESA in the USA. Leatherbacks are also listed on Appendix I by CITES, the Convention on International Trade in Endangered Species, and on Appendices I and II of the Convention on Migratory Species. The Canadian designation is based on the fact the “leatherback turtle has experienced a global decline greater than 70% over 15 years” and “in Canadian waters, incidental capture in fishing gear is a major cause of mortality”.

Relatively few data on leatherback interactions with the Canadian pelagic longline fishery for swordfish are available, but at least 170 leatherbacks are entangled or caught each year. Raw observer data submitted by Canada to NAFO on sea turtle interactions with its longline fleet in 2006 noted that 34 loggerheads and 13 leatherbacks were captured, indicating that leatherback interactions in this area were about one-third of the loggerhead interactions. Leatherbacks are most often foul-hooked or entangled in the lines and most appear to be released alive, but their post-release mortality is unknown. In the Northwest Atlantic U.S. pelagic fishery, the target net mortality goal of 13% for leatherbacks reflects the difference in severity between loggerhead and leatherback interactions in pelagic gear (loggerhead interactions have a net mortality goal of 17%).

Permits to allow incidental harm have to be issued by DFO in order for Canada’s Northwest Atlantic longline fishery to interact with endangered leatherbacks. Fishermen are required to report all leatherback interactions and “take every reasonable effort to ensure that entangled leatherback turtles be released in the least harmful manner.” However, an incidental harm permit can only be issued if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted, measures will be taken to minimize the impact of the activity on the species, and the activity will not jeopardize the survival or recovery of the species. The pelagic longline fishery for swordfish fails to meet these standard because not all reasonable alternatives have been considered and not all feasible measures have been taken.

Moreover, the Code of Conduct for Responsible Sea Turtle Handling and Mitigative Measures has little value because it is not mandatory. As noted above for loggerheads, the Canadian swordfish fishery has not been required to modify its fishing practices in any way to protect leatherbacks by adopting proven changes in gear, bait and fishing techniques. Smaller 16/0 circle hooks reduce the severity of interactions but not their frequency (Bolten et al., 2003; Watson et al., 2003, 2005).

Relevant MSC Performance Indicators and Scoring Guideposts for Leatherbacks

PI: Management Strategy

This performance indicator has explicit goals of preventing irreversible harm, ensuring recovery is not hindered, and minimizing mortality.

Without a strategy to minimize or to even reduce mortality, including requirements for gear and methodology proven to be effective in pelagic longline fisheries, such as 18/0 circle hooks, limits on the numbers of animals that can be caught, time and area closures, changes in bait, training in safe handling and release techniques, and adequate observer

coverage, the Canadian longline fishery for swordfish cannot pass the 60 scoring guidepost. Although most vessels carry equipment for the safe handling and release of sea turtles as identified in the Code of Conduct, the fleet does not meet the standards of best available practices.

Clearly, this fishery does not meet the MSC standard to minimize mortality and thus the longline component of the fishery does not meet the 60 scoring guidepost for this performance indicator.

PI: Information / monitoring

The intent of this performance indicator is to ensure that information is collected from the fishery that is relevant managing ETP species including: - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species.

Fishermen's reports are the primary source of information used to "assess the effectiveness of recovery efforts and work cooperatively with the fishing industry to find further solutions to assist leatherback turtle recovery." But few data are available. Extrapolations based on low observer coverage estimate that ~170 interactions with leatherbacks take place each year. Not surprisingly, reported incidental capture is significantly lower.

Observer coverage of 5% or less is inadequate for making qualitative estimates of fishery related mortality of leatherbacks. It is also inadequate to support measures to manage impacts on ETP species. Thus, the monitoring of leatherbacks does not meet the 60 scoring guidepost.

Conclusions

For the numerous reasons stated above with regard to the bycatch of loggerhead and leatherback turtles, CCC urges the MSC not to approve the application of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries as sustainable MSC fisheries at this time. However, we encourage DFO to set appropriate levels of bycatch and legislate best practice measures for the longline component of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries in the near future so that the fisheries can reapply for MSC designation.

Sincerely,

A handwritten signature in dark ink, reading "Marydele Donnelly". The signature is fluid and cursive, with the first name "Marydele" written in a larger, more prominent script than the last name "Donnelly".

Marydele Donnelly
Director of International Policy

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MSC Stakeholder Consultation—Assessment for the North West Atlantic Canada longline and harpoon swordfish fisheries

Submitted to TAVEL Certification
Submitted by CPAWS-NS
July 24, 2009

The Canadian Parks and Wilderness Society was founded in 1963 and is Canada's pre-eminent, community-based non-profit wilderness conservation organization. Our organization is a leader in setting the agenda for wilderness conservation at the national, provincial and territorial levels. The mission of Canadian Parks and Wilderness Society-Nova Scotia Chapter (CPAWS-NS) is to keep Nova Scotia wild by protecting, conserving, and restoring biodiversity.

Thank you for providing us with the opportunity to comment on the assessment of the Canadian Atlantic pelagic longline and harpoon swordfish fishery for possible certification by Marine Stewardship Council (MSC).

CPAWS-NS is concerned about certifying the longline swordfish fishery and objects to labeling the swordfish longline industry as sustainable and ecologically sensitive to the marine ecosystem. We strongly urge TAVEL Certification to take great care in assessing the by-catch and discards data available in the fishery and the lack of current stock assessments. Please review our following concerns regarding MSC certification of the Canadian Atlantic pelagic longline and harpoon swordfish fishery.

1.Failure to Assess all Vulnerable Species as By-catch and Discards:

The greatest concern to CPAWS-NS in the longline swordfish fishery is the high level of incidental catch and discards of vulnerable species. Many of these species are classified on conservation lists as threatened, endangered, critically endangered or protected. Non-target species listed as by-catch in the swordfish fishery are as follows:

- Leatherback turtle (*Dermochelys coriacea*): Critically endangered (IUCN); Endangered (COSEWIC); Schedule I (SARA); Endangered (USFWS); Appendix I (CITES)
- Loggerhead turtle (*Caretta caretta*): Endangered (IUCN); Under review (COSEWIC); Threatened (US ESA); Appendix I (CITES); Threatened (USFWS)
- Porbeagle shark (*Lamna nasus*): Vulnerable (IUCN); Endangered (COSEWIC); under review for proposal to CITES (USFWS)
- Shortfin mako shark (*Isurus oxyrinchus*): Lower risk/near threatened (IUCN); Threatened (COSEWIC); Under review (SARA); under review for proposal to CITES (USFWS)
- Blue shark (*Prionace glauca*): Lower risk/near threatened (IUCN); Special

concern (COSEWIC)

- Northern bluefin tuna (*Thunnus thynnus*): Under assessment (COSEWIC); under review for proposal to CITES (USFWS)

CPAWS-NS is concerned that TAVEL has failed to include all endangered, threatened or protected (ETP) species affected by the swordfish longline fishery. CPAWS-NS has learned that for this assessment, only loggerhead and leatherback turtles will be evaluated as ETP species, despite listing by COSEWIC of shortfin mako shark, blue shark and porbeagle shark, all incidental by-catch in the fishery. Since 2001, the proportion of discards in the pelagic longline fishery in Nova Scotia has been approximately 50% by weight.¹ Of this, the majority of the discarded by-catch (>80%) was blue shark, while leatherback and loggerhead turtles, juvenile swordfish, and other sharks were also caught.²

CPAWS-NS refers TAVEL to the MSC guidance document which states that ETP species are those “recognized by national legislation and/or binding international agreements (e.g. CITES) to which the jurisdictions controlling the fishery under assessment are party.” The *Species At Risk Act* recognizes COSEWIC under law as the responsible authority for species classification as extinct, extirpated, endangered, threatened or of special concern. As such, excluding assessments of shortfin mako, blue and porbeagle sharks as by-catch species in the longline swordfish fishery is not in accordance with MSC guidelines and does not follow other Atlantic Canadian MSC assessments.

2. Inadequate Management Measures:

It is impossible to accurately indicate the impacts of this fishery, especially on non-targeted species, as the current management regime for the longline swordfish fishery requires only minimal observer coverage (~5%).³ A limited percentage of observer coverage results in an inadequate amount of data to accurately characterize the true levels of by-catch in this fishery. CPAWS-NS strongly believes a significant increase in observer coverage in the longline swordfish fishery must occur before it can be deemed sustainable by standards of MSC or any other sustainable seafood certification program.

At current, the Canadian pelagic longline fishery has not implemented any hook or other gear requirements to minimize by-catch of non-targeted species of sharks, juvenile swordfish or tuna species. While some voluntary measures have been implemented by the industry to reduce by-catch of sea turtles (e.g. use of circle versus J hooks, training in turtle disentanglement)³, there have been no similar measures implemented to reduce the by-catch of other non-target species. There are several mitigation measures available to reduce by-catch of non-target species including avoidance of peak areas and times of non-target species abundance, reduction of detection of baited hooks, modification of gear (e.g. leader material) or fishing practices (e.g.

^{1,2} How we fish matters: Addressing the ecological impacts of Canadian fishing gear. Ecology Action Centre, Living Oceans Society and Marine Conservation Biology Institute, 25pp.

³ Canadian Atlantic Swordfish and Other Tunas 2004-2006 Integrated Management Plan.

type of bait used, depth of sets of gear), and implementation of discard practices to ensure live animals are properly handled and released at sea.

However, without higher observer coverage, the accurate data required to assess true by-catch of non-targeted species is impossible. Thus implementing proper mitigation measures is difficult without proper information. Investigation into this management issue must be undertaken before the fishery can suitably prepare itself for any sustainable fishery certification.

3. Certification of Longline and Harpoon Practices:

CPAWS-NS supports the efforts of selective, low-impact fisheries, which maintain local economies in coastal communities. The harpoon swordfish fishery serves as a model of sustainable practice. It is our concern that MSC certification of both the harpoon and longline swordfish fishery will no longer be incentive for the longline fishery to improve, and will undermine the better management practices of the harpoon fishery. For this reason and the above stated we expect that TAVEL will agree that the longline swordfish fishery does not meet MSC qualifications and will not be certified.

Thank you for taking time to review our concerns. We look forward to your results of assessment.

Best,

Ashley Sprague
Marine Conservation Coordinator
Canadian Parks and Wilderness Society- Nova Scotia Chapter

Jennifer Spencer
Marine Conservation Assistant
Canadian Parks and Wilderness Society-Nova Scotia Chapter



David
Suzuki
Foundation



July 17, 2009

TAVEL Certification Inc.
Suite 815, 99 Wyse Road
Dartmouth, N.S., Canada
B3A 4S5

Re: Stakeholder written submission for the MSC Assessment of the Northwest Atlantic Canadian Longline and Harpoon Swordfish Commercial Fisheries

Dear Amanda Park,

Attached please find our submission for the longline Unit of Certification for the MSC assessment of the northwest Atlantic Canadian swordfish fishery. We have limited our submission to the longline Unit of Certification as we do not have any serious concerns regarding the harpoon aspect of the Canadian swordfish fishery.

Thank you for your consideration of our submission.

Sincerely,

Scott Wallace

Sustainable Fisheries Analyst
David Suzuki Foundation

Alexandra Curtis

Sustainable Fisheries Scientist
Ecology Action Centre

Rob Johnson

SeaChoice Atlantic Coordinator
Ecology Action Centre

**Written submission for the MSC Assessment of the
Northwest Atlantic Canadian Longline Swordfish Fishery**

Prepared by:

Scott Wallace, Ph.D., David Suzuki Foundation
Alexandra Curtis, Ph.D., Ecology Action Centre

July 17, 2009



David
Suzuki
Foundation

1.0 Introduction

This submission to Tavel Certification Inc. highlights our primary concerns associated with Canada's Atlantic longline fishery for swordfish. Prior to the announcement of the MSC certification process of this fishery, the David Suzuki Foundation and the Ecology Action Centre had identified the Canadian pelagic longline fishery as one requiring widespread management reforms. As part of our efforts we presented a proposal to the Department of Fisheries and Oceans (DFO) in February (Appendix 1) at the Atlantic Large Pelagics Advisory Committee (ALPAC) meeting.

Our proposal called for four main reforms:

- (1) implement scientifically defensible fishery interaction limits for sensitive species caught in Canadian Atlantic pelagic longline fisheries (including, but not limited to loggerhead and leatherback turtles, porbeagle sharks, shortfin mako, and blue sharks), taking into account the best available science on post-release mortality rates of discards;
- (2) implement 100% combined observer and electronic monitoring coverage of all pelagic longline fishing effort to characterize fishery interactions and enforce limits;
- (3) collaborate with fishermen to develop, test, and implement standardized methods for bycatch reduction and post-capture release protocols to enable more accurate and precise estimation of post-interaction mortality rates; and
- (4) develop a system allowing pelagic longline boats to make dedicated swordfish trips using harpoon or other lower-impact gear type if a fishery interactions limit is reached, and report harpoon-caught landings under the pelagic longline quota separately from longline-caught landings to provide transparency and accountability in the event of gear switching.

At present time, none of these proposed reforms have been implemented. In the following submission, we demonstrate that the current operational and management conditions of this fishery do not pass the minimum scoring guidepost on several Principle II performance indicators. The shortcomings of this fishery are all the more flagrant given the individual transferable quota (ITQ) system under which it operates. Inexplicably, the DFO has not exacted any conservation measures or increased observer coverage from the Canadian longline fishery as a measure of ownership responsibility under the ITQ system.

Due to severe species and ecosystem concerns with this fishery, and a failure on the part of the DFO to manage these impacts, the Canadian longline swordfish fishery does not meet the MSC standard as a sustainable fishery.

2.0 ETP species

Relevant Performance Indicators and Scoring Guideposts

PI 2.3.1 Outcome Status

SG 60: 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.

PI 2.3.2 Management Strategy

SG60: There are measures in place that minimise 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 (eg general experience, theory or comparison with similar fisheries/species).

PI 2.3.3 Information / monitoring

SG 60: 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.

2.1 Loggerhead turtle (*Caretta caretta*)

The loggerhead sea turtle was listed as *threatened* under the U.S. Endangered Species Act in 1978, yet widespread declines continue among nesting populations on U.S. beaches¹ The most important U.S. nesting unit, Peninsular Florida, has experienced a decrease of 26% over the 20-year period from 1989-2008 and a 41% decline since 1998.¹ As a long-lived, late-maturing, circumglobal species that utilizes a diversity of marine and coastal habitats over the course of its life cycle, the species is threatened by numerous human impacts. Of these, incidental capture of loggerheads in fishing gear has been identified as the primary threat to the survival of this species. The high impact of fishing on loggerheads is attributable to both the scale of the threat and to its disproportionate association with late juvenile and adult stages, which are critical to population growth due to their high reproductive value and longevity in this species.^{2,3} The fishing gears responsible for the majority of loggerhead takes are longlines, gillnets, and trawls.

Adult loggerheads spend most of their time in coastal and shelf habitats, but most juvenile loggerheads are pelagic, foraging and drifting in open-ocean nursery grounds.⁴ Numerous reports of loggerheads in offshore Canadian waters suggest that this region likely provides important foraging habitat for large juveniles and possibly adults.^{5,6} The majority of known loggerhead occurrences in Canadian waters derive from observations

of loggerheads caught on pelagic longlines in the Canadian Atlantic swordfish and tuna longline fishery. A recent publication conservatively estimated the mean annual catch of loggerhead turtles in this fishery from 1999 to 2006 at 1199 per year, or 0.75 turtles per 1000 hooks. This estimate indicates a disproportionate impact by the relatively small Canadian pelagic longline fleet (ca. 35 active vessels), at nearly double the estimated annual catch in U.S. pelagic longline fisheries,⁷ and roughly 0.5% of annual global pelagic longline catch at more than four times the global average catch per effort.⁸ While the majority of loggerheads are released alive from pelagic longlines, estimates of post-release mortality vary from 1% to 85%, depending on the type of injury sustained, the amount of hook or line remaining on the animal, and the condition of the animal on release.⁹ Additional research suggests that survivors require long recovery periods before they resume normal foraging behavior, with unknown sublethal effects.¹⁰ The trend in U.S. bycatch of loggerhead turtles appears to be declining¹¹, but “the trend in Canada appears to be on the rise”.¹²

Genetic work on turtles captured in the nearby U.S. longline fishery suggests that loggerhead turtles captured in Canadian waters originate from nesting beaches along Florida, South Carolina, and North Carolina.¹³ U.S. nesting populations, in Florida and along the southeastern seaboard, account for the majority of nesting loggerheads in the Atlantic, and are thus critical to the survival of the species. The mitigation of major known sources of mortality and sublethal effects on the valuable late juvenile and adult stages of the species is paramount. The U.S. Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (*Caretta caretta*) has identified minimizing the bycatch of loggerhead turtles in the Canadian portion of their range as a category ‘1’ priority.¹⁴

At present time, loggerhead turtles in Canadian waters are not protected by any domestic legislation. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is in the process of reviewing the status of this species in Canada. The status of loggerhead turtles will most likely be given at least a threatened classification if not endangered in Canada. Moreover, every reptile and amphibian (n=34) classified as endangered, threatened, or special concern by COSEWIC’s Subcommittee for Reptiles and Amphibians has also been given legal protection under Schedule I of the SARA.

Mitigation Measures

The Canadian swordfish fishery has no enforceable regulations to mitigate the capture of loggerhead turtles (Table 1). The industry has developed a voluntary *Code of Conduct for Responsible Sea Turtle Handling and Mitigative Measures*. Under the pelagic longline license conditions, fishermen are required to adhere to the *Code*. The *Code* does not serve as an effective measure to minimize mortality, because every clause in the *Code* is completely discretionary, and the general language used in the *Code* lacks specific requirements to reduce turtle bycatch and mortality. Even the most basic mitigation measures for sea turtles, such as hook and bait type, are not mandatory in the Canadian fishery. There are no closed areas designated to protect loggerhead turtles. Aside from voluntary use of small circle hooks (see technical evaluation under management strategy

criterion) and a recommendation to carry handling and release gear, there are no measures in place to reduce the capture rate of loggerhead turtles.

Table 1. Fisheries management measures relevant to bycatch of sea turtles in the Canadian and the U.S. Northwest Atlantic and Hawaiian pelagic longline fisheries for swordfish.

Measure	U.S. fishery in NED area	U.S. fishery in Hawaii	Canadian fishery
Hook type	Min 18/0 circle hooks with max 10° offset	Min 18/0 circle hooks with 10° offset	Voluntary use of 16/0 circle hooks (ca. 90% of hooks)
Hook material	Corrodible non-stainless steel	Unknown	No restrictions
Bait	Whole Atlantic mackerel or squid; artificial bait only allowed with greenstick gear	Mackerel-type	No restrictions
Gangion length	If total length gangion plus float line <100m, gangions must be min 10% longer than float lines	Float lines must be ≤ 20m long; gangion length not regulated (?) but typically 15-20m long	No restrictions
Protected species handling, release, and id training	Mandatory ¹⁵	Mandatory	Voluntary
Handling and release gear	Mandatory	Mandatory	Voluntary dehooking equipment
Depth of gear	N/A	Effort controls by depth	No restrictions
Time of sets	N/A	Shallow side sets only	No restrictions
Closed areas	Several (outside of NED area) ¹⁶	Several ¹⁷	None for turtle protection
Bycatch limits	Three year Incidental Take Permit 1,905 loggerheads (17% net mortality ratio) and 1,764 leatherbacks (13.1% net mortality ratio). ¹⁸	Total fishery interactions limits of 16 leatherback, 17 loggerhead	No turtle limits.
Temperature-determined fishing areas	N/A	Voluntary guidelines	No restrictions
Observer coverage	8% target	100%	5%

2.1.1 Loggerhead Turtle and MSC Performance Indicators

PI 2.3.1 Outcome Status

The description of this performance indicator is that “the fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.”

There are several pieces of information that indicate that the Canadian longline swordfish fishery does not meet either clause of the 60 scoring guidepost and poses a risk of serious or irreversible harm and hinders the recovery.

- Loggerhead turtle nesting populations have declined by 40% in the last decade (Recovery plan)
- Pelagic longlining has been identified as likely the most significant source of mortality for the western North Atlantic population of loggerhead turtles.
- Canada's rate of loggerhead turtle bycatch is nearly four times the global average catch per unit of effort.
- Canada has no catch limit on loggerhead turtle
- Canada's catch of loggerhead turtles is nearly double that of the adjacent U.S. pelagic longline fishery;
- Canada's bycatch rate has generally increased in recent years;
- the 2008 U.S. Recovery strategy has identified minimizing loggerhead turtle bycatch in Canadian portion of their range as a category '1' priority;
- Canada has no enforceable management measures for the protection of loggerhead turtles.

PI 2.3.2 Management Strategy

This performance indicator has explicit goals of preventing irreversible harm, ensuring recovery is not hindered, and minimizing mortality. The Canadian longline fishery for swordfish has no legal or binding requirements to meet the general intent of this performance indicator.

The Canadian longline swordfish fishery does not meet either clause of the 60 scoring guidepost for the following reasons:

- there is no management strategy;
- there are insufficient measures in place to minimize mortality
 - no bycatch limits
 - no bait restrictions
 - no depth restrictions
 - no spatial closures
 - no temporal closures
 - no temperature based regulations
 - no hook restrictions
 - no soak time restrictions
 - no incentives for changing fishing gears
- there are no national requirements, with the exception of CITES trade prohibitions, to protect loggerhead turtles;
- available data suggests an increasing trend in overall loggerhead catch;
- existing measures do not come close to meeting best practices found internationally;
- existing measures are not reducing interactions and therefore there is no plausible argument that the measures are minimizing mortality.

Most vessels carry dehooking equipment as part of their adherence to the *Code of Conduct*. While this equipment may reduce harm and mortality for turtles that have been caught, it does not minimize mortality by reducing the catch. If the Canadian swordfish longline fishery had a *strategy* to minimize mortality of loggerhead turtles, minimizing the catch rate of loggerheads would take priority.

For example, data from hook-size studies suggests that large (18/0 and 20/0) circle hooks combined with mackerel bait most significantly reduces captures of loggerheads.¹⁹ A *strategy*, at minimum would thus require mandatory hook types (18/0 or larger) and mackerel bait type. What presently exists is the voluntary transition to circle hooks resulting in ~75-90% of the fleet using the smaller 16/0 circle hooks on swordfish trips and no bait restrictions.^{20,21} The fishery management plan for the swordfish fishery states:

Due to the feeding nature of swordfish, more than 15% of the catch is attributed to foul hooking and since very few fish are foul hooked using circle hooks, there would be a significant catch reduction in this portion of the fishery if J-hooks were not used, thus the reluctance for the complete switch to circle hooks.²²

In addition to mandatory, large circle hooks, other mitigation measures used elsewhere (e.g., Hawaii) include regulations on gangion length, bycatch/interaction limits, temporal and spatial closures, and a sufficient level of observer coverage to demonstrate the effectiveness of these strategies.

The industry written *Code of Conduct for Responsible Sea Turtle Handling and Mitigative Measures* falls short of being considered a defensible strategy to legitimately protect loggerhead turtles. It is voluntary and all the language in the document clearly shows the discretionary nature of the *Code* (i.e., fishermen should...).

Lastly, swordfish can be taken by alternative gear types such as harpoon. All longline licensed vessels are also authorized to use harpoons to capture swordfish.²³ Providing incentives to shift gears and accountability for gear type declarations (e.g. electronic monitoring of gear use at sea) would further demonstrate a strategy and willingness to actually minimize mortality.

Clearly the Canadian government and the longline industry do not have a strategy to minimize mortality. Published trends in loggerhead turtle catch have shown no reduction in catch and in fact the research suggests an increasing trend.²⁴ Overall there is no plausible argument that the existing measures are sufficient to minimize mortality. The longline unit of certification does not meet the 60 scoring guidepost for this performance indicator.

PI 2.3.3 Information / monitoring

The intent of this performance indicator is to ensure that information is collected from the fishery that is relevant to managing ETP species including: - information for the

development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species.

Under the licensing conditions of the longline fishery, there is no requirement for license holders to report the capture of loggerhead turtles. All known information is from on board observer coverage. Comments on observer coverage that are common to the information/monitoring indicator for all ETP, bycatch, and retained species are provided in a separate section following species-specific comments.

As further explained in comments on observer data, this fishery fails against the scoring guidepost.

2.2 Leatherback turtle

Leatherback turtles are designated as *endangered* under Canada's Species at Risk Act. As stated in the *reason for designation*, leatherback turtle has experienced a global decline greater than 70% over 15 years and "in Canadian waters, incidental capture in fishing gear is a major cause of mortality".²⁵ Under Section 32 of SARA it is stated that, "No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species". Canada's pelagic longline fishery for swordfish interacts with at least an average of 170 leatherback turtles each year.²⁶ Indications are that most leatherbacks are released alive, but the post-release mortality associated with these interactions is unknown.²⁷

In order for the Atlantic longline fishery to continue harming an endangered species, the Minister of Fisheries and Oceans, under the SARA, issues a permit to allow for incidental harm. Under this permit, fishers are required to report all leatherback interactions and must "take every reasonable effort to ensure that entangled leatherback turtles be released in the least harmful manner."

Legally, under Section 73(3) of the SARA, an incidental harm permit can only be issued if:

- a) all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted;
- b) all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and
- c) the activity will not jeopardize the survival or recovery of the species.

A legal challenge to the issuance of harm permits has not been brought forward, but certainly there is a case that (a) not all reasonable alternatives have been considered and (b) not all feasible measures have been taken.

Consider the Hawaiian swordfish longline fishery which has a hard annual cap of only 16 leatherback turtle interactions enforced through 100% observer coverage. The Canadian swordfish fishery does not even have bait or hook restrictions, two widely accepted mitigative measures shown to reduce the level of interaction (also see previous section on loggerhead turtles).²⁸ Other feasible measures such as spatial and temporal closures and

depth requirements for fishing gear have not been considered. Also, as described previously in this document, the *Code of Conduct for Responsible Sea Turtle Handling and Mitigative Measures* falls short of being considered a defensible strategy.

2.2.1 Leatherback Turtle and MSC Performance Indicators

PI 2.3.2 Management Strategy

This performance indicator has explicit goals of preventing irreversible harm, ensuring recovery is not hindered, and minimizing mortality. The Canadian longline fishery for swordfish has no strategy to minimize mortality and therefore does not pass the 60 scoring guidepost for the following reasons:

- there are insufficient measures in place to minimize mortality
 - no bycatch limits
 - no bait restrictions
 - no depth restrictions
 - no spatial closures
 - no temporal closures
 - no temperature based regulations
 - no hook restrictions
 - no soak time restrictions
 - no incentives for changing fishing gears
- existing measures do not come close to meeting best practices found internationally;
- existing measures are not reducing interactions and therefore there is no plausible argument that the measures are minimizing mortality.

As described under section 2.1.1, most vessels do carry dehooking equipment as part of their adherence to the Code of Conduct. While this equipment may reduce harm and mortality for turtles brought on deck, it does not minimize mortality in a general sense, it only reduces mortality of those already captured on the longline. If the Canadian swordfish longline fishery had a *strategy* to minimize mortality to leatherback turtles, it would first need to demonstrate that it was attempting to minimize the catch rate by implementing the measures found in the bullets above.

While the Canadian government and the longline industry claim to have a strategy to satisfy national requirements (in itself refutable, as shown), the strategy does not minimize mortality as required by the MSC standard. Overall there is no plausible argument that the existing measures are sufficient to minimize mortality. The longline unit of certification does not meet the 60 scoring guidepost for this performance indicator.

PI 2.3.3 Information / monitoring

The intent of this performance indicator is to ensure that information is collected from the fishery that is relevant managing ETP species including: - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species.

The management of leatherback turtles under the Recovery Strategy and incidental harm permits rely upon the reporting of information from the fleet as the primary method to assess the effectiveness of recovery efforts.

Under the requirements of the incidental harm permits found in the license conditions, “the licence holder/operator is required to provide information regarding interactions with species at risk [leatherback turtles] while conducting fishing operations”. In preparing this submission we requested a copy of all reported leatherback records under this provision. Only 2007, 2008, and 2009 (to June) data were made available due the fact that earlier data is not stored in a format that is easy to retrieve.²⁹ Available data indicate that 31, 32, and 9 leatherbacks respectively have been encountered in 2007, 2008, and 2009 by pelagic tuna and swordfish licenses. Most of the records (77%) are reported from the “Restricted Tuna” license.

Extrapolated observer coverage from these same fleets was used to inform the Allowable Harm Assessment where it was estimated that ~170 encounters take place each year. The reported incidental capture appears to be significantly lower than what was found through the extrapolated observer data suggesting that underreporting is likely occurring.

The other source of information used to understand the impact of the fishery on leatherback turtles is the use of on board observer data. As described in the comments on observer coverage in a later section, observer coverage at present levels is insufficient for making qualitative estimates of fishery related mortality of leatherback turtles species and is inadequate to support measures to manage impacts on ETP species. The current information and monitoring system for leatherback turtles does not meet the 60 scoring guidepost.

3.0 Bycatch Species

Relevant Performance Indicators and Scoring Guideposts

PI 2.2.1 Outcome Status

SG60: Main bycatch species are likely to be within biologically based limits, or if outside such limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding. If the status is poorly known there are measures or practices in place that are expected [to] result in the fishery not causing the bycatch species to be [outside] biologically based limits or hindering recovery.

PI 2.2.2 Management Strategy

SG 60: 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).

PI 2.2.3 Information / monitoring

SG 60: Qualitative information is available on the amount of main bycatch species affected by the fishery. Information is adequate to broadly understand outcome status with respect to biologically based limits. Information is adequate to support measures to manage bycatch

3.1 Blue shark

Based on observer data between 2002 and 2007, about 36% of the total catch (by weight) in the longline fishery for swordfish is blue shark. Blue shark is the main bycatch species in this fishery. Approximately 600t of blue shark is discarded each year by Canada's Atlantic longline fishery,³⁰ of which 35% are thought to die either on the line or from post-release hooking mortality.³¹ This species is caught internationally by all pelagic longline fishing nations. North Atlantic catch mortality is not well characterized, but estimates range from 27,000 mt to 100,000 mt.^{32,33}

Blue shark in Canada's Atlantic waters is designated by COSEWIC as special concern. The reason for designation is that the abundance index for the entire Northwest Atlantic population has shown a decline of 60% between 1986 and 2000.³⁴ Indices of abundance in and near the Canadian waters show variable trends from no decline to 60% decline from the 1980s to early 2000s.³⁵ There is evidence for a decline in mean length in longline fisheries in Canadian waters 1986-2003.

As stated in the COSEWIC report, “the primary threat is bycatch in pelagic longline fisheries; although the threat is understood and is reversible, it is not being effectively reduced through management.”

At present time there are no management measures in Canada’s longline fishery intended to reduce the mortality of blue sharks. The recently published 2009 IUCN report, *The Conservation Status of Pelagic Sharks and Rays, Report of the IUCN Shark Specialist Group*, found that only the U.S. and New Zealand have any management for blue sharks.³⁶ There are no bycatch limits, no handling requirements, no gear configuration requirements, no bait requirement, and not even voluntary guidelines or a code of conduct.

As one of many nations engaged in pelagic longlining, Canada contributes to the high mortality of blue sharks in the North Atlantic.

3.1.1 Blue Shark and MSC Performance Indicators

PI 2.2.1 Outcome Status

This performance indicator is intended to evaluate whether a fishery poses a risk of serious or irreversible harm to the bycatch species and whether the fishery hinders recovery of depleted bycatch species.

There is considerable debate and uncertainty around the status of blue sharks in North Atlantic.³⁷ Data deficiencies throughout the North Atlantic have made stock assessment of this species problematic. Some analyses suggest that blue shark abundance is within B_{msy} but has experienced a wide spread decline over the last several decades. The fishery undoubtedly poses a risk of serious harm to blue sharks and certainly hinders their recovery.

There are no biologically based limits and no rebuilding targets. Canada’s fishery also has no mandatory measures in place to limit the bycatch of blue shark. Thus, the fishery fails to meet the 60 scoring guidepost for this species, since its status is poorly known, no biologically based limits exist, and no measures or practices are in place to minimize impact.

PI 2.2.2 Management Strategy

The intent of this performance indicator is to measure whether “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.”

Given the uncertainty about the status of blue shark, precautionary management would suggest that Canada should be managing this species using the best available science. In this case, the best available science has shown strong declines in Canadian waters and in the northwest Atlantic in general. That is why COSEWIC has designated them as *special*

concern. There is little doubt that pelagic longline fisheries in general pose a risk of serious or irreversible harm to blue shark populations.

At the very least, precautionary management of blue shark bycatch must attempt to minimize its impact on the population. There are no such provisions in the Canadian fishery. Studies have shown that circle hooks³⁸, soak time³⁹, bait type⁴⁰, and even type of leader⁴¹ can all contribute to a reduction in the catch and mortality of blue shark. No such provisions are part of Canada's management of blue shark caught by the swordfish fishery.

Furthermore, a recent study has found that the 'vessel' effect contributed the most to the survival or mortality of a hooked blue shark.⁴² What this implies is that fishing practices such as ripping the hook out of the mouth (which often rips out the jaw) and gaffing could also be managed. There are no training procedures, code of conduct, voluntary measures, or obligatory equipment to reduce handling impacts.

Given the global concern around blue shark capture in pelagic longline fleets, a responsible fishery that adopts precautionary management should at the very least attempt to minimize its impact on this species by implementing a management strategy that reduces the mortality. The Canadian longline fishery for swordfish fails against the 60 scoring guidepost for this performance indicator.

PI 2.2.3 Information / monitoring

Because blue shark comprises 36% of the catch, they are found on nearly every set. Due to the regularity and high level of blue shark catch, even the low levels of observer coverage currently existing in the fishery are sufficient to broadly characterize the fishery and to support measures, if there were some, to manage bycatch. However, they are insufficient to characterize mortality of the blue sharks, since condition at release is not recorded, so the fishery fails against the 60 scoring guidepost for this performance indicator.

4.0 Retained species

Relevant Performance Indicators and Scoring Guideposts

PI 2.1.1 Outcome Status

SG 60: 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 limits or hindering recovery.

PI 2.1.2 Management Strategy

SG 60: 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 (eg, general experience, theory or comparison with similar fisheries/species).

PI 2.1.3 Information /monitoring

SG 60: Qualitative information is available on the amount of main retained species taken by the fishery. Information is adequate to qualitatively assess outcome status with respect to biologically based limits. Information is adequate to support measures to manage main retained species.

4.1 Shortfin mako shark

Shortfin mako are the 3rd most common incidental catch species in the pelagic longline fishery for swordfish (Table 2). Canada's pelagic longline fisheries land about 60-80 t per year.⁴³

Atlantic shortfin makos were recently the focus of a 2008 ICCAT assessment.⁴⁴ Data deficiencies make the stock assessments highly uncertain, but the 2008 assessment concluded that the North Atlantic shortfin mako stock had declined by about 50% since the 1950s and that overfishing is probably occurring. Furthermore recent biological data suggest that the productivity of shortfin mako is much lower than previously thought.⁴⁵

Shortfin mako have been designated in Canada as *threatened* by COSEWIC⁴⁶ and are presently being considered for listing under Canada's Species at Risk Act. A case was made in our earlier submission to Tavel that shortfin mako should be evaluated as an ETP species but that was rejected by the certifier as no listing decision has yet been made.

The U.S. National Marine Fisheries Service recently determined, based on “best available science”, that overfishing is occurring on shortfin mako and that the stock is approaching an overfished condition.⁴⁷ As a result of this notice, action must be taken by NMFS to end overfishing and implement conservation and management measures to rebuild affected stocks.

The IUCN has identified the U.S. as being the only country operating in the North Atlantic with any management of shortfin mako.⁴⁸ Canada’s management of sharks is found in the Canadian Atlantic Pelagic Shark Integrated Fisheries Management Plan (2002-2007). The only mention of shortfin mako management measures in the Plan states “the fishery for all other shark species, including shortfin mako, will be on a by-catch basis.”⁴⁹ With the exception of a non-restrictive and non-biologically-based catch guideline of 250 t that has existed in management plans since at least 1995⁵⁰, there are no further management strategies to reduce shortfin mako catch.

The 2006 *Assessment of the Recovery Potential of Shortfin Mako Sharks in Atlantic Canada* suggested that a catch limit of 100 t (also based on catch history, not biology) would be prudent and “as a precautionary measure, commercially-caught makos could be released alive as a measure to reduce mortality.”⁵¹ Shortfin mako are not mentioned anywhere in the license conditions for the swordfish fishery. The Integrated Fisheries Management Plan for swordfish states “Management measures pertinent to shark by-catch in the pelagic longline fishery are fully addressed under the Canadian Atlantic Shark Integrated Fisheries Management Plan - 2002-2007.” The shark IFMP, as described above, has no mandatory or biologically-based shortfin mako management measures.

Table 2. Observed catch of species (by weight) in Canada’s Atlantic longline fishery for swordfish, from 2002-2007. Note: Data qualified by trips where species sought was either “swordfish” or “swordfish and tunas, etc.”

Species	Retained (kg)	Discarded (kg)	Total (kg)	% of total catch	% discarded
Swordfish	443276	16377	459653	48.3	3.6
Blue shark	50	345343	345393	36.3	100.0
Bigeye	22951	1090	24041	2.5	4.5
Shortfin mako	17620	4381	22001	2.3	19.9
Porbeagle	12981	8920	21901	2.3	40.7
Bluefin tuna	9252	11711	20963	2.2	55.9
Leatherback turtle		12666	12666	1.3	100.0
Yellowfin tuna	9623	263	9886	1.0	2.7
Albacore tuna	7501	652	8153	0.9	8.0
Loggerhead turtle		6949	6949	0.7	100.0
Common dolphin	6460	212	6672	0.7	3.2
Ocean sunfish		2234	2234	0.2	100.0
White Marlin	508	1108	1616	0.2	68.6
Tiger shark		1195	1195	0.1	100.0
Thresher		1129	1129	0.1	100.0
Green sea turtle		1070	1070	0.1	100.0
Blue marlin	91	716	807	0.1	88.7
Longfin mako		760	760	0.1	100.0
Black Marlin		679	679	0.1	100.0
Longnose lancet fish		505	505	0.1	100.0
Pelagic stingray		500	500	0.1	100.0
Turtle sp.		375	375	0.0	100.0
Atlantic pilot whale		300	300	0.0	100.0
All others		1150	1405	0.1	81.9
Total	530313	420285	950853	100	44.2

4.1.1 Shortfin Mako and MSC Performance Indicators

PI 2.1.1 Outcome Status

As described previously, the recent ICCAT assessment and recent actions taken by the U.S. are evidence that shortfin mako are being overfished and therefore would be beyond any biologically based limits (such limits do not exist). Furthermore, there are no measures in place in the Canadian fishery that are expected to reduce Canada’s contribution to the overfishing of this population. Therefore, the Canadian longline swordfish fishery does not meet the 60 guidepost for this performance indicator.

PI 2.1.2 Management Strategy

Canada presently has no active management for shortfin mako. The current management of the swordfish fishery has no disincentives to avoid shortfin mako. Instead, shortfin

mako comprise a valuable retained component of the catch managed with a non-restrictive guidelines that are set at an amount about three times the average annual landings (~80 t) and two and half times higher than the amount recommended in the mako recovery potential assessment (100 t). According to DFO personnel, DFO has unofficially adopted the 100 t guideline as a management target, but that target does not exist in any public management plan or license condition.⁵² Furthermore, it should be noted that even the 100 t limit is not biologically based. The recovery potential assessment states “[e]stimates of allowable harm could not be calculated”.⁵³ While Canada is only one of several nations impacting this species, it is evident that there have been no measures implemented to reduce the Canadian portion of the impact. The Canadian longline swordfish fishery does not meet the 60 guidepost for this performance indicator.

PI 2.1.3 Information /monitoring

There are no specific reporting requirements for shortfin mako, however, most of the catch is retained (80%, Table 2), so the landings provide a reasonable account of the total catch. The longline component of the Canadian swordfish fishery meets the first clause of this scoring guidepost. The second clause assumes that the fishery manages retained species using a biologically based limit. That is not the current situation. If a limit was to be imposed, the current information and monitoring system would be unable to qualitatively assess the outcome status and therefore this fishery would not meet the 60 scoring guidepost.

4.2 Porbeagle shark

Porbeagle shark in the northwest Atlantic are designated as *endangered* by both COSEWIC and IUCN. Porbeagle are not listed under Canada’s SARA despite the population having been reduced to approximately 12-24% of its abundance in 1961.⁵⁴

Although Canada’s own stock assessments indicate that this species has been overfished, Canada remains as the only country in the northwest Atlantic with a directed fishery on this species. Porbeagle shark are the fourth most commonly encountered bycatch species in the swordfish fishery (Table 2). Between 2002 and 2007 the average annual reported landings of porbeagle in the non-directed longline fisheries was 21 t, during this same time period the average directed landings were 139 t.⁵⁵

Aside from Bluefin tuna, porbeagle is the only non-directed catch species in the swordfish longline fishery with a catch limit based on a peer-reviewed scientific assessment and with a recovery plan. Existing limits have been set to allow for rebuilding but despite 15 years of decreasing catch limits, there are no signs of recovery.

In 2006, ICCAT called on its members to “take appropriate measures to reduce fishing mortality in fisheries targeting porbeagle (*Lamna nasus*) and North Atlantic shortfin mako sharks (*Isurus oxyrinchus*)”.⁵⁶ However this binding agreement does not apply to

Canada as the recommendation does not apply to Parties who have conducted peer-reviewed stock assessments for the species.

In June 2009, there was a joint ICCAT/ICES porbeagle assessment. The results of this meeting are not yet publicly available. Findings from this assessment may reveal new information on the stock status.

4.2.1 Porbeagle Shark and MSC Performance Indicators

PI 2.1.1 Outcome Status

Porbeagle shark caught in the Canadian longline swordfish fishery combined with directed landings are possibly but not likely (60 guidepost) within biologically based limits. The northwest Atlantic population of porbeagle sharks are the only population of pelagic shark in the world to have received a full stock assessment (IUCN report), they have come under increasing management, and many countries including Canada have imposed restrictive guidelines. However, despite nearly 15 years of ever-increasing reductions in catches there is no sign of recovery (IUCN report). The best available science suggests that even if target fisheries were stopped and further limits placed on porbeagle bycatch, it could take at least 30–60 years for this population to recover.⁵⁷ Overall, there is no evidence to suggest that current catch rates are “likely” within biologically based limits and therefore does not meet the 60 scoring guidepost.

PI 2.1.2 Management Strategy

This performance indicator requires that there are management measures in place that are highly likely to maintain the species within biologically based limits. As described above, there is no evidence that this strategy is working and therefore there is no case to be made that management measures are highly likely to be maintaining the species within biologically based limits. The longline fishery does not meet the 60 scoring guidepost.

PI 2.1.3 Information /monitoring

There are no reporting requirements for porbeagle shark catch in the swordfish fishery. Based on observer data, the discard rate is quite high (~40%) and therefore landings are not a true indicator of the actual catch. In the event that a catch limit or some other management measure was imposed upon the swordfish fleet, the current level of monitoring would be unable to qualitatively assess the outcome status and therefore this fishery would not meet the 60 scoring guidepost.

5.0 Comments on Information/Monitoring for ETP, Bycatch, and Retained Species

PI 2.1.3, 2.2.3, and 2.3.3 for all species

The intent of these performance indicators is to ensure that information is collected from the fishery that is relevant managing ETP, bycatch, and retained species including:

information for the development of the management strategy; information to assess the effectiveness of the management strategy; and information to determine the outcome status of species.

Since 1978, the pelagic longline fishery has received various levels of observer coverage. From 2000-2007, the observer coverage on swordfish trips has ranged from a low of 1% in 2007 to a high of 22% in 2002.⁵⁸ These data have been used to conservatively estimate discard levels for loggerheads, leatherbacks, blue, shortfin mako, and porbeagle. Information is thus adequate to broadly understand the impact of the fishery on ETP, bycatch, and retained species. However, low observer coverage generally provides only a partial and conservative understanding of the impacts because fishermen modify their behaviour (e.g., areas fished, treatment of bycatch, reporting of bycatch) when an observer is on board. Furthermore, the observer program does not have adequate spatial, temporal, and vessel representation. For example, in 2002, the year with the highest observer coverage, only 24 individual vessels had observers on board. In 2007, the extent of the observer coverage on swordfish directed trips was reduced to one vessel and one trip. There has been a steady decline in observer coverage since 2002 (Figure 1).

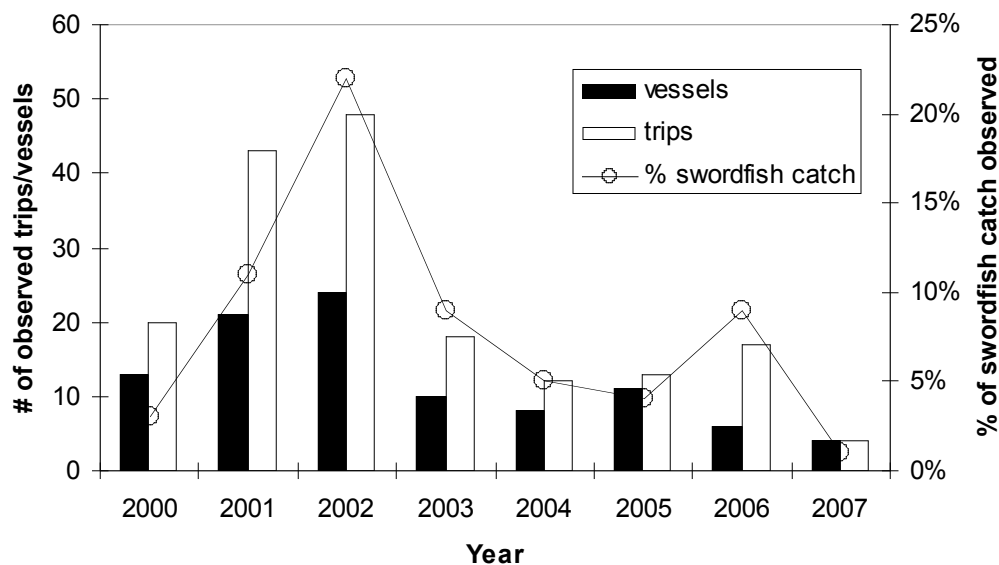


Figure 1. Observer coverage in Canada's Atlantic pelagic longline fishery between 2000 and 2007. Note: This figure includes all longline trips including those directing on tuna.

Observer coverage (spatial, temporal, and vessel) in recent years is insufficient for making qualitative estimates of fishery related mortality of ETP, retained, and bycatch species, and is inadequate to support measures to manage impacts on ETP, retained, and bycatch species. Data collected by observers is also neither sufficiently detailed to determine the likelihood of survival of animals post-release, nor to properly quantify population impacts (only weights of each species per set are routinely recorded, not

numbers of animals). Therefore this fishery fails against the performance indicators 2.1.3, 2.2.3, and 2.2.3 scoring guideposts for each species.

Observer coverage is anticipated to be increased moderately for the 2009 season (possibly to 10%). Given the spatial and temporal complexities of the fishery, the severe conservation concerns associated with this fishery, and the implicit incentives to change fishing behaviour and reporting practices when observers are not on board, an observer coverage rate of 30-100% is likely necessary to properly manage for bycatch species. High observer coverage rates or electronic monitoring systems are employed under catch share systems in the U.S. and in Canada's Pacific waters because such a system should constitute a shift of burden of proof to the fishermen that they are fishing within limits and regulations. No such measures have been required under the ITQ system of the longline fishery in Atlantic Canada.

6.0 Ecosystem Impacts

Relevant Performance Indicators and Scoring Guideposts

PI 2.5.1 Outcome Status

SG60: The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.

PI 2.5.2 Management strategy

SG60: There are measures in place, if necessary, that take into account potential impacts of the fishery on key elements of the ecosystem.

The measures are considered likely to work, based on plausible argument (eg. general experience, theory or comparison with similar fisheries/ ecosystems).

PI 2.5.3 Information / monitoring

SG60: Information is adequate to identify the key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity). Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail.

PI 2.5.1 Outcome status

Northwest Atlantic pelagic ecosystem: structure and function

Major changes to the Northwest Atlantic pelagic ecosystem in recent decades have been well documented: changes in species composition and abundance^{59,60,61}, declines in mean trophic level of catches^{62,63}, and increases in temperature and acidity of waters due to climate change.⁶⁴ The losses of large predatory species, such as swordfish and large

pelagic sharks, continue to have significant implications for both the structure and the function of the Northwest Atlantic pelagic ecosystem.

Swordfish play an important role in the pelagic community, as a member of the apex predatory guild (billfishes, tunas and sharks).⁶⁵ This guild has been reduced in abundance by exploitation by commercial fisheries: analysis of long-term longline catch data has shown that predatory fish biomass in the region has been decreased to 10% of historical levels.⁶⁶ Targeting of particular species has led to changes of the species composition within the guild; the smaller billfishes and tuna species have increased as their predators and larger competitors have declined.^{67,68}

Swordfish are not a ‘keystone’ predator, nor is any single species in this guild known to be: diets overlap and species have similar habitat requirements.⁶⁹ Consequently, it is difficult to determine clear ecological responses to the loss of a single predatory species. Losses of apex predatory species from this guild, such as elasmobranch-consuming sharks, have been shown to have triggered trophic cascades in the Northwest Atlantic pelagic ecosystem.⁷⁰ As nearly all species captured by this fishery (Table 2) have been depleted since their historical levels and are now of conservation concern, further targeting and bycatch of these species may lead to (or have already caused) the compromised functioning of the predatory guild.

The thresholds necessary to trigger a trophic cascade are unknown for any species.⁷¹ However, we do know that the continued losses from the apex predatory guild (i.e., billfish, tuna and shark species represented in Table 2), have the potential to lead to further top-down trophic cascading effects, including mesopredator release and competitive release, with unknown cross-ecosystem consequences.⁷² Additionally, climate change-induced bottom-up trophic restructuring may come into play, and interact synergistically with top-down effects.^{73,74}

Given the changes to the community and trophic structure resulting from commercial fishing in the region, and the potential for trophic cascade with continued losses from this predatory guild, we cannot comfortably state that the fishery is ‘unlikely’ to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. Therefore, the Canadian longline fishery for swordfish fails the SG60 for this performance indicator.

PI 2.5.2 Management strategy

The DFO Integrated Management Plan for swordfish outlines general objectives, strategies and management measures aimed at ecosystem conservation (Section 6, *Specific Management Objectives*, Table 3A, “Conservation of the ecosystem”). However, we have found serious limitations in this Plan.

The first of the general objectives under the “Conservation of the ecosystem” section is *Maintaining community diversity by protecting benthic communities susceptible*

to disturbance. This objective is the only one that deals explicitly with community diversity, but is restricted to the benthic system: nothing in the plan protects community diversity of the pelagic system the Plan is meant to conserve. Further, the specific management measure for this objective protects only the benthos of the Gully Marine Protected Area. As swordfish and other species in the predatory pelagic group are highly migratory, it is unlikely that exclusion of longlining in this area will assist in maintenance of Northwestern Atlantic pelagic community diversity.

The second general objective is *Maintaining species diversity*. Here, the Plan attempts to reduce the chances for the loss of genetic diversity by maintaining large breeding populations, and reduce mortality for non-target species. However, no specific targets are outlined and instead ambiguous management measures are made (e.g., “Control fishing mortality”) without quantitative limits. The related third general objective, *Maintaining population diversity*, attempts to avoid the fishing of spawning groups. However, management areas are not described and instead left to the ICCAT to determine. Additionally, how ‘management’ and ‘maintenance’ of these areas will be carried out is not discussed.

The fourth general objective is *Maintaining trophic structure*. Here, there are no management measures outlined, as it notes knowledge is currently ‘insufficient’ to establish any strategies. The issue of trophic structure and potential for trophic cascade in the Northwest Atlantic pelagic ecosystem is of great concern, as outlined in sections pertaining to PI 2.5.1. It is clear that additional research and monitoring are necessary to ensure that trophic structure will in fact be maintained under exploitation by this fishery; and that the Plan is insufficient at this time.

There are no provisions in the Canadian Atlantic Swordfish Longline Licence Condition that specifically address ecosystem conservation strategies. Under the DFO’s Conservation and Sustainable Use policies, despite plans for benthic habitats and forage fishes, no policy has yet been developed for pelagic ecosystems or predatory communities.⁷⁵

The Canadian Atlantic swordfish fishery does not have measures in place that take into account potential impacts of the fishery on key elements of the ecosystem, especially for the maintenance of trophic structure, which is one of the major concerns under PI 2.5.1. Without quantitative targets and restrictions, measures are not considered likely to work, based on plausible argument. Therefore, the fishery fails to meet the SG60 requirements for this performance indicator.

PI 2.5.3 Information / monitoring

Although there is information available at a general level about changes in the Northwest Atlantic pelagic ecosystem over time, there is little that is specific to the impacts of swordfish capture in Canadian waters. As outlined in DFO’s Management Plan, the limited information gathered is species-specific for swordfish as a resource, and does not incorporate community or ecosystem-level information. Consequently, there is

inadequate knowledge of the impacts of the fishery on the ecosystem. Additionally, as outlined in the section above, knowledge of trophic structure and function are unknown, rendering DFO unable to establish strategies for their maintenance.

We do not believe that currently available information is adequate to identify key elements of the ecosystem, such as trophic structure and function; nor that main impacts of the fishery on these key ecosystem elements can be inferred from existing information. The Canadian Atlantic swordfish fishery therefore fails to meet the SG60 requirements for this performance indicator.

7.0 Final Remarks

In this submission we have evaluated the Canadian Atlantic longline swordfish fishery against various key performance indicators under Principle II of the MSC's Fisheries Assessment Methodology. This Unit of Certification does not meet the minimum scoring guidepost for several performance indicators and therefore we strongly recommend that this fishery not meet the MSC standard for a sustainable fishery.

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**Proposal to monitor and reduce interactions with
non-target species in the Canadian Atlantic pelagic
longline fishery**

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Proposal Outline

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** For the purposes of this proposal, we use the terms “bycatch” and “incidental catch” to mean both landed and discarded catch. A “fishery interaction limit” for a species is the total number of allowable interactions of any kind, including both landed and discarded animals of that species, whether alive or dead at discard. A fishery interaction limit may take into account, for example, the effects of fishery-caused mortalities on a species and the likelihood of a fishery interaction resulting in mortality.*

Fishery Overview and Conservation Concerns

The Canadian Atlantic pelagic longline fisheries have one of the highest levels of incidental catch in any Canadian fishery, with discard rates ranging from 37 - 62% of the catch by weight between 2000-20007.¹ Large pelagic species, such as swordfish and tuna, were historically fished with harpoon and rod and reel (both of which continue to be used, in a reduced capacity) prior to the introduction of pelagic longlines in the 1960s.² Both of these methods are extremely selective, with little to no impact on non-target species.³ The introduction of pelagic longlines shifted the magnitude of the bycatch and discarding of non-target species to a much larger scale, rendering the Canadian Atlantic fishery one of the more ecologically severe in Canada.

Incidental catch and discards in this fishery include numerous sensitive species that have been assessed at the global level by the International Union for Conservation of Nature (IUCN) as being at high risk of global extinction, many of whose Atlantic populations also have been or are being assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as being of special concern, threatened, or endangered in Canada (Table 1). One species regularly reported as discarded bycatch, the leatherback turtle (*Dermochelys coriacea*), is also listed as endangered under the Species at Risk Act (SARA). Despite high levels of incidental catch reported for several sensitive species^{1,4-6} and declines observed or suspected likely in several populations of the same species,^{4,5,7-9} the current integrated fisheries management plans (IFMPs) for swordfish, “other” tunas, and sharks only limit landed or discarded bycatch of some commercial non-shark species.

Post-release survival rates for individuals returned ‘alive’ are poorly understood for all of these species, but vary depending on the nature of the fishery interaction (e.g. hooking versus entanglement), severity of injury (e.g. mouth-hooked versus hooked in digestive tract), extent of gear removal prior to release, and condition of the animal upon release.¹⁰ Post-interaction survivorship of blue sharks (*Prionace glauca*) on scientific pelagic longlines off Hawaii are 95-100% of the 95% of sharks released in good condition.¹¹ In Canada, 80-90% of blue sharks are released alive,⁵ with unknown survivorship. Anywhere between 5-98% of leatherback turtles and 15-99% of loggerhead turtles (*Caretta caretta*) released alive are expected to survive depending on the factors specified above.¹⁰ Even if all animals caught incidentally were released alive, at the rates of catch estimated in the pelagic longline fisheries, the mortality rates cited above likely add up to significant negative impacts on the long-term sustainability of the populations of these species. In addition to estimated post-interaction mortality, sublethal effects of fisheries interactions may be considerable.¹⁰

Table 1. Sensitive species commonly caught incidentally in the Canadian pelagic longline fisheries.

Common name	Species	IUCN	COSEWIC
Porbeagle shark	<i>Lamna nasus</i>	Vulnerable	Endangered
Shortfin mako	<i>Isurus oxyrinchus</i>	Lower risk/near threatened	Threatened
Blue shark	<i>Prionace glauca</i>	Lower risk/near threatened	Special concern
Leatherback turtle	<i>Dermochelys coriacea</i>	Critically endangered	Endangered
Loggerhead turtle	<i>Caretta caretta</i>	Endangered	Expected April 2009
N. bluefin tuna	<i>Thunnus thynnus</i>	Data deficient	Under assessment

Methods to Reduce Incidental Catch and Discards

An effective solution to reduce the impacts of this fishery on sensitive species can be achieved through the implementation of fishery interaction limits and comprehensive observer coverage (i.e., 100% coverage). Under this type of management regime, license holders are obligated to fish within established limits for a suite of species (both target and incidental). This form of management has several advantages over traditional methods of reducing the impact on non-target species. First, fishermen are accountable for their catch. Second, a strong disincentive integrated into the management of the fishery results in innovation by fishermen to suit their fishing methods rather than top-down imposition of regulations. Third, comprehensive observer coverage provides fleet-wide accountability necessary for achieving public accountability. Fourth, comprehensive observer data can be used for a variety of scientific purposes, including characterizing the nature of fishery interactions with and increasing our understanding of the basic biology of non-target pelagic species.

Current Fisheries Management Regime

The current management system for Canada's pelagic longline swordfish fishery has minimal observer coverage (~5%) and no enforceable disincentives or limits on non-tuna sensitive species. In contrast, Canada's Pacific groundfish fishery (seven license types) has been under a system of 100% video monitoring and bycatch limits (including landings and discards) for 27 species since April of 2006. As a result of these reforms, the fishery now operates completely differently and is largely an "avoidance fishery" meaning that the fishing gear is set primarily with the goal of reducing the catch of species with low limit, as opposed to the goal of maximizing the target catch. This is a fundamental change in how the fish are accessed. Additionally, other Atlantic Canadian fisheries have much higher observer coverage and lower percentage discard rates than the pelagic longline fisheries for swordfish and tuna (e.g. Northern shrimp, >65ft).

The United States has encountered similar challenges in its pelagic longline fisheries, and has responded to them to varying degrees in different fisheries. Two particularly relevant cases are the U.S. Northwest Atlantic and the Hawaiian pelagic longline fisheries for swordfish. In both cases, either part or all of the fishery was closed in response to high rates of bycatch of legally protected leatherback and loggerhead turtles. The Northwest Atlantic fishery was closed in the Northeast Distant Region until fishing experiments showed that use of large (18/0) circle hooks resulted in the desired reduction in bycatch rates when compared to the J-hooks formerly used. The fishery was then reopened in the NED region with specific requirements for fishing gear and appropriate gear and training to handle incidentally caught turtles. The Hawaiian fishery went further and, after a complete closure of the fishery in 2001, reopened in 2004 under specific gear and training requirements, defensible limits for total fishery interactions with loggerhead and leatherback turtles, and 100 percent observer coverage to enforce these limits.

At present, the Canadian pelagic longline fishery for swordfish has no hook or other gear requirements to minimize bycatch, minimal observer coverage, and only nominal, non-restrictive guidelines for the landed bycatch of porbeagles (Table 2). Although the Canadian longline swordfish fishers voluntarily use 16/0 circle hooks in the majority of sets, a synthesis of experiments on effects of gear on bycatch levels concluded that larger circle hooks (e.g. 18/0 or 20/0) are more effective at decreasing fishery interactions with sea turtles.¹² One of the greatest advantages of a fisheries management system with enforceable fishery interaction limits is that the management of gear configuration (i.e., hooks, bait, depth of sets, gear substitution) ultimately can be delegated to the fishermen as they fish to stay within their limits.

Table 2. Fisheries management measures relevant to bycatch in the Canadian and the U.S. Northwest Atlantic and Hawaiian pelagic longline fisheries for swordfish.

Measure	U.S. fishery in NED area	U.S. fishery in Hawaii	Canadian fishery
Hook type	Min 18/0 circle hooks with max 10° offset (outside NED min 16/0 non-offset circle hooks)	Min 18/0 circle hooks with 10° offset	N/A
Hook material	Corrodible non-stainless steel	Unknown	N/A
Bait	Whole Atlantic mackerel or squid; artificial bait only allowed with greenstick gear	Mackerel-type	N/A
Gangion length	If total length gangion plus float line <100m, gangions must be min 10% longer than float lines	Float lines must be ≤ 20m long; gangion length not regulated (?) but typically 15-20m long	N/A
Protected species handling, release, and id training	Mandatory	Mandatory	voluntary
Handling and release gear	Mandatory	Mandatory	Voluntary dehooking kits
Bycatch limits	N/A	Total fishery interactions limits of 16 leatherback, 46 loggerhead	Non-restrictive guideline for landings of porbeagles
Temperature-determined fishing areas	N/A	Voluntary guidelines	N/A
Observer coverage	8% target	100%	5%

Political and Legal Context

The motivations for monitoring and addressing incidental catch in the Canadian Atlantic pelagic longline fisheries include national legislative mandate, institutional policy, international responsibilities and commitments, and economic incentive and disincentive. DFO is mandated under SARA to provide for the recovery of at-risk species, including the leatherback turtle. Action to mitigate known important sources of mortality for this species, including incidental catch in the pelagic longline fisheries, is long overdue. DFO also has committed to ecosystem based management of its fisheries, and monitoring and addressing

the levels of incidental catch in any fishery is paramount to the implementation of this policy.

At the international level, as a contracting party to the International Commission for the Conservation of Atlantic Tunas (ICCAT), Canada has agreed to resolutions calling for improved data collection on incidental catch in its Atlantic swordfish and tuna fisheries of turtles and sharks. As a member of the United Nations Fisheries and Agriculture Organization Committee on Fisheries (FAO COFI) and the United Nations General Assembly, Canada has signed onto international instruments and agreements urging:

- i. improved monitoring, assessment, and management of shark populations and fisheries (FAO International Plan of Action on Sharks, also reflected in Canada's National Plan and UNGA 62/177);
- ii. reduction of shark bycatch and bycatch mortality (UNGA 62/177);
- iii. implementation of the FAO COFI Guidelines to Reduce Sea Turtle Mortality in Fishing Operations (UNGA 60/31); and
- iv. a science-based approach to the implementation of ecosystem-based management (UNGA 61/105).

In addition to responding to these international measures, Canada would, by implementing the proposed actions outlined below, position itself as an international leader in the management of its pelagic longline fisheries, providing ammunition at the international level to gain protections for the sensitive, highly migratory species that Canada is obligated to protect and restore.

Economic incentives also may drive change in fishing practices and fisheries management. The interest by the swordfish fishing industry in obtaining Marine Stewardship Council (MSC) certification reflects the increasing emphasis at the consumer level on certifiably sustainable sources of seafood. The certification process is rigorous and requires transparency, verifiable information on fishing practices and sustainability, and regulation rather than voluntary practices. Thus, increased observer coverage and bycatch reduction measures on a fishery-wide regulatory basis may be sensible financial investments towards achieving certification.

Recent legislation and legal actions in the United States also may provide economic disincentives to a continued failure to manage the level of bycatch in the pelagic longline fisheries. Under the 2007 *Magnuson Stevens Reauthorization Act* (MSRA), the National Marine Fisheries Service (NMFS) is required to identify nations responsible for the bycatch of "protected living marine resources" for potential unilateral action to cut off imports of commercial fish and fish products. The threat of such an action under the MSRA was made more tangible and realistic by an analogous precedent set with a recent petition to NMFS for rulemaking to implement provisions on swordfish imports under the *Marine Mammal Protections Act*.

Proposed Actions

A clear necessity exists to develop a system for monitoring and managing bycatch in the Canadian Atlantic pelagic longline fishery, including a framework for incorporating existing and new information relating to the population-level effects of fisheries interactions with sensitive species. Given the tandem problems of low observer coverage and unregulated incidental catch of sensitive species in the Canadian pelagic longline fisheries, and considering the precedents set in U.S. longline fisheries and Canada's Pacific groundfish fishery to reduce, manage, and monitor incidental catch of sensitive species, we are proposing that Fisheries and Oceans Canada (DFO) :

- (1) implement scientifically defensible fishery interaction limits for sensitive species caught in Canadian Atlantic pelagic longline fisheries (including, but not limited to loggerhead and leatherback turtles, porbeagle sharks, shortfin mako, and blue sharks), taking into account the best available science on post-release mortality rates of discards;
- (2) implement 100% combined observer and electronic monitoring coverage of all pelagic longline fishing effort to characterize fishery interactions and enforce limits;
- (3) collaborate with fishermen to develop, test, and implement standardized methods for bycatch reduction and post-capture release protocols to enable more accurate and precise estimation of post-interaction mortality rates; and
- (4) develop a system allowing pelagic longline boats to make dedicated swordfish trips using harpoon or other lower-impact gear type if a fishery interactions limit is reached, and report harpoon-caught landings under the pelagic longline quota separately from longline-caught landings to provide transparency and accountability in the event of gear switching.

Additional fisheries management benefits that can be expected to accrue as a direct result of these actions include enforcement of dead bluefin tuna discard quotas, enforcement of regulations governing the landing of live versus dead incidental catch, enforcement of regulations against discards of dead incidental catch eligible to be landed, and better scientific information on both target and non-target species.

The proposed actions should be achievable over a period of about three years, and will require a suite of research and development to provide solutions appropriate to the Atlantic Canadian pelagic longline fisheries. The Ecology Action Centre and the David Suzuki Foundation are prepared to assist with identifying and soliciting funds and other resources to meet these challenges.

An initial decision at the upcoming Atlantic Large Pelagics Advisory Committee (ALPAC) meeting February 24-25 to pursue the objectives outlined above should include commitments to

- (a) a pilot project to assess the use of comprehensive observer coverage (including the application of video monitoring) and fishery interaction limits as a means of reducing the catch of sensitive species; and
- (b) increasing at-sea observer coverage to a minimum of 30% until a reformed management system requiring 100% combined observer and video monitoring coverage is established.

Timeline and Milestones for Proposed Pilot Project

Year 1

- review and selection of appropriate methods to estimate defensible fishery interaction limits for high priority species (including, at a minimum, leatherback turtles, loggerhead turtles, and porbeagle sharks)
- completion of analyses to produce fishery interaction limits for high priority species
- research and development into the adaptation of video monitoring technology to pelagic longline fisheries
- performance testing of video monitoring through comparison to simultaneously collected observer data and logbook records
- fishery-specific research and development of bycatch reduction measures (e.g. gear modifications, temperature-based guidance of fishing effort)
- development and adoption of industry standards for handling incidentally caught animals to minimize and standardize post-release mortality

Year 2

- adoption of fishery interaction limits for leatherback and loggerhead turtles and porbeagle sharks
- selection of appropriate methods to estimate defensible fishery interaction limits for other sensitive species caught incidentally in significant numbers in the Canadian Atlantic pelagic longline fisheries (including, at a minimum, blue sharks and shortfin mako sharks)
- completion of analyses to produce fishery interaction limits for other sensitive species
- implementation of video monitoring (if proven feasible and effective) on all operating Atlantic pelagic longline vessels,
- continued groundtruthing of video monitoring and logbooks based on simultaneous observer coverage
- ongoing fishery-specific research and development of bycatch reduction measures

Year 3

- adoption of bycatch limits for unaddressed sensitive species, including blue sharks and shortfin mako sharks
- determination of appropriate level of continued observer coverage for scientific and enforcement purposes based on status of video monitoring system
- ongoing fishery-specific research and development of bycatch reduction measures

Final Remarks

The technology and institutional capacity exist to make the Canadian pelagic longline fisheries much cleaner and lower in impact on the pelagic ecosystem, as well as better monitored and managed. Canada is one of the few industrial fishing nations to continue to employ the harpoon as a method of capture, and significant improvements in longline technology are being used by other fishing nations. Any further delays in instituting key measures to move in this direction would represent a failure to fulfill federal responsibility

for effective management and conservation of marine species, including those species at risk of extinction in Canadian waters as determined by COSEWIC.

In 2004, the DFO demonstrated strong leadership in reforming Canada's Pacific groundfish fisheries. At that time, the Department gave the fishing industry an ultimatum to reduce its catch of depleted rockfish species and become accountable for their catch or face the risk of being closed down. In March 2005, the Pacific groundfish industry responded to this ultimatum through the formation of the *Commercial Industry Caucus Pilot Integration Proposal*. By April 2006, over 500 groundfish boats using traps, longlines, troll gear, and trawls had become fully accountable for their catches through the use of bycatch limits and comprehensive observer coverage.

The underlying elements and principles of the *Pilot Integration Proposal* are much the same as we are proposing for the Atlantic Canadian pelagic longline fishery. In the words of British Columbia's *Commercial Industry Caucus*, "ultimately, the existence of an ecologically sustainable and economically viable fishing industry depends on the accountability of fishermen for their entire catch, improved scientific understanding of stock abundance, and monitoring of all catch" [emphasis added].

We look forward to working with the Department of Fisheries and Oceans to realize the necessary changes to Canada's Atlantic pelagic longline fishery.

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July 15, 2009

Dear Amanda Park,

Thank you for providing us with the opportunity to comment on the assessment of the Canadian Atlantic pelagic longline and harpoon swordfish fishery for possible certification by Marine Stewardship Council (MSC).

Greenpeace considers the longline fishery to be of utmost concern and strongly objects to labelling the longline fishery as sustainable in its current state. As we understand this fishery is the first pelagic longline fishery to be evaluated under the MSC, and particular care should be taken in assessing the adverse impacts to vulnerable species from high bycatch and discard rates, for which longline fisheries are known.

Unsustainability Criteria

Pelagic, longlined swordfish is found on Greenpeace's Redlist. The Redlist is a list of seafood species that come from fisheries or farming practices which are clearly the most damaging and in need of immediate attention. Species found on the Redlist have been evaluated based on scientific criteria and failed key sustainability indicators. Longlined swordfish is found on the Redlist in Canada and the USA for three key reasons:

1. Bycatch of threatened or protected species. The longline fishery has adverse impacts on populations of non-target species that are classified on domestic or international conservation lists as threatened, endangered, critically endangered or protected.

- Leatherback turtle (*Dermochelys coriacea*): Critically endangered (IUCN); Endangered (COSEWIC); Schedule I (SARA); Endangered (USFWS); Appendix I (CITES)
- Loggerhead turtle (*Caretta caretta*): Endangered (IUCN); Under review (COSEWIC); Threatened (US ESA); Appendix I (CITES); Threatened (USFWS)
- Porbeagle shark (*Lamna nasus*): Vulnerable (IUCN); Endangered (COSEWIC); under review for proposal to CITES (USFWS)

- Shortfin mako shark (*Isurus oxyrinchus*): Lower risk/near threatened (IUCN); Threatened (COSEWIC); Under review (SARA); under review for proposal to CITES (USFWS)
- Blue shark (*Prionace glauca*): Lower risk/near threatened (IUCN); Special concern (COSEWIC)
- Northern bluefin tuna (*Thunnus thynnus*): Under assessment (COSEWIC); under review for proposal to CITES (USFWS)

2. Responsible or partly responsible for ecosystem alteration through cascade effects.

Swordfish are large and ecologically significant predators in many ocean areas. Their further decline could lead to changes in marine community structures, particularly in the context of the removal of 90% of the ocean's large predatory fish that has already occurred.

3. Inadequate management measures relating to bycatch. To date, the Canadian pelagic longline fishery has not implemented any hook or other gear requirements to minimize bycatch, and there is minimal observer coverage. There are nominal, non-restrictive guidelines for landed bycatch of porbeagles, and the current integrated fisheries management plans (IFMPs) for swordfish only limit landed or discarded bycatch of certain commercial non-shark species.

Of greatest concern to Greenpeace in this fishery is the high level of incidental catch and discard of vulnerable species. While the harpoon fishery is selective, with little to no impact on non-target species, the longline fishery is one with devastating ecological implications for various ailing turtle, shark and fish populations. The capture and discard of these species, even if released alive, threatens the future health and sustainability of these populations and undermines conservation efforts, as they face cumulative negative impacts over time with continued fishery interaction. The capture of juvenile loggerheads in these longline fisheries is putting the population at risk, as their survival is critically important to population stability and growth.

Greenpeace affirms that before certification of this fishery can be considered, fishery interaction limits must be established and full at-sea compliance monitoring within these limits must be enforced, with measures put in place to eliminate the bycatch of threatened and protected species.

Failure to include Endangered, Threatened or Protected Species (ETP) species under the default assessment tree

For the purposes of this assessment, only leatherback and loggerhead turtles will be evaluated as ETP species, despite listing by COSEWIC of shortfin mako shark, blue shark and porbeagle shark, all of which are caught incidentally in the fishery. The *Species*

at Risk Act recognizes COSEWIC under law as the responsible authority for species classification as extinct, extirpated, endangered, threatened or of special concern. As such, pursuant to the MSC guidance document which states that ETP species are those that are “recognised by national legislation and/or binding international agreements (e.g. CITES) to which the jurisdictions controlling the fishery under assessment are party.”

Greenpeace urges the reconsideration by TAVEL in assessing shortfin mako, blue and porbeagle sharks as ETP species in accordance with MSC guidance and as performed by other Atlantic Canadian MSC assessments.

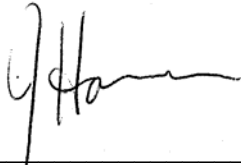
Greenpeace supports the efforts by more selective, low-impact fisheries such as the harpoon swordfish fishery that serve as models for sustainable practice. Although the gear type will be assessed separately, if this fishery is certified alongside the non-selective, destructive longline fishery, there will be no incentive for the longline fishery to improve, thus undermining better practice and current longline fishery improvement initiatives. For these reasons and those stated above, we assume TAVEL will agree that the longline component of the fishery will not meet the qualifications for certification.

Thank you very much for considering our concerns. We look forward to the results of the assessment and would be happy to discuss any of the above points with you.

Sincerely,

A handwritten signature in black ink, appearing to read "SK", written over a horizontal line.

Sarah King
Oceans campaigner
Greenpeace Canada

A handwritten signature in black ink, appearing to read "JH", written over a horizontal line.

John Hocesvar
Oceans Campaign Director
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July 17, 2009

Ms. Amanda Park
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Re: Marine Stewardship Council Certification of the North West Atlantic Canada longline and harpoon swordfish fishery

Dear Ms. Park,

Turtle Island Restoration Network (TIRN) is writing to register as a stakeholder in the public process to determine whether the Northwest Atlantic Canada longline and harpoon swordfish fishery should be certified by the Marine Stewardship Council (MSC).

TIRN is also writing to oppose certification of the fishery as proposed and currently operated due to the use of longlines and the high rate of by-catch of endangered and threatened sea turtles and other marine life. This fishery should not be certified without a full investigation of the by-catch and impacts to protected species and other marine life. To even be considered for certification, the fishery must also be required to adopt strong protective measures to ensure that sea turtles and other species do not continue to be captured, harmed and/or killed on longline hooks for swordfish. With our oceans in crisis, overfishing rampant and marine ecosystems in decline, it is unthinkable that the MSC would even consider certifying as sustainable a fishery such as this one given its high take of sea turtles and other species and lack of any conservation measures.

Turtle Island Restoration Network (www.seaturtles.org) is an international organization that fights to protect endangered sea turtles in ways that make cultural and economic sense to the communities that share the beaches and waters with these gentle creatures. TIRN is a nonprofit environmental organization incorporated in California, U. S. The Sea Turtle Restoration Project (STRP), founded in 1989, is the sea turtle program of Turtle Island Restoration Network. Turtle Island Restoration Network also engages in salmon protection through the Salmon Protection and Watershed Network, based in Olema, California. With offices in California, Texas, Papua New Guinea, and Costa Rica, STRP has been leading the international fight to protect sea turtle populations worldwide. STRP views the sea turtles' dilemma not only as a single-species environmental tragedy that needs immediate attention, but also as a vehicle for shifting the paradigm of how the human species views its relationship with the natural world and the oceans.

TIRN through STRP has been advocating for the elimination of the impacts of longlining on protected species, particularly in the Pacific where leatherback populations have declined by more than 90 percent in less than a decade. Northern Pacific loggerheads have declined by more than 80 percent. Scientists have attributed the precipitous declines of leatherback and loggerhead females at all major Pacific nesting beaches to unchecked longline bycatch of these species. Sea turtles throughout the Pacific are hovering on the brink of extinction. While bycatch rates from individual longline vessels are low, the high level of longline fishing effort in the Pacific makes the cumulative bycatch of reproductively mature sea turtles a serious threat to their survival. At present, the death of even small numbers of the leatherbacks or loggerheads has serious consequences for their future survival.

As a direct result of our actions, the U. S. Pacific longline fishery for swordfish has been closed in different regions for different lengths of times due to violations of the Endangered Species Act by National Marine Fisheries Service related to excessive “take” of sea turtles and marine mammals. In response, the U. S. Pacific longline fishery for swordfish has adopted mitigation measures that have helped to reduce sea turtle take. However, even with these improvements, incidental take in the U. S. fishery of sea turtles, false killer whales, tuna, shark and other species remains a serious problem that continues to threaten their long-term survival and recovery.

With the Pacific situation in mind, we were alarmed to learn that the longline fishery in North West Atlantic Canada for tuna and swordfish “takes” an estimated 1,200 loggerhead and 170 leatherbacks a year. TIRN is very concerned that this fishery is allowed to operate without any protections for protected species. We understand that:

- there is no management strategy;
- there are insufficient measures in place to minimize mortality
 - no bait restrictions
 - no depth restrictions
 - no spatial closures
 - no temporal closures
 - no temperature based regulations
 - no hook restrictions
 - no bycatch limits
 - no soak time restrictions
 - no incentives for changing fishing gears
- there are no national requirements, with the exception of CITES trade prohibitions, to protect loggerhead turtles;
- available data suggests an increasing trend in overall loggerhead catch; and
- existing measures do not come close to meeting best practices found internationally.

Given these facts, it is quite shocking that the Marine Stewardship Council is even considering the certification of this fishery, which appears to operate with a complete lack of concern for marine biodiversity. However, on the up side, perhaps this process will provide the opportunity to reform this fishery so that it will adopt measures to protect endangered species and reduce by-batch.

Without such reform, we believe that this fishery should not be allowed to even sell its product to the United States. I am attaching for your reference a press release about our active petition to the U. S. government to ban the imports of any swordfish that does not meet the standards required under the U. S. Marine Mammal Protection Act. The full petition and related documents may be viewed at:

<http://www.seaturtles.org/article.php?id=1272>. This petition has widespread support from the conservation community, U. S. fisheries and state and federal policymakers. We expect action on this petition in the near future. We hope that this certification process will spur on reforms in the North West Atlantic Canada fishery for swordfish so that people in the U. S. may continue to choose to eat it.

Thank you so much for your consideration of our views.

Sincerely yours,



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Federal Government Considers Ban on Imported Swordfish to Protect Marine Mammals

SAN FRANCISCO — The U.S. Commerce Department announced today that it is considering banning the imports of foreign swordfish until exporting countries can provide proof that their fishing practices are equally protective of marine mammals — including whales, dolphins, and sea lions — as methods used by U.S. fishermen. Today's announcement, published in the Federal Register, comes in response to a [petition](#) filed in March by the Turtle Island Restoration Network and the Center for Biological Diversity seeking enforcement of the Marine Mammal Protection Act. [See the Federal Register Notice.](#)



The Act requires any country wishing to export fish products to the United States to provide proof that the country's fishing practices do not harm or kill marine mammals in excess of U.S. standards. Information gained from a Freedom of Information Act request has revealed that the U.S. government has ignored this mandatory duty for decades, though evidence shows that foreign fishing fleets kill hundreds of thousands of marine mammals every year. Swordfish fleets, which use gillnets and longlines, are particularly deadly to marine mammals.

"All the U.S. government has to do to save thousands of whales, dolphins, and seals each year is enforce existing law," said Mike Milne, of Turtle Island Restoration Network. "Restricting access to the U.S. market is a golden opportunity to make the global fishing fleet more sustainable."

The Marine Mammal Protection Act was designed to help ensure that U.S. fishers are not put at a competitive disadvantage from poorly-regulated foreign fleets and to put market pressure on foreign nations to improve their fishing practices to reduce impacts on marine mammals. Nevertheless, despite the fact that most swordfish is caught with fishing gear that entangles and kills marine mammals, the U.S. government has allowed the importation of swordfish from more than 40 countries without requiring any proof of impacts on marine mammals. Banning swordfish imports would also benefit endangered sea turtles that are captured and killed on longlines set to catch swordfish — a primary cause of the decline and near-extinction of the Pacific leatherback sea turtle. The U.S. is the one of the world's top importers of swordfish, bringing in more than 20 million pounds every year.

"Right now most consumers have no clue that the swordfish steak on their plate comes with a side of dead dolphins, whales, seals and sea lions," said Andrea Treece, staff attorney for the Center for Biological Diversity. "By banning imported swordfish until foreign fleets clean up their acts, the United States can lead the way in making international fisheries more sustainable and ensure that U.S. consumers aren't unintentionally harming the creatures they care about."

Domestic swordfish fishers use longlines, gillnets, and harpoons to catch swordfish. While U.S. longline and gillnet fisheries still catch significant numbers of marine mammals and other non-target

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species, regulations imposing time-area closures and requiring the use of net-extendors, acoustic deterrents, dehooking devices, and various safe-handling measures have substantially reduced marine mammal bycatch and mortality in U.S. fisheries. A harpoon fishery for swordfish in southern California has no marine mammal bycatch.

"Marine mammal populations around the globe are suffering because the shelves of the American supermarkets are filled with illegal imports of foreign swordfish," Milne added. "It's time the U.S. government followed the law and protected the American people's love of and desire for healthy marine mammal populations."

The government is accepting comments on the petition for the next 45 days.

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MSC Stakeholder Consultation Summary – Site Visit for the North West Atlantic Canada longline and harpoon swordfish fisheries

Submitted to: Tavel Certification
Date: July 17, 2009

Introduction

WWF-Canada is working to conserve biodiversity, restore ecosystem health and ensure resource use is sustainable throughout the Northwest Atlantic. Our specific priorities in the Northwest Atlantic region include cod bycatch reduction, cold-water coral protection, right whale recovery, and habitat protection.

We appreciate the opportunity to participate in the MSC evaluation process for the Northwest Atlantic Canada longline and harpoon swordfish fisheries. Our main concern with this certification is in regards to the bycatch sustained by the longline swordfish fishery. It is our hope that this MSC certification process will play a role in ensuring this and other Atlantic Canadian fisheries are assessed critically and appropriately.

WWF believes the ecosystem approach is needed to restore healthy ecosystems and sustain productive fisheries. Bycatch reduction, habitat protection and effective management are critical to the ecological sustainability of any fishery.

We are committed to and continue to work with global seafood players and all stakeholders to rebuild depleted fish populations, protect biodiversity and restore ecosystem health throughout the Northwest Atlantic.

Key Conservation Concerns

Our main concern regarding the longline swordfish fishery is in regards to the catch of sharks (bycatch and incidental take). Specifically:

1. the lack of accurate population estimates of most species taken
2. the lack of accurate estimates of the take of shark species

Endangered, Threatened or Protected (ETP), Bycatch and Retained Species

Our main focus in the assessment process deals with Principle 2, whose intent is:

“to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and **restrain the impacts of the fishery on the ecosystem.**”

Pelagic longline fisheries are non-selective fisheries that take significant numbers of non-target species. Globally, they are the world's most widespread hunting activity with approximately 5 million baited hooks set each day on 100,000 miles of line throughout the world's oceans.¹ Many of the targeted and non-targeted species taken by longline fisheries are very sensitive to overexploitation. In many longline fisheries, non-target species represent a significant proportion of the catch. For example, in some longline fisheries, blue sharks comprise between 25 - 50% of the total catch.² For this reason, shark bycatch associated with longline fisheries is considered as one of

the most challenging problems to shark management.¹ The issues with longline fisheries are compounded when we consider that for many of these species taken, there are no accurate estimates of the total take or information on their current population size.

There are similar concerns in Canada about the longline swordfish fishery. This fishery needs to be better managed to line-up with best practices to reduce the catch of non-target species, particularly of sensitive species such as sharks, sea turtles, marine mammals and other large pelagic fishes (e.g. tunas and marlins). Since 2001, the proportion of discards in the pelagic longline fishery in Nova Scotia has been approximately 50% by weight.³ Of this, the majority of the discarded bycatch (>80%) was blue shark, but leatherback and loggerhead turtles, juvenile swordfish, and other sharks were also caught.³ Discards may be released alive, however, port-release mortality is not well understood for most bycatch species.^{1,3} As well, given that many of these species are also taken in other Canadian and foreign fisheries, therefore the impact cannot be assessed without taking into consideration the cumulative fishing mortality of these highly migratory species.

It is our understanding that shortfin mako, porbeagle and blue sharks will not be assessed as ETP species despite their being recognized by Canadian scientific experts and listed by COSEWIC as threatened, endangered and special concern, respectively, in Canada. The assessment team should consider the particular sensitivity and extent of the bycatch of these species (identified by MSC as 'retained' and 'bycatch' species) when scoring impacts. Of particular concern for these species is that the take limits that exist in the integrated fisheries management plans are not based on scientific advice but rather on the history of their catch in this fishery.

The observer coverage for this fishery (~5%⁴) needs to be evaluated to determine if it is sufficient and effective to assess total removal of all species. A sustainable fishery must demonstrate that it is not having adverse impacts on the ecosystem. To this end, it is imperative that there is an accurate understanding of the total removals (intentional and not) of all species taken.

Management

Principle 3 assesses the fishery in regards to its management system and one requirement is that the management system shall:

'require that assessments of the biological status of the resource and impacts of the fishery **have been and are periodically conducted**'.

The last stock assessment for Atlantic swordfish, conducted in 2006, indicated that the northern swordfish stock is nearly rebuilt to B_{MSY} although there is some uncertainty associated with this conclusion.⁵ The next stock assessment for this species is scheduled for September 2009. Since 2003, the total allowable catch of swordfish in the North Atlantic has been set by ICCAT at 14,000 t per year of which the Canadian portion (1,348 t in 2005) is allocated to the fleet according to the Canadian Atlantic Swordfish and Other Tunas Integrated Management Plan.⁴ This plan is currently outdated (most recent plan is for the period from 2004-2006) and does not address some recent issues such as the recent assessments by COSEWIC for several shark species (e.g. blue and shortfin mako sharks assessed in 2006).



It is unclear how often the impacts of this fishery, particularly on non-targeted species are assessed. The current management regime requires only minimal observer coverage (~5%), which may be less than that required to adequately characterize the true levels of bycatch in this fishery.

Principle 3 also requires that the fishery shall:

'make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimize mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive.'

While measures have been implemented voluntarily by the industry to some extent for sea turtles (e.g. use of circle versus J hooks, training in turtle disentanglement),⁴ there has been no similar measures implemented to reduce the bycatch of other non-targeted species, particularly sharks which represent a substantial portion of the bycatch in this fishery. Another aspect that has not been addressed is the possibility that the use of circle hooks to reduce sea turtle bycatch may have an adverse effect on other species (e.g. increase in the catches of sharks⁶). There are many possible mitigation measures that could be implemented to reduce bycatch of non-target species including avoidance of peak areas and periods of non-target species abundance, reduction of detection of baited hooks, modification of gear (e.g. leader material) or fishing practices (e.g. type of bait, depth of sets), and implementation of discard practices to ensure live animals are handled and released properly.²

However, without accurate information on the true levels of the bycatch it is not clearly understood what mitigation measures should be implemented in this fishery. A comprehensive investigation of this issue must be conducted and necessary mitigation measures identified and implemented.

Given the nature of this fishery to take large amounts of non-target, and particularly sensitive species such as sharks, sea turtles and cetaceans, increased precaution must be exhibited with regards to managing the impacts to non-target species, habitats and the wider ecosystem.

Again, we thank the assessment team for the opportunity to participate in the certification process for this fishery.



References

- ¹ Crowder and Myers. 2001. A comprehensive study of the ecological impacts of the worldwide pelagic longline fishery. First Annual Report to The Pew Charitable Trusts.
- ² Gillman *et al.* 2007. Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries: Industry Practices and Attitudes, and Shark Avoidance Strategies. Western Pacific Regional Fishery Management Council, Honolulu, USA
- ³ How we fish matters: Addressing the ecological impacts of Canadian fishing gear. Ecology Action Centre, Living Oceans Society and Marine Conservation Biology Institute, 25pp.
- ⁴ Canadian Atlantic Swordfish and Other Tunas 2004-2006 Integrated Management Plan
- ⁵ International Commission for the Conservation of Atlantic Tunas. 2006. Report of the 2006 Atlantic swordfish stock assessment session. ICCAT SCRS/2006/015.
- ⁶ Ward *et al.* 2008. The effects of circle hooks on bycatch and target catches in Australia's pelagic longline fishery. *Fisheries Research* 97(3): 253-262.

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APPENDIX 7.2 – SITE VISIT MEETING SUMMARIES

Northwest Atlantic Swordfish Site Visit

July 22, 2009

Longline UoC Client Meeting – Troy Atkinson, Lenwood Smith

Reference Documents: Client Submission and NSSA Code of Conduct

Principle 1

- 77 longline licences issued in Atlantic Canada – 35 active every year, up to 45 land fish in any year
- 100% of licence holders are member of the Nova Scotia Swordfishermen's Association
- Licences are 2-fold: swordfish and other tuna are permitted to be landed. 2 separate licence fees, 2 licences, but are inseparable.
- Season is 12 months – but do not fish for swordfish and tuna 12 months of the year – typically swordfish fishery will start in May/June, and in general fishery is complete in October, however a few may fish into November
- ITQ system since 2003 – 2 years prior to 2003 fishery was managed by trip limits, prior to trip limits fishery was competitive
 - ITQ development was a result of cooperation between industry and DFO. DFO needed a management mechanism to deal with quota, so they approached the Association for a solution. Harvesters proposed ITQ, following consultation by DFO and vote of industry conducted by DFO, ITQ was implemented and sharing formula was devised
 - Prior to ITQ almost all 77 vessels were active, after ITQ only 35-45 active
- Longline licence also states that other gear types can be used, including harpoon and troll
- Swordfish is managed under ITQ, other species are subject to catch limits – harvest levels of other tuna have been below defined limits, so there has been an initiative to move to ITQ
- With respect to over-allocation, there is a clause that states that the stock will not be overfished, and overages will be dealt with. The over-allocation is permitted because of the knowing under harvest by the United States
- Average set 20 miles; 980-988 hooks
- Bluefin tags are allocated to active longline vessels – tags are issued for both the Western and Central Atlantic
- To avoid discards there are inter-fleet transfers for bluefin tuna

Principle 2

- Under the Species At Risk Act harvesters are issued an incidental harm permit for leatherbacks, following the results of the RPA conducted by DFO which indicated that the catch within the longline fleet does not hinder recovery
- Association purchased equipment for the safe release of turtles for all members of the Association
 - Tools are very effective, fleet is using tools to release animals while also saving time, and money (less gear loss)
- 3 years ago there were ~170,000 circle hooks, and 70,000 J hooks used. In 2008 95% circle hooks (136,950) and 5% J-hooks (6,400) – based on sales
 - DFO can provide data out of logbooks to support this
- There has been a paper written recently by Erin Curruthers to document the success of circle vs. J hooks
 - Troy will provide copy of paper

North West Atlantic Swordfish Site Visit

July 23, 2009

World Wildlife Fund (WWF) – Aureue Cosandey-Godin, Robert Rangeley, Tonya Wimmer

Reference Documents:

- *WWF-Canada engagement in the MSC Swordfish Certification (Presentation)*

General

- Certification compliments other initiatives to ensure oceans health
- Sciences of sharks and swordfish new
 - Experience with longline fisheries
- Main concern is with the longline component
- Have had discussions with the longline association but no tangible work – mostly around the Gully.

Principle 2 Comments:

- Swordfish population – assessment is positive, and moving forward
- Within the harpoon fishery, large females are an issue
- To knowledge, there is no known research to support viability of offspring from large females being higher
- Would like to see a clearer understanding of life history and population

Principle 2 Concerns:

- Is there a true level of catch knowing with respect to bycatch, and are the impacts of the take on ecosystem known?
- Concerns with bycatch and science (or lack of) with respect to sharks
- Assessment Team Question: What is your perspective on the longline code of conduct?
 - WWF – result of NGO work with industry
 - Compliance is presumably high – observer data may provide a sense of this
- Circle hooks are important in decreasing turtle bycatch but more detrimental to sharks – catchability either same or higher – trends are also related to bait and bait/hook combo
- 2 instances of N. Bottlenose whale interactions in the fishery, not sure if specific to longline

- With the circle hook, swordfish can get away, and there are less foul catches (hook the body or tail)
- Observer Coverage
 - 5% required
 - 10% this year as part of the bycatch program
 - There is no objection to the level of coverage, however cost is an issue
 - NSSA funds observer coverage – each fisher pays an equal share, and observers are assigned randomly
- Turtles
 - Some harvesters are already recording loggerhead catch in SARA logbook, although not required
 - Dead loggerheads are very few
 - All vessels are equipped with gear to release turtles with minimal harm
 - 72 members of the fleet participated in a turtle release workshop – every active licence holder was in attendance, and there were a number of non-active harvesters participating as well
 - Concerned with the number of take estimated takes provided by DFO
 - Loggerhead are more of an issue when targeting tuna than when targeting swordfish. There is a larger overlap of tuna and loggerhead habitat than the overlap of loggerhead and swordfish habitat
- Bait
 - Tuna – squid
 - Swordfish – mostly mackerel
- Code of Conduct for safe handling of sea turtles developed by Association
 - Developed to proactively begin to address turtle issues, also wanted to get ahead of DFO, so that DFO would not later come and say 'you must'
 - Measures are voluntary, however it is thought compliance is high
 - If harvesters are known to be operating outside the code of conduct, then their membership may not be renewed
 - Without valid membership in the association harvester cannot attain additional fish, cannot transfer fish, would have to negotiate their own management plan with DFO and would have to cover the costs associated with their observer coverage
 - DFO is not enforcing the Code of Conduct, Association is responsible for enforcement. Mainly enforced by hear say and access to observer data. Observers are required to record gear type (i.e. hook type)

Principle 3

- NSSA has 2-3 meetings per year with the membership and additional Directors meetings are conducted as required
- NSSA involved in discussions with DFO on Management Plan, ALPAC, Scotia Fundy Advisory Committee
- DFO has been quite cooperative to aid in conducting science with regards to issues of concern within the fleet
- Relationship with DFO effective, and improved in the last few years
- Troy has attended ICCAT 11-12 times in the last 13 years – this aids with relationship with DFO because of increased involvement and knowledge

- NSSA has its annual meeting in January, issues then brought forward to Scotia-Fundy, and if applicable Atlantic wide, concerns will be brought forward to ALPAC from Scotia Fundy
 - Association meets before Scotia-Fundy and after ALPAC, there may be a meeting of the Association in between if necessary

North West Atlantic Swordfish Site Visit

July 21, 2009

Department of Fisheries and Oceans – Chris Annand, Steven Campana, Scott Coffen-Smout, Kerri Graham, Laura Hussey, Brian Lester, John Neilson, Bryan Wood

Principle 1

- Swordfish assessment informed by SPA, VPA considered backup
- Recommendation to look at newer stock assessment models – a demonstration of suggested models will be tabled at the next stock assessment meeting
 - Learning curve so it is not likely that it will be the main form of advice in next stock assessment (Fall 2009) – but will be gradually introduced in the future
- Not likely that the Fall 2009 assessment will vary from the previous assessment with respect to the modelling approach
- No recent recruitment information
- If it appears that the TAC will be exceeded – ICCAT has provision to change what was allocated to countries from the United States to stay within the defined TAC
- Rebuilding plan defined B_{MSY} as target by ICCAT
- Discussion of F_{MSY} identified by ICCAT
- Assessment for swordfish every 3-4 years – management plan sets consistent catch for years between stock assessments
 - Annual meetings of SCRS and species working group conducted to examine data submitted regarding information on fishery catch rates (US, Canada and Spain). Trends in catch rates are examined to determine if change is required
 - No specific criteria to implement change but if it is agreed that change is required, it would be transferred to the Commission
- Tolerance for undersized swordfish
 - 100% DMP so good compliance with size – landing of small fish is more of a problem further south, but not in this fleet
- Observer coverage
 - 5% of seadays could represent a larger percent of the catch. For example 2008 – 4.4% of days, but 7-8% of the catch
 - Fleet pays for observer coverage
 - Harvesters have to take observer if told
 - Observer coverage is issue driven (applied where required), not blanket coverage
 - Longline sector has been subject to 100% DMP since the mid-1990s
- Harvesters are required to complete a logbook every trip and to hail in/out every trip
- ICCAT has tried to rank fisheries with respect to data availability and the level of understanding of catch, stock size, etc – swordfish is on the top of the list
- Discard information from other fisheries/sources is included in the assessment
 - Discards in Canada and the United States are insignificant
- A lot of effort is taken at ICCAT to ensure catch is accurate

Principle 2

- Birds
 - Birds are not a significant concern within the fleet, due in part to the time of day which gear is set
 - Very few reports of interactions with birds in the observer data

- There is a report on the level of bird bycatch available, and will be provided as follow-up to the site visit
 - For bird populations which are interacted with there are no concerns of population status
 - Seabird Plan of Action in place
- Circle hooks have been used by the fleet to minimize impact on sensitive marine species (i.e. turtles)
 - Harvesters are required to record hook type in log book, as well the observer records hook type
 - DFO to provide hook type data
 - The use of circle hooks is voluntary not mandatory, but is included in the Code of Conduct which is mandated under the Conditions of Licence
- Under SARA, harvesters are required to complete SARA logbooks, reporting type of interaction, location, species, and fate of individual
- SARA requires that all SARA listed species are returned to the water with the least amount of harm, there is a prohibition on the capture and retention of animals listed under SARA
- There are a large number of interactions with blue sharks within the fleet, in some instances more blue sharks caught than target species. Recent research on the estimates of mortality of hooked blue shark indicates that 20% that are alive when released die. Estimated 13% dead at time of capture, and 35% die at some point in the process (this may vary by 5%)
 - Blue shark population status is unsure – catch rate trends are contradictory, there has been 2 assessments of blue shark conducted by ICCAT, however the result of neither assessment was good
- Assessment Team Question: What are the limits on bycatch?
 - Shortfin – 100t and encouraged to release alive ones. This is a guideline, but has never been reached. In recent years 60-70t retained
 - Porbeagle – 185t total for both the directed fishery and what is caught as bycatch.
 - 50t allocated to the longline and groundfish fisheries to cover bycatch.
 - If exceeded fishery shut down
 - All tunas subject to ICCAT quotas
 - Challenge for some shark species is there are no defined reference points, so to define a number of appropriate interactions would be difficult
- Loggerhead turtles are on the COSEWIC assessment schedule
 - DFO working on loggerhead RPA
- Loggerhead have a strong association with warmer water, so more interaction within the tuna targeted trips than swordfish targeted trips
- DFO is examining the level of observer data, precision of data, and what is going to be acceptable. Recently the fleet has been evolving more toward a multi-species tropical tuna fishery which may require changes in observer coverage level/distribution
- Area closures
 - Bluefin Exclusion Zone -
 - “Hell Hole” – implemented to decrease bluefin bycatch
 - Gulley MPA – developed to provide protection to bottlenose whale and probeagle
 - Swordfish Broodstock Closure – implemented to aid in limiting harvest in areas of large concentrations of females
 - At this point in time the information available on turtle interactions is not sufficient to determine areas of heavy interactions or if it is a problem

Principle 3

- DFO is responsible Canadian body for the implementation of measures defined by ICCAT with respect to management of tuna and tuna like species
- Formulating a position in Canada with respect to advice of ICCAT involves discussion with the industry. Prior to ICCAT Canada meets a couple of times to review recommendations, set goals, examine SCRS report and conducts discussions with industry and the province to formulate position
- Following ICCAT's decision on TAC, which is a multi-year TAC set for 2-3 years, the Canadian delegation returns with quota and recommendations on management
- Implementation of ICCAT measures involves:
 - January – Department holds internal meetings to conduct post season review, includes science, C&P, economics, Oceans and examines what new measures are required to be addressed with regards to ICCAT
 - February – ALPAC examines changes at ICCAT and provides recommendations of the Advisory Committee to the Minister
 - Minister and fleet finalizes Conservation Harvest Plan (CHP) for each sector and addresses changes discussed at ALPAC
- Canada has not been in a position to set TAC higher than what ICCAT sets. There is an objection procedure in place, however, Canada has taken the position to follow advice
- Evidence that ICCAT's approach is precautionary in that the stock has been rebuilt. Canadian position at ICCAT has been to take the precautionary approach, will suggest TAC changes reflective of changes in stock assessment.
 - Quota adjustment rules – move TAC with trends in biomass is part of the Canadian position this year
- Assessment Team Question: Stock assessment indicates 50% probability at MSY, any consideration that this probability should be more cautious?
 - Response: examine of increased probability in bluefin, trend to move that way – however, TAC decision rule with respect to quota will encourage it
 - Canada's position is to wait to see what science recommends prior to recommending moving to 75%
- With respect to the carryover of quota, DFO is working with other countries to develop an approach to deal with the issue. Within the Allocation Plan there is a statement dealing with carry over – Point 3 indicates that if TAC looks to be exceeded, there will be a reduction in quota the following year
- The view in Canada is that 100% carryovers should not exist as they do currently. There is an upcoming recommendation to decrease carry over as stock declines, therefore linking carry over to biomass, science and uncertainty
- Assessment Team Question: What happens with 40% overage in the harpoon fleet?
 - 40% overage decided because historically the harpoon sector experienced years of good and bad catches (some years catch really good and easy to catch, with other years catch being low) – so it was decided to cover off years of low catches, the quota could be exceeded in good years. Overage was covered off by fish left in the water by the longline fleet
 - However, in recent years the harpoon fleet has experienced a run of several good years, with increased landings, but overages still occurring

- Since 2003 there has been no Canadian quota overage because the ITQ fleet has not caught their quota
 - If it appeared that the harpoon fleet was going to exceed quota, and the longline sector was going to harvest their entire quota, there would be a discussion with the fleet to determine solution. Catches are carefully monitored through daily hauls
 - In 2000, 2001, 2003 the Canadian quota was exceeded, which led to the move to ITQ within the longline fleet
- Monitoring
 - Daily reports from harpoon harvesters
 - Trip reports from longline sector (all 100% DMP)
 - Legal mechanism to make adjustments – can close 1 person in longline to deal with the ‘bad seed’ or could close the whole fleet
- In the last 5 years the Minister has always followed ICCAT decisions, with no measures in place being contrary to ICCAT advice, in fact in some instances the Minister may require more than ICCAT (i.e. ICCAT recommended all vessels greater than 24m have VMS, DFO required that all vessels are equipped with VMS)
- Meeting minutes from ALPAC are available and include recommendations to the Minister. Industry is understanding if decision put forward is contrary to what industry proposed, however, they do want their opinion included
- Stakeholders have a clear input into the management decision making process through ALPAC
- Currently there is no requirement for the Minister to rationalize why a decision was made, however this may be a requirement under the new Fisheries Act
- Assessment Team Question: Has ICCAT given any consideration to MSE style evaluation?
 - Has not received a lot of attention at ICCAT with regards to swordfish
 - Has with respect to bluefin
- Objectives of Eastern Scotian Shelf Integrated Management (ESSIM)
 - Fishing industry plan that will address issues of fishery with ESSIM objectives
 - Each industry will develop an action plan to illustrate how they meet the ESSIM objectives - this has been presented at the industry roundtable and approved – will be presented to Scotian Shelf Advisory Committee
 - Under IFMP there is work to tie ESSIM objectives to fishery objectives
 - Framework put together how they will be incorporated in fisheries management is in the early stages of development
 - There is a 3 year work plan on how/when fisheries will be brought in line with the objectives
- Current IFMP rolled over since 2006
 - IFMP not updated because of the new template and consideration of Fisheries Renewal
 - Annual CHPs outline changes in management
- Enforcement/Compliance
 - Small fishery relative to other Atlantic Canadian fisheries (50/60 vessels compared to thousands of lobster vessels), so coverage is proportionate
 - 140 fisheries officers in region
 - Nature of fishery is concentrated in the west
 - Hope to have new patrol vessels in 5 years, currently at sea presence is done in cooperation with the Coast Guard

- Other surveillance activities include: longline VMS requirement, hail in/hail out requirements, 100% DMP, C&P holds authority to make standards with respect to observer performance, Aerial surveillance (5-6/week), and at-sea boardings
- 5% at sea observer coverage required, but there have been several years with increased coverage (2001 and 2002)
- Performance Review
 - IFMP states performance review is required (copy of review provided during site visit)
 - In January the pelagic working group meets to discuss IFMP objectives and to determine if objectives have been met – results are circulated at ALPAC
 - With the new IFMP template there will be more specific guidance on the review process and how often the review is conducted
- Research Plan
 - Each year at ALPAC there is a review of research that was conducted in the previous year, as well upcoming research is identified and discussed
 - There has been an increase in science program staff from 2 to 4, which will aid in attaining research goals
 - In the past the “lions share” of research time has been spent on bluefin tuna as compared to swordfish (60/40-70/30 split)



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WWF-Canada engagement in the MSC Swordfish certification

WWF-Canada
July 23, 2009



WWF

Who are we?

The Global Conservation Organization (panda.org)

WWF-Canada (wwf.ca)

Mission:

- Healthy Seafood
- Stable Fisheries
- Abundant wildlife
- Vibrant coastal communities

Healthy, biologically diverse and resilient ecosystems that are best suited to climate change impacts on Canada's oceans





Our Approach

- Advocacy: influencing decision-making in the interests of conservation
- Politically non-partisan and non-ideological
- We support or work with anyone who shares our conservation mission
- Cooperative approaches first and informed by local perspectives
- Evidence based conservation using science



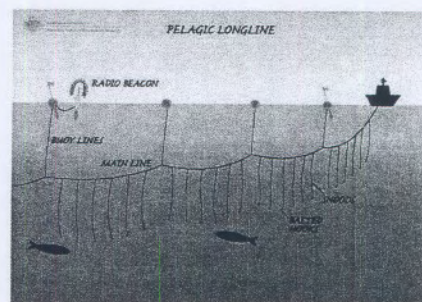
Global longline fisheries

- Most extensive fishery
- Target: swordfish, tuna, other tunas
- Non-selective technique
 - Catch of many non-target > target species
 - Many not be economically sound

Canadian swordfish fishery

WWF Concern:

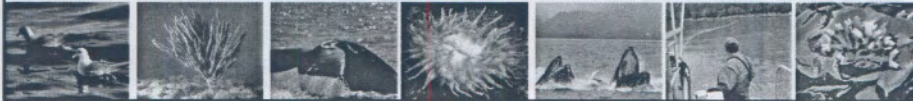
- Longline component of certification
- Bycatch of non-target species





Bycatch in longline fisheries

- Discarded and retained catch of non-target species
- Species taken:
 - Sharks
 - Sea turtles
 - Marine mammals, seabirds, tuna, marlins
- Impacts:
 - On non-target species
 - Is take allowed?
 - Are there catch limits? Are they biologically-based?
 - Are they inclusive of total level of catch (i.e. from other fisheries, post-hooking mortality etc.)
 - To the ecosystem (integrity, balance, cascading impacts, connectivity etc.)



Certification Principles & Criteria

Principle 2: *management of fisheries designed to assess and restrain the impacts of the fishery on the ecosystem*

- Maintains natural functional relationships and should not lead to trophic cascades or ecosystem state changes
- Conducted in a manner to avoid or minimize mortality of, or injuries to ETP species
- Where exploited species are depleted, fishery conducted to allow recovery and rebuilding to occur

Types of species assessed:

- Retained : shortfin mako & porbeagle sharks
- Bycatch : blue shark
- ETP : leatherback and loggerhead seaturtles





Principle 2: Retained Species – Shortfin Mako

Issues:

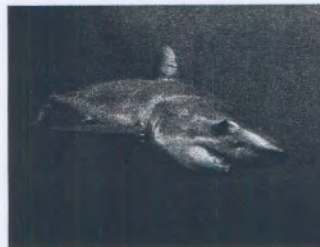
- COSEWIC: Threatened (2006)
- IUCN: overfishing likely occurring
- Population abundance and trajectory unknown; productivity likely low

Fisheries interactions:

- No directed fishery; landed as by-catch
- Highly valuable
- Majority of mako bycatch in Maritimes Region from pelagic longline (~73.2% in 2004-06)
- Average landings is 60-80t in Canadian longline fishery
- ~80% of the bycatch is retained

Management measures:

- No management measures; Non-restrictive guidelines of 250 t
- Recovery Assessment Potential (RAP) suggests 100t limit, however, this is not in current Fisheries Management Plan
 - Neither limits are biologically-based



Issue = Uncertainty

- Population abundance
- Post-hooking mortality
- No limitations (or not biologically-based)



Principle 2: Retained Species – Porbeagle

Issues:

- COSEWIC: Endangered (2004)
- IUCN: overfished
- Population assessment: reduced to ~11% 1961 virgin biomass

Fisheries interactions:

- Fishery: History of multiple collapses over short time frame
- Highly valuable
- Average take is 50-60t in Canadian fisheries (other than directed)
- ~ 40% discarded (live and dead)
- No post-hooking mortality estimate (not included in landings)
- Foreign take could be major factor

Management measures:

- 185t TAC: directed fishery (135t); by-catch (50t)
- Catch limit based on peer-reviewed scientific assessment



Issue = Uncertainty

- Total removals
- Post-hooking mortality





Principle 2: Retained Species – Blue shark

Issues:

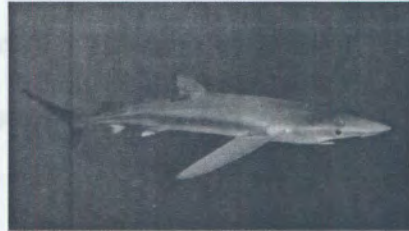
- COSEWIC: Special Concern (2006)
- IUCN: overfished
- Possibly abundance inconclusive: data deficiencies

Fisheries interactions:

- Not highly valuable
- North Atlantic catch mortality: 27,000 – 100,000t
- Main bycatch species in Canadian swordfish fishery
- 100% discarded
- Total catch mortality: ~1000t/year
- ~35% die on line or post-hooking mortality

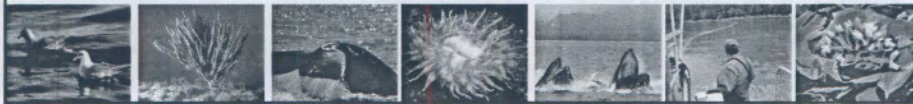
Management measures:

- No management measures in longline fishery
- A precautionary TAC of 250t applies to all fisheries (directed and bycatch)
 - Not biologically based limit



Issue = Uncertainty

- Population abundance
- Total removals
- No limitations (or not biologically-based)



Principle 2: ETP species – Leatherback and Loggerhead seaturtles

• COSEWIC:

- Leatherback: Endangered
- Loggerhead: Under review

• Incidental capture in fishing gear is primary threat to the survival of both species

- Leatherbacks: average 170/year interact with swordfish gear
 - Release mortality unknown
- Loggerheads: Canada's catch rate: 2x US & 4X global average CPUE; increased in recent years
 - Release mortality between 1-50%

• Mitigation measures

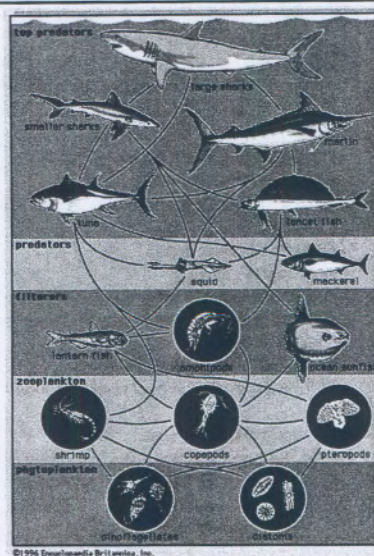
- No enforceable regulations in Canadian swordfish fishery
 - Voluntary Code of Conduct; recommendation to carry handling and release gear
 - Widespread use of circle hooks
 - No requirements for bait or hook type, closed areas
 - No measures to reduce the capture (prevention)





Principle 2: Ecosystem

Impacts on ecosystem from the removal of a large number of species, particularly top predators



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Certification Principles & Criteria

Principle 3: fishery is subject to an effective management system

Key requirements:

- Biological status of the resource and impacts on the fishery have been and are periodically conducted
- Make use of fishing gear and practices to avoid capture of non-target species, minimize mortality of this catch where it can't be avoided and reduce discards of what cannot be released alive





Principle 3

Integrated Fisheries Management Plan

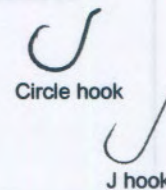
- Out-of-date : 2004-2006
- Fails to include recent species assessments and appropriate mitigation measures (blue and shortfin mako sharks)

Periodic assessment

- Frequency of assessment is unknown
- Post-hooking mortality rate is unknown for most species
 - Presume released alive = survived

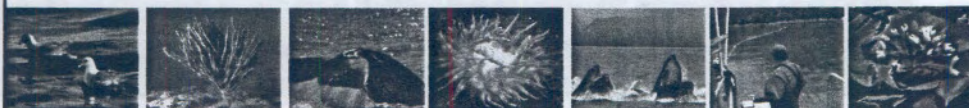
Mitigation measures

- Measures in IFMP focus primarily on sea turtles
- Some mention of measures to reduce tuna bycatch and practicing live release



Summary

- Bycatch in longline fishery is a serious concern
- Lack of population assessments & estimates of true level of bycatch is a concern – especially for shark species
- Need to show due diligence in regards to assessment of impact of fishery on species and ecosystem





Uncertainties & Questions

- Does the current management scheme address these ecosystem & species concerns?
- Is current observer coverage (~5%) sufficient to determine true levels of bycatch?
- Have sufficient mitigation measures been implemented to address all bycatch concerns



An example of collaborative solutions

WWF works with the fishing industry to:

- Identify, improve & reward leading sustainable fisheries
- Promote bycatch-friendly gear (Smart Gear Competition)
- WWF uses our international resources to promote sustainable seafood initiatives.



\$30,000 prize



PRINCIPLE 1: TARGET STOCK STATUS AND HARVEST STRATEGY

1.2.1 Harvest strategy

“There is a robust and precautionary harvest strategy in place.”

Comment: Size structure of population not accounted for in harvest strategy – should be part of robust and precautionary management (see size structure progression over years in Figure 1). Managing to B_{MSY} is not a precautionary practice.

1.2.2 Harvest control rules and tools

“There are well-defined and effective harvest control rules in place.”

Comment: Accounts of high-grading and unreported discards of juveniles in longline fishery, so “effective” is questionable. Harvest control rules also do not account for post-release mortality of swordfish after release, which is considered likely to be high.

The ICCAT Swordfish Report for 2008-09 stated: “The Committee is concerned that in some cases regulations have resulted in the discard of swordfish caught in the North stock and, to a certain extent, could have influenced similar behavior of the fleet that fishes the South Atlantic swordfish stock. The Committee considers that regulations may have had a detrimental effect on the availability and consistency of scientific data on catches, sizes and CPUE indices of the Atlantic fleet. The Committee expressed its serious concern over this limitation on data for future assessments.” (implications for information/monitoring and assessment of stock status too).

PRINCIPLE 2: NON-TARGET ECOSYSTEM IMPACTS

These points are in addition to those made in our written submission.

2.1 Retained Species

(shortfin mako, porbeagle, bluefin, albacore, bigeye, yellowfin tuna)

Need to fully consider the vulnerable status of shortfin mako and porbeagle populations, assessed by COSEWIC as threatened and endangered, respectively, even though these were not assigned to the ETP category for this assessment.

Bluefin Tuna

2.1.1 Outcome status

Comment: Population is severely overexploited. Accounts of high, unreported discards of bluefin, especially juvenile, most of which are discarded dead, and for those discarded alive, post-release mortality is also expected to be high. These unaccounted-for discards can be expected to have a pronounced negative effect on the population status.

2.1.2 Management Strategy

Comment: Longline fleet continues to push for and buy more quota to land legal size bluefin as bycatch than they receive as a base allocation for dead discards – strong indication that underreporting is systematic. Situation is set up to encourage discarding and underreporting of bluefin, because without bluefin tags, boats may not go out on longlining trips.

2.1.3 Information/Monitoring

Five percent observer coverage is inadequate to monitor and characterize bluefin discards, and for

reasons mentioned above, unlikely to capture good picture of the impact of longlining on the bluefin population.

2.2 Bycatch Species

(blue shark, blue marlin, white marlin)

Need to fully consider the vulnerable status of blue shark and marlin populations, assessed as "special concern" by COSEWIC and in need of rebuilding by ICCAT, respectively, even though these species were not assigned to the ETP category for this assessment.

Blue Marlin

2.1.1 Outcome status

Comment: Population is severely overexploited, but longline vessels land and discard substantial levels of blue marlin, negatively impacting the population. Contrary to ICCAT regulation demanding live release of all blue and white marlins brought to the vessel alive, blue marlins continue to be landed in substantial quantities on swordfish longlining trips. We also have heard that they are landed *by harpoon* under the swordfish longline license (undeniably targeted alive in the latter case). How is bycatch on harpoon trips under the longline license being monitored/enforced?

2.1.2 Management Strategy

Comment: DFO has made no efforts to manage the bycatch of marlins in the longline fishery, nor to enforce the ICCAT regulation on marlin release. Consequently, measures can be considered "not in place" for marlin bycatch management in this fishery.

2.1.3 Information/Monitoring

Comment: Five percent observer coverage is inadequate to monitor and characterize blue marlin discards. No information has been made available to support bycatch management or reduction, and despite ICCAT recommendations to the contrary, Canada is not involved in any research programs to identify gear technology that reduces the mortality of this species.

General comments on Principle 2:

- Tuna vs swordfish directed sets very different types and magnitudes of impacts on different species, but not well characterized. Are swordfish landed as bycatch in tuna-directed sets included in this assessment?
- Have heard repeatedly from diverse sources that use of 16/0 circle hook is aimed at limiting the number of swordfish caught when targeting bigeye tuna, so not surprising that it is ineffective at purported purpose of decreasing turtle mortality. Again, not a measure for bycatch reduction.
- Observer trips not considered representative (one expert has said they avoid productive areas, so less bycatch, but also less fish)

PRINCIPLE 3: INSTITUTIONAL AND OPERATIONAL FRAMEWORK

3.1 Governance and Policy

3.1.4 Incentives for sustainable fishing

System does not tend to incentivize fishers to fish sustainably. ITQs with minimal monitoring have effectively given fishers the incentive to maximize their profit through such practices as high-grading

and fishing to *minimize* swordfish catch rates to enhance catch of other tunas within the swordfish quota (thereby also affecting many other unwanted sensitive species).

3.2 Fishery-specific management system

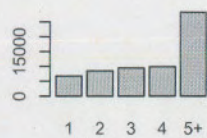
3.2.2 Decision-making processes

No informal processes exist to achieve fishery-specific objectives of ecosystem management because there is not even any discussion of bycatch (other than bluefin and porbeagle) as a standard part of the agenda at public management meetings. By the same token, decision-making processes do not respond to serious issues identified in either a timely or a transparent manner, if at all.

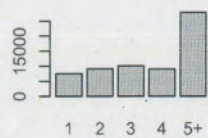
3.2.3 Compliance and enforcement

MCS mechanisms exist, but no reasonable expectation that effective because do not account for negative incentives (high-grading, non-reporting of bycatch, changes in behaviour with observers). Fishermen are often thought not to comply with management system – underreporting of SARA species, high-grading, non-reporting of dead bluefin, even shark finning in recent years (banned in 1994).

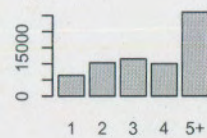
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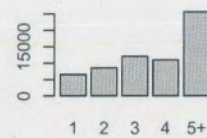
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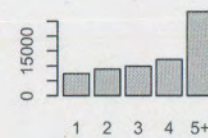
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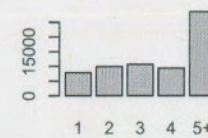
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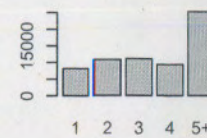
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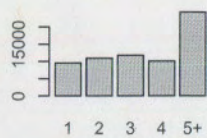
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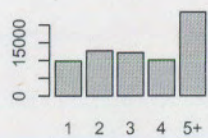
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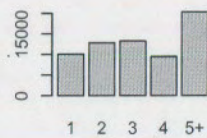
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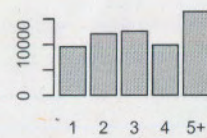
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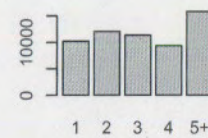
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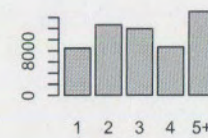
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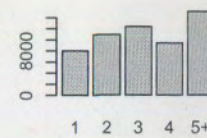
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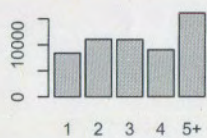
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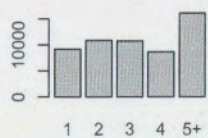
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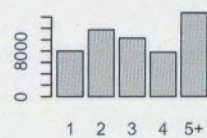
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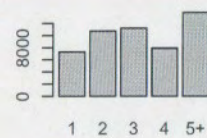
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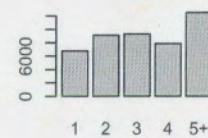
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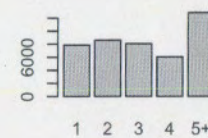
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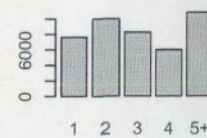
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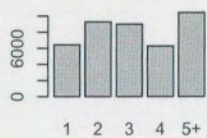
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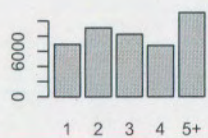
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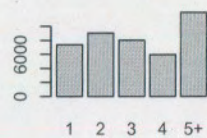
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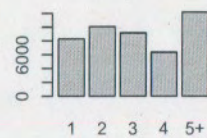
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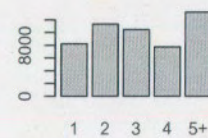
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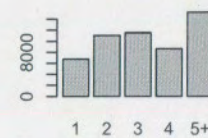
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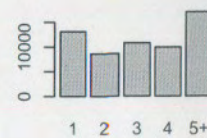
2003



2004



2005



North West Atlantic Swordfish Site Visit

July 23, 2009

Ecology Action Center (EAC)/David Suzuki Foundation (DSF) – Romney McPhee (Interested Citizen), Rob Johnson (EAC), Alex Curtis (EAC), Scott Wallace (DSF), Bill Wareham (DSF). (Note: Scott Wallace and Bill Wareham of David Suzuki Foundation attended via conference call).

Reference Documents:

- *Written submission for the MSC Assessment of the Northwest Atlantic Canadian Longline Swordfish Fishery, prepared by: Scott Wallace (DSF) and Alexandra Curtis (EAC).*
- *Proposal to monitor and reduce interactions with non-target species in the Canadian Atlantic pelagic longline fishery, prepared by Susanna Fuller and Alexandra Curtis (EAC) and Scott Wallace (DSF). Provided as Appendix 1 to Written Submission.*

General Comments

- Concerns with fishery date back a decade and did not start with the MSC assessment
 - Need improved management
- Campaign with DSF prior to MSC
 - No bycatch limits
 - Minimal monitoring
 - Most sustainable gear (harpoon) only 10% of catch
- Identified fishery as needing management reform
- Analogous to halibut fishery 5 years ago
 - ENGOs had same concerns on west coast Canadian halibut fishery– put in submission 5 years later management reform has happened – MSC application on pause – now back on track and supported by ENGOs
- Target species may be ok – but all other species are a concern
- Observer coverage, accountability, limits on bycatch
 - Now BC has both caps on catch limits and 100% observer coverage
- MSC help with improving fishery

Principle 1

- Not managed based on how many fish in caught in each size class
- Not robust to encourage age groups
- Not fully rebuilt in terms of age structure
- Harvest control rules and tools
 - High grading and discard of juveniles
 - Management does not account for post release mortality

Principle 2

- Shortfin mako and porbeagle - COSEWIC status
- Bluefin tuna
 - High unreported discards
 - Bluefin on longline gear most often come on board dead
 - Request for more quota indicates high discard
 - If harvesters run out of tags for bluefin they cannot continue to fish, this encourages discarding
 - Such action would be eliminated if more quota

- Say that there is no discarding and that all is reported, regardless there needs to be a system of accountability, the level of observer coverage needs to be appropriate and there needs to be adequate spatial/temporal coverage
 - In this fishery spatial/temporal coverage not sufficient
- Consider marlins as vulnerable
 - Blue marlin catch is significant in longline fishery
 - Have heard harpooners in longline fleet get marlins – clearly targeting
 - Harpooned longline can not be identified as harpoon clearly therefore should be separate from harpoon only
 - In terms of management DFO has not made any effort to manage marlin
- Shortfin mako may become SARA species.

Principle 3

- ITQ no incentive for sustainable fisheries
 - Promotes maximization of money
- Decision process – no discussion of all bycatch, only bluefin or porbeagle (because of commercial value) at ALPAC or Scotia-Fundy
- Decisions do not respond to serious regular concerns
- There are issues related to compliance and enforcement within the fleet.

General discussion

- Whole fishery based on bycatch – in this area there has been no change on how the fishery is executed despite concerns with bycatch
- Want to see – increased observer coverage, hard scientific based limits on bycatch, measures to decrease interactions in first place (i.e. hook size, time/space closures)
- Don't want to argue with COSEWIC number of turtles, important question is have they done everything to avoid – no.
- Not convinced that harm permits for leatherback turtles are effective
- Number in allowable harm not population based, therefore not happy with it
- Porbeagle measures are guidelines – no enforcement if they go beyond that
- Assessment team question: What do you think of the Code of Conduct?
 - Never a big fan of voluntary compliance – have to be sceptical of that – personal motivation to engage or not.
 - With respect to sea turtles - one of the most endangered species in the ocean, firm regulation is required
 - No evidence of decreased levels of catch in observer coverage
 - Focused on release of turtles, not avoidance
 - In US always revising and updating lists – not sure how up to date they are in Canada
 - Main emphasis needs to be on avoidance, decreased catch, not just safe release
 - Incentives to avoid not there
 - Hard cap of 46 loggerheads per year and 17 leatherback per year in the Hawaii longline fleet. Before this they were catching thousands – new measures, 100% observer coverage, depth regulations, decreased effort, ect. decreased catch of turtles by 90%
 - Lack of transparency at ALPAC, not clear how what is presented at meeting is considered in decisions
 - Presented observer proposal at regional level. Response was bycatch working group will be reconvened at some date.

- Assessment team question: Birds, are they an issue or not?
 - There does not seem to be a lot of seabirds caught, no major concerns.

APPENDIX 8 – STAKEHOLDER COMMENTS AND TEAM RESPONSES FROM PCDR COMMENT PERIOD

Appendix 8.1 – Comments from 35 Stakeholder Groups and CB/ Team Responses

Appendix 8.2 – Comments from B. Worm Lab @ Dalhousie University Department of Biology and CB/ Team Responses

Appendix 8.3 – Comments from David Suzuki Foundation and CB/ Team Responses

Appendix 8.4 – Comments from Ecology Action Center and CB/ Team Responses

Appendix 8.5 – Comments from Friends of Hector Email Campaign and CB/ Team Responses

Appendix 8.6 – Comments from Katie McLean and CB/ Team Responses

Appendix 8.7 – Comments from Oceana and CB/ Team Responses

Appendix 8.8 – Comments from Canadian Shark Conservation Society and CB/ Team Responses

Appendix 8.9 – Comments from National Marine Fisheries Service and CB/ Team Responses

Appendix 8.10 – Comments from Sierra Club of Canada – Atlantic Canada Chapter and CB/ Team Responses

Appendix 8.11 – Comments from Sven Koschinski and CB/ Team Responses

Appendix 8.12 – Comments from WWF and CB/ Team Responses

Appendix 8.1 – Comments from 35 Stakeholder Groups and CB/ Team Responses

To: Rupert Howes, CEO, Marine Stewardship Council
Amanda Park, Moody Marine, Ltd.

April 11th, 2011

The undersigned individuals and organizations oppose granting the Marine Stewardship Council (MSC) sustainable fisheries certification to the Canadian North West Atlantic Longline Fishery for Swordfish. Certifying this fishery ***compromises the credibility of the MSC*** and the sustainable seafood movement as a whole. Despite being given the label ‘sustainable’, this fishery will continue to harm threatened species and catch tens of thousands more animals as bycatch than its target fish. The MSC process has mandated ***no changes in fishing practice to reduce bycatch***. Instead, the certificate rewards the status quo in a fishery that should fail the MSC criteria.

MML Response: This is not correct. The certification assessment and subsequent certificate award does not mandate status quo. The assessment resulted with a total of eleven certification conditions and subsequent client action commitments which will improve the fishery in all three MSC Principles.

This will be the first surface longline fleet in the world to receive MSC certification. Globally, this gear type is associated with excessive mortality of sea turtles, sea birds and sharks in our oceans. Given that this Canadian fishery has exceptionally high bycatch of these species and does not have even the minimal international best practices in place, this precedent-setting certification is deeply concerning.

MML Response: The assessment team has considered all relevant information available in relation to the impact of the candidate fishery on non-target species (retained, bycatch, and ETP species), habitats and the ecosystem in the scoring of Principle 2 components. Based upon the information available from the fishery, in the literature, and from stakeholders consulted over the course of the assessment it was determined that the fishery meets the requirements of the Standard outlined in the performance indicators defined in the default assessment tree, as such certification of the fishery is appropriate.

We have carefully considered the assessment score released on March 11th 2011 by the certifying company Moody Marine Ltd. We do not agree that their scoring pertaining to 1) endangered, threatened, or protected (ETP) species or 2) bycatch species is justified, for the following reasons:

1. Endangered, Threatened, or Protected (ETP) species

Sensitive Species caught in Atl. Can Pelagic Longline Fishery for Swordfish

Species	Estimated annual bycatch; number of animals*	Estimated mortality	IUCN Status ^a	COSEWIC Status ^b	'MSC recognized' status
Sharks	100 000	35 000			
Porbeagle			Endangered (NW Atl.)	Endangered	
Shortfin Mako			Vulnerable	Threatened	
Blue			Near threatened	Special concern	
Loggerhead turtle	1200	200 – 500	Endangered	Endangered	CITES ^c
Leatherback turtle	170	Unknown	Critically endangered	Endangered	SARA ^d

* Estimates from fishery observer coverage and peer reviewed documents available at www.friendsofthector.org; ^a International Union for the Conservation of Nature; ^b Committee on the Status of Endangered Wildlife in Canada – this body recommends which species should be listed under Canada's Species at Risk Act; ^c Convention of International Trade in Endangered Animals; ^d Species at Risk Act (Canada)

To define 'ETP species' the MSC does not recognize listing by COSEWIC, Canada's government science advisory body for species at risk, or the IUCN ETP status reports. Shark species are not assessed under MSC's ETP criteria. Unfortunately, even for the endangered sea turtle species scored under the ETP criteria, the assessment falls short.

MML Response: To ensure consistency between assessments, the MSC has clearly defined retained, bycatch, and ETP species in Section 7.1.1 of the FAM (v.1). As required, species caught incidental to the harvest of swordfish in the candidate fishery were classified based upon the MSC definitions, to ensure appropriate assessment of all species. With respect to ETP species, the definition states that endangered, threatened or protected species are those that are recognised by national legislation and/or binding international agreements (i.e. CITES, SARA) to which the jurisdictions controlling the fishery under assessment are party. COSEWIC conducts assessments and provides its advice on status. COSEWIC has no legally binding authority to "list" species, this is the purview under SARA. For this assessment, unless a species was legally protected under SARA or CITES, it was assessed as either retained or bycatch, based upon the MSC definitions.

Scoring rationales associated with PI 2.1.1, 2.2.1 and 2.3.1 can be referred to for the rationales associated with the classification of species as retained, bycatch or ETP.

The MSC's minimum passing grade requires that "the fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species."

MML Response: As defined in FAM (v1), with respect to PI 2.3.1 (ETP species outcome status) the PI intent is that "the fishery meets national and international requirement for protection of ETP species" and "The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species". The minimum requirement, as defined by the SG60, for this PI is that "known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species." and "Known direct effects are unlikely to create unacceptable impacts to ETP species".

As supported by the rationales presented for PI 2.3.1, the minimum scoring requirement, as defined by the 60SG, is met for all species assessed as ETP species, with some scoring above 80.

This fishery has no enforceable management measures in place to minimize catch of sea turtles:

- no bycatch limits
- no bait or soak time restrictions
- no spatial/temporal closures
- insufficient hook restrictions (16/0 circle hooks do not reduce the loggerhead catch rate)
- only 5%, biased observer coverage to monitor numbers, condition, and handling of turtles

The certification scoring does not mandate any of the above be implemented.

MML Response: This is an inaccurate statement. There are spatial/ temporal closures, see Figure 3 in the Final Certification Report. Other measures are presented in Table 17. As of 2011, the Association Code of Conduct has been incorporated in the Conditions of License and thus are enforceable. A minimum of 5% observer coverage is recommended but coverage has been as high as 19% in the last 10 years, see Table 4 in the report.

COSEWIC states that “the primary known threat to Loggerhead Sea Turtles in Canadian waters is bycatch in the pelagic longline fleet.” One of the official peer reviewers of the MSC report is clearly concerned about that the precedent this certification sets for this species, stating “other pelagic longline fisheries under ICCAT’s auspices are applying for MSC certification” and by failing to consider cumulative impacts, “*the MSC may find itself presiding over further decline of the North Atlantic loggerhead in the name of sustainability.*”

This certification scoring requires no actions by the fishery that will reduce its catch of these ETP species, even though it is clearly posing ‘serious harm’ to them.

MML Response: Section 7.1.14 provides additional guidance on the scoring of Principle 2 components, stating “The SGs in Principle 2 are structured to first address the status of the Component. If the status is low, for whatever reason, then the operative Principle 2 assessment issue is then whether the fishery is hindering recovery.” The same section states that “the assessment is based on the ‘marginal contribution’ that the fishery makes to the status or recover of the Component under consideration.”

Based on the above guidance presented in FAM (v.1), all P2 components, including ETP species were assessed to examine the fisheries, as defined in the UoC, impact on each component, as there is no guidance to indicate that cumulative impacts are to be examined.

As such, based on the MSC guidance, information relevant to assessing the impact of the candidate fishery was reviewed by the assessment team, and it was deemed that the impact of the fishery under consideration is not considered to be posing a risk of serious or irreversible harm to ETP species and is not hindering the recovery of ETP

species. Further details of this conclusion are found in the scoring rationale of PI 2.3.1.

Given that the scores awarded to PI 2.3.1 (ETP species outcome), 2.3.2 (ETP species management strategy) and 2.3.3 (ETP species information/monitoring) were less than 80, certification conditions were imposed for each of these PIs. Conditions require that clients agree to improve management performance of the fishery for those performance indicators scoring less than 80 to at least the 80 performance guidepost within a period set by the certification body but no longer than the term of certification (i.e five years). The conditions of certification as well as the client action plan which details the actions to be taken to meet these conditions are included in Section 10 of the report.

2. Bycatch and retained species

The bycatch in this fishery is mainly sharks. For a catch of approximately 20 000 swordfish each year, roughly 100 000 sharks are caught. Very few are kept, and an estimated 35 000 die.

The MSC minimum passing guidelines for bycatch and retained species require that measures are in place to ensure that catches of these species *“are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.”*

MML Response: The statement quoted above is in fact reflective of components of the 80SG as defined in the default assessment tree in relation to PIs 2.1.1 and 2.2.1. In relation to the scoring of main retained and bycatch species, the minimum requirement, as defined by the 60SG requires that 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 the recovery and rebuilding of the depleted species. The second scoring issue of the SG60 for both retained and bycatch species outcome status requires that if the status of the species are poorly known there are measures or practices in place that are expected to result in the fishery not causing the species to be outside biologically based limits or hindering recovery.

Based on the requirements of the scoring guideposts, as defined in FAM (v1) based on the information available, the team concluded that the 60SG was met for all main bycatch and retained species, with some species exceeding the 80SG. Refer to scoring rationales presented in 2.1.1. and 2.2.1 for further explanation on the information considered and elaboration on how the SG's were met.

Changes to the text related to retained or bycatch scoring were not required on the premise of this comment.

This fishery has:

- No limits on catch of blue shark
- Non-restrictive guidelines for short-fin mako shark based on catch history, not science
- Non-restrictive guidelines for porbeagle shark that do not account for discards
- No reporting of discards for sharks
- No spatial or temporal closures for sharks

- No gear modification in place to limit shark catch
- Insufficient, spatially biased observer coverage

The MSC certification scoring requires no conditions on any shark species, and states that this staggering 5 to 1 ratio of sharks to swordfish catch is ‘sustainable’ according to its criteria.

MML Response: As a result of stakeholder comments and further consideration of existing data, conditions have been raised in relation to shortfin mako, porbeagle and blue shark. See PIs 2.1.1, 2.1.2, 2.2.2.

It is our firm and informed view that this fishery fails to meet the MSC sustainability standard. We ask that the Marine Stewardship Council and the certifying company, Moody Marine Ltd., either correct the above shortcomings or withdraw their recommendation to certify this fishery.

We look forward to your response at info@friendsofthector.org

MML Response: As per normal procedure, all written submissions and responses will be appended to the Final Draft Report and any resulting Certification Report. While the reports will be circulated to stakeholders, individual responses to written submissions will not be emailed directly to the stakeholders.

Signed,

Ecology Action Centre
Halifax, NS, Canada

Oceana
Washington, DC, U.S.A.

Sierra Club Canada,
Ottawa, ON, Canada

David Suzuki Foundation Vancouver, BC, Canada	Sea Turtle Conservancy Ellicott City, MD, U.S.A.	Project AWARE Foundation Rancho Santa Margarita, CA, U.S.A.
Greenpeace Canada Vancouver, BC, Canada	Shark Advocates International Washington, DC, U.S.A.	Shark Tsunami UK United Kingdom
Turtle Island Restoration Network Marin County, CA, U.S.A.	PRETOMA San José, Costa Rica	Center for Biological Diversity San Francisco, CA, U.S.A.
Sea First Foundation Duffel, Belgium	The Green Connection Aquarium & Science Discovery Kota Kinabalu, Sabah, Malaysia	Greenpeace International Amsterdam, Netherlands
Greenpeace USA San Francisco, CA, U.S.A.	Living Oceans Society Vancouver, BC, Canada	Shark Research Institute Princeton, NJ, U.S.A
Canadian Shark Conservation Society Saint John, NB, Canada	Canadian Parks and Wilderness Society, Nova Scotia Chapter Halifax, NS, Canada	Alliance for Tompotika Conservation Vashon, USA & Sulawesi, Indonesia
Shark Protect Millbrook, NY, U.S.A & Rinkerode, Germany	Shark Savers New York, NY, U.S.A	Sierra Club USA San Francisco, CA, U.S.A
Humane Society USA Humane Society International Washington, D.C., U.S.A	Kirt W. Rusenko, PhD Marine Conservationist Boca Raton, FL, U.S.A	Northwest Environmental Advocates Portland, OR, U.S.A
Thailand Dive and Sail Liveaboard diving, Thailand	Shark Foundation Zurich, Switzerland	Gumbo Limbo Nature Centre Boca Raton, Florida, U.S.A
Pacific Environment San Francisco, CA, U.S.A	For the Fishes Hawaii, U.S.A	Sea Turtles Forever Seaside, OR, U.S.A
Support our Sharks Perth, Australia	The Global Shark Initiative Duffel, Belgium	

*Add your organization to this letter.

Contact Shannon Arnold info@friendsofhector.org

Appendix 8.2 – Comments from B. Worm Lab @ Dalhousie University Department of Biology and CB/ Team Responses**Department of Biology**

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Tuesday, April 11th, 2011

Subject: Comments on the MSC certification of the Northwest Atlantic Canada Longline Swordfish Fishery

Name of commenters: Aurelie Cosandey-Godin, MMM. (Ph.D. Candidate, Industrial Graduate Fellow, WWF-Canada), Dr. Boris Worm (Associate Professor), Dr. Heike Lotze (Associate Professor), Dr. Christine Ward-Paige (Post-doctoral Fellow).

Assessment details: North West Atlantic Canadian Swordfish Longline

Certification body: Moody Marine Ltd.

Assessment stage: Public review of the draft assessment report

Dear Moody Marine Ltd.,

We recognize that the North Atlantic Canadian swordfish longline fishery has robust and precautionary harvest strategy for swordfish and that the 2009 North Atlantic swordfish stock assessment shows that the stock biomass has successfully rebuilt to a level above B_{MSY} . We also find it encouraging that over the years new fishing practices were adopted voluntarily by the fleet to reduce their impact on some bycatch species, particularly marine turtles (e.g. circle hooks, live-release, marine turtle de-hooking kits). Nonetheless, we still have concerns about the scores and rationales given under Principle 2 on 'retained and bycatch species', particularly with respect to bycatch and discard of sharks.

We have carefully examined the assessment report released on March 11th, 2011. We find that the draft report failed to recognize the urgent need for improved shark conservation and, in apparent conflict with the new FAO International Guidelines on Bycatch, the necessity for stringent bycatch and discards mortality management overall.

Currently, all bycatch avoidance measures for sharks, with the exception of the bycatch quota and fishery closure for porbeagle are voluntary (e.g. non-restrictive landings limits, circle hook). Anecdotal evidence suggests that additional practices (e.g. live-release, de-hooking kits used with sharks) have been adopted by some vessels in this fleet, but we believe that these and potentially other measures (e.g. limits on discards) should be made explicitly mandatory to protect sharks. Furthermore, we think that it is necessary that the fishery provides documented evidence, that work is ongoing to minimize the fishery's impact on sharks, including discard mortality, and that progress is being made as a condition for the certification of this fishery. We believe that this fishery should only be awarded an MSC-label, under the circumstance that bycatch of sharks is adequately addressed. We do not believe that the assessment report as released on March 11th meets the MSC sustainability standard with respect to the management of bycatch and we sincerely hope that our concerns will be taken into consideration in the next stages of the assessment.

The following section details our comments and questions regarding the draft

assessment.

Yours sincerely,

Aurelie Cosandey-Godin, Dr. Boris Worm, Dr. Heike Lotze, Dr. Christine Ward-Paige

Component: 2.1 Retained Species

Performance indicator: 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.'

Nature of the comment: We do not think the information and/or rationale used to score this performance indicator is adequate to support the given score.

Justification:

The assessment team evaluated that shortfin mako is 'highly likely to be within the biological 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', achieving a SG80 score. We believe that this score is overly optimistic and we are unsatisfied with the rationales provided.

In 2005 and again in 2007, the ICCAT Standing Committee on Research and Statistics (SCRS) recommended members to reduce fishing mortality for North Atlantic shortfin mako sharks [Rec. 05-05 and Rec. 07-06]. Taking into consideration that (1) the 2008 SCRS ecological risk assessment evaluated the species at the highest risk to overfishing even at low levels of fishing mortality, (2) that the 2008 ICCAT stock assessment indicates that the stock is likely overfished and experiencing overfishing, and (3) that current level of information remain largely incomplete, we see no evidence supporting the view that the North Atlantic shortfin mako sharks are 'highly likely' to be within biological limit.

Moreover, the performance indicator 7.1.23 defined a 'partial strategy' as one that: 'includes how current measures work to achieve an outcome and an awareness of the need to change the measures should these cease to be effective.' We believe that such 'outcome' and 'the need to change the measures should these cease to be effective' are not explicitly described in current fishery management plans. The suggested Canadian catch limit of 100t is not scientifically justified (Cosandey-Godin and Worm, 2010)¹. This non-restrictive catch limit is solely based on recent historical catch trends. In other words, Canadian landings have not exceeded 100t since 1998, such that this 'management measure' has never limited fishing mortality in this fishery. Moreover, (1) total discard mortality is unknown (post-release mortality studies with satellite tagging have never been done on shortfin mako), (2) discard mortalities are not accounted for in their management and, (3) total fishing mortality across jurisdictions and in international waters remains highly uncertain. Moreover, as pointed out for the live release of marlins, current low observer coverage makes it difficult to evaluate the effectiveness of the rule of 'live-release' on shortfin mako. In light of this, we cannot accept a SG80 score and we believe that additional measures are required to improve the fishery performance until sustainable levels of harvest can be determined through peer reviewed stock assessments by SCRS or other organizations. We feel that the rationale that the Canadian fishery landings contribute to less than 4% of total known landings and that catches are limited by the distribution of shortfin mako (northern extent of their range) are too weak to justify the scoring, considering the high vulnerability of this species, their conservation status (Vulnerable by IUCN, Threatened by

COSEWIC), and the fact that the assessed fishery is responsible for over half of the fishing mortality for this species in Canadian waters.

MML Response: In light of informative stakeholder comments, and upon further consideration of available information, the assessment team has re-evaluated the awarded score for shortfin mako and rescored at 70. 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. 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. A certification condition has been raised in relation to this PI.

Performance indicator: 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.'

Nature of comment: We do not think the information and/or rationale used to score this performance indicator is adequate to support the given score.

Justification:

The assessment team evaluated that current measures for porbeagle constitute a partial strategy (SG80) and that 'there is clear evidence that the strategy is being implemented successfully, and intended changes are occurring and there is some evidence that the strategy is achieving its overall objective for those species', achieving an overall SG100. We do not concur that the current strategy for porbeagle can achieve the perfect score of SG100. Most of the measures are aimed at the directed porbeagle shark fishery. In fact, it is explicitly stated in the large pelagic shark integrated fisheries management plan (2002-2007) that bycatch is not restricted in the assessed fishery. Other measures mentioned by the assessment team (i.e. area closure, live-release) have not been assessed, such that it is not possible to conclude whether these measures are achieving any objectives. The area closure was originally developed for the directed shark fishery and greatly helped to reduce fishing mortality on gravid females by that fleet. We believe that other area closures should be investigated in the current assessed fishery (see next section, Performance indicator: 2.1.3). Moreover, it remains unclear what the assessment team considered the 'strategy objectives'. We assume that the objective is to achieve less than 4% fishing mortality, which will allow the population to recover to 20% of the number of female porbeagle spawners when the population is at an unfished equilibrium (DFO goal of SSN 20%). There are a few issues with this objective: (1) there has never been any agreed timeline for this recovery target or public consultations and agreements of what is an acceptable level of recovery for porbeagle (as it would have been the case if listed under SARA and an official federal recovery plan had been developed) and (2) this model assumes that international mortality is negligible, however new information on the migration patterns of mature female porbeagles shows that their pupping ground is located in the Sargasso Sea, i.e. in international waters. As researcher S. Campana (DFO) mentioned: 'the placement of such a key life history stage in international, largely unregulated waters poses problems for the conservation and management of [porbeagle].'²

DFO currently uses the SSN 20%, which is below the biomass that would give maximum sustainable yield (MSY) and is again much below the unfished biomass. For highly vulnerable species, we argue that more precautionary management measures are needed and that the minimum target should be recovery to SSN_{msy} - the number of female spawners at maximum sustainable yield. Fishing mortality, including discards in Canadian and international waters remains uncertain (i.e. post-release survival studies with satellite tagging have never been done

on porbeagle) and current low observer coverage does not allow adequate assessment. Under current total allowable catch (TAC), assuming no other unknown fishing mortality (including on the high seas), it would take one hundred years to reach SSNmsy and at that point the population would not even be at 40% of its virgin stock size (DFO, 2005). The most recent 2009 porbeagle population assessment suggests that the stock is stable or slightly decreasing and remains at low biomass; mature females are between 83-103 percent of their number in 2001, or 12 to 16 percent of virgin stock size (1961 estimated population level).³ For these reasons, we are questioning the validity of a perfect score of SG100.

There is a need to recognize seriously that the porbeagle shark was twice proposed to be added under Appendix II of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and once proposed to be listed under our national legislation as endangered (SARA). Unfortunately, all of these proposals failed (the last CITES proposal failed by only one vote, and was actually supported by Canada). The porbeagle shark (along with other CITES candidates) illustrates that there is a strong need for stringent management of shark stocks and that shark management is challenging because these are straddling stocks shared by many countries and fleets. The argument that the assessed fishery contribute to just a small share of the problem is not relevant. The majority of the Northwest Atlantic porbeagle shark population is likely resident in Canadian waters, and the assessed fishery is responsible to ensure that their activity does not further threaten this population. For this reason, we believe that additional research should be done to ensure that their current 'measures' are sufficient to minimize their impact on this stock. We are also unsatisfied with the regulation of no bycatch restriction that is in place and don't believe that such practice should be rewarded by MSC, particularly in light of the new FAO guidelines.

These urge regulators to consider discards mortality for bycatch species as a factor in limiting fishing mortality, and require substantial at-sea monitoring to ensure compliance and enforcement of bycatch regulations.

Moreover, for shortfin mako, as discussed in the previous section, we cannot agree with the SG80 score which supports that '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' based on current non-restrictive and not scientifically based 100t 'limit', which do not take into consideration discard mortalities. We believe that some provision should be put in place to ensure that the assessed fishery takes responsibility to better monitor, support research, and evaluate if current measure are sufficient. Following the 2008 ICCAT stock assessment, the Group 'recommended that the Commission request Contracting Parties to undertake research on all sharks caught on pelagic longlines, giving priority to those species with known biological vulnerability (e.g. mako), known population decline (porbeagle) and for which biological data are limited for Atlantic populations, including observer programs to document the frequency of capture, fate, collect biological data and other relevant information'.

MML Response: The assessment team rescored this PI to 75 for both shortfin mako and porbeagle sharks. The team considered that two of three scoring guideposts of the 80SG were met. However, the assessment team is not confident that there is an objective basis for confidence that the partial strategy will work. A condition has been raised to require the improvement of the partial strategies used to manage these species.

Performance indicator: 2.1.3 'Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species.'

Nature of comment: We do not believe that all the relevant information available has been used to score this performance indicator.

Justification:

We do not believe that all information has been used by the assessment team to conclude that current information is 'sufficient to estimate outcome status with respect to biologically based limits (SG 80), and the information is adequate to support a partial strategy to manage main retained species (SG 80)' particularly with regards to porbeagle sharks. The Emerald Basin is commonly used as a fishing area by the assessed fishery, however little observer coverage is available from this region. Although still not scientifically supported, this area is believed to possibly be a critical habitat for porbeagle sharks. Compared to other areas, a much larger number of immature individuals of less than two years old are caught in Emerald Basin. This is different from the age-structure seen elsewhere (i.e. average age of porbeagle sharks caught in this fishery is 8 years). As the assessment team did not mention this potential issue with observer coverage and available information, we feel that it is necessary to revise the SG80 scoring. The 2008 ICCAT stock assessment recommend that fishing mortality on the juvenile and/or the mature female component of the stock be reduced, such measure would benefit the population, and could be considered precautionary. Moreover, the assessment mentioned that space-time technical measures could be considered if the locations of nursery and/or pupping grounds are known. We attest that this is potentially the case for porbeagle shark and the assessed fishery, but nonetheless requires further investigation that should be made a condition for MSC certification.

MML Response: The assessment team considered this and other similar stakeholder comments but did not revise the score below 80. Qualitative and quantitative information is sufficient to estimate outcome status with respect to biologically based limits, the information is adequate to support a partial strategy to manage main retained species and sufficient to detect any increased risk to main retained species, the SG80 is met. The corrective action plan proposed for PI 2.3.3 by the client includes a review of the at-sea observer plan in order to evaluate the precision and stratification of observer data and to recommend changes, if required, to improve monitoring, deployment strategies and schedules, including coverage. This outcome will be evaluated as part of the annual surveillance audit program should the fishery be certified.

Component: 2.2 Bycatch Species

Performance indicator: 2.2.1 'The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups.'

Nature of comment: We do not think the information and/or rationale used to score this performance indicator is adequate to support the given score.

Justification:

Based on reported prevalence of blue shark, the assessment team considers that this species is highly likely to be within biologically based limits and scores this performance indicator at SG80 despite the highly uncertain assessment of the stock status. We question the criterion of this being 'highly likely'. The 2008 ICCAT stock assessment concludes that: 'although both the quantity and quality of the data available to conduct stock assessments has increased with respect to those available in 2004, they are still quite uninformative and do not provide a

consistent signal to inform the models. Unless these and other issues can be resolved, the assessments of stock status for these and other species will continue to be very uncertain.' The assessed fishery is responsible for nearly all fishing mortality of blue sharks in Canadian waters and as identified by the assessment team 'immature sharks are caught in the bycatch of the assessed fishery, and juveniles have been identified as a vulnerable stage'. The 2008 ICCAT stock assessment mentioned that precautionary management measures should be considered for stocks for which there are very little data. We believe that it is the case for blue shark species. Hence, we cannot accept the current SG80 scoring.

MML Response: The team has reconsidered the scoring of PI 2.2.1 and has not revised the score. The scoring rationale has been revised to further define the basis of the awarded score of 80.

Performance indicator: 2.1.2 'There is a strategy in place for managing bycatch species that are designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.'

Nature of comment: We do not think the information and/or rationale used to score this performance indicator is adequate to support the given score

Justification:

Although the current strategy includes different measures, we do not believe that these measures are sufficient to maintain blue shark at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery. The majority of the measures mentioned by the assessment team pertain to landings management (i.e. dockside monitoring, finning regulation, and logbooks). The main issue with blue shark is the potential for large amount of dead discards, which is unmanaged. The only voluntary measure that has shown some benefit is the use of circle hooks as well as the marine turtle de-hookers kit, however the latter has yet to be fully investigated in the assessed fishery and it is difficult to ensure compliance without adequate observer at-sea monitoring.

It is inadequate to use the argument that 'an effort cap on the number of vessels and the size of those vessels (GRT), limits the swordfish and tuna fishery to 78 vessels and that the swordfish quotas limit fishing effort for this fishery' are enough to limit the fishing pressure on blue shark. Our understanding is that the reduced fleet effort in recent years is a result of a combination of different factors since 2002 (i.e. quota, increased costs, increased opportunities for fishing other species, relatively low market value, and the introduction of an Individual Transferable Quota (ITQ)). However, from the data available on bycatch, the total blue shark bycatch has averaged over 2000 t annually and landings and dead discards have averaged about 1000 t annually since these changes were made.

Worldwide, pelagic longline fisheries are considered a main threat to pelagic sharks and particularly blue shark, which often comprise the majority of the sharks caught. One-third of the assessed fishery catch is blue shark and we find that the assessed fishery has not considered and evaluated all plausible management options (i.e. use of other gear types, gear modifications, area-closures, and bycatch limits) to minimize unnecessary mortality that contributes to the decline of the North Atlantic blue shark population. We believe that additional management measures should be developed for this fishery to limit bycatch, and bycatch mortality. At a minimum this should be made a condition to the assessed fishery.

MML Response: PI 2.2.2 has been re-evaluated. The score has been changed to 60 as there are currently measures defined for the fishery (see Table 19). The team concluded that while there are measures in place, meeting the requirements of the

SG60, the lack of an explicit response from management based on a harvest control rule precludes it from meeting the requirements of the SG80. It cannot be stated that the management in place qualifies as a partial strategy, as such a condition has been raised to this effect for blue shark.

General comments about the assessment of this fishery against the MSC Principles and Criteria for Sustainable Fishing:

The use of circle hooks is repeatedly highlighted in the assessment report. Although we acknowledge that their use is beneficial for reducing post-release mortality for sharks, we also believe that their use as one available bycatch mitigation methods for sharks has to be combined with other operational changes and management measures to ensure 'best practices' for the avoidance of shark bycatch on pelagic longlines. Many other gear modifications warrant additional research, such as the use of particular bait type or shark repellent hooks. For example, In the Hawaiian swordfish longline fishery when the fishery was required to switch from using J hooks with squid baits to larger circle hooks (10° offset 18/0) with fish bait to manage marine turtle bycatch, shark catch rates (14.0 per 1000 hooks) declined by 36 percent (21.9 per 1000 hooks).⁴ This significant drop in shark catches; predominantly blue shark was primarily attributed to the change of bait from squid to fish.

On a voluntary basis, some vessels of the assessed fishery are already using mackerel as bait, however when fishing for tunas, vessels preferably use squid. We caution that it would be important that the assessed fishery adopt and follow best bycatch mitigation practices on all longline sets on trips on which MSC certified fish will be caught i.e. including tuna sets if swordfish from the trip are to be labeled by MSC.

¹ Cosandey-Godin, A. and Worm, B. (2010) Keeping the lead: How to strengthen shark conservation and management policies in Canada. *Marine Policy* 34: 995-1001.

² Campana, S. E., Joyce, W., Fowler, M. (2010) Subtropical pupping ground for a cold-water shark. *Canadian Journal of Fisheries and Aquatic Sciences* 67 (5): 769-773.

³ Campana SE, Jamie A, Gibson F, Fowler M, Dorey A, Joyce W. Population dynamics of porbeagle in the northwest Atlantic, with an assessment of status to 2009 and projections for recovery. SCRS 095; 2009

⁴ Gilman, E., Kobayashi, D., Swenarton, T., Brothers, N., Dalzell, P., and Kinan-kelly, I. (2007) Reducing sea turtle interactions in the Hawaii-based longline swordfish fishery. *Biological Conservation* 139: 19-28.

Appendix 8.3 – Comments from David Suzuki Foundation and CB/ Team Responses

April 11, 2011
Amanda Park
Moody International
Suite 815, 99 Wyse Road
Dartmouth, N.S., Canada
B3A 4S5

Re: Public Draft for the Assessment of the Northwest Atlantic Canadian Longline Swordfish Commercial Fishery

Dear Ms. Park,

The David Suzuki Foundation does not support the conclusions and conditions of the draft assessment of the Northwest Atlantic Canadian Longline Swordfish fishery. Being the first pelagic longline fishery to seek Marine Stewardship Council certification, the outcome of this assessment is precedent setting. The Nova Scotia Swordfish Association, Moody Marine, the Department of Fisheries and Oceans, and the Marine Stewardship Council are missing the opportunity to set the standard for a sustainable pelagic longline fishery. The draft assessment is an endorsement of the status quo requiring insufficient reforms to on-the-water operations of this fleet; it ignores best practices, is non-precautionary, and consequently will continue to contribute to the decline of endangered and threatened species.

In previous submissions we have described in detail where, how, and why the fishery fails against several performance indicators. The Public Draft assessment has identified some of the failings of this fishery but has imposed insufficient conditions to bring this fishery to a level that meets the MSC standard.

This submission to the Public Draft comment period is focused on loggerhead turtles and the interpretation of the performance indicators of 2.3.1 and 2.3.2. The David Suzuki Foundation is supportive of comments submitted by other stakeholders regarding other Principle II species and indicators.

Sincerely,
Scott Wallace, Ph.D.
Sustainable Fisheries Analyst
David Suzuki Foundation

Endangered, Threatened, and Protected Species (PI 2.3.1 & 2.3.2)
Loggerhead Turtles

PI 2.3.1. The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.

The assessment team correctly states that loggerhead turtles are not currently protected under the national requirements of SARA. However, within two years or by the second surveillance audit (if certification were to be granted), loggerhead turtle will become a protected species under Canadian national legislation.

MML Response: Following certification, a fishery is subject to annual, as a minimum, surveillance audits over the course of the certification. In addition to assessing the compliance with and progress on stipulated conditions, the operation and management of the fishery is reviewed to ensure continued compliance with the MSC Standard. This includes a review of any potential or actual changes in management systems, review of any changes or additions/deletions to regulations and review of any personnel changes in science, management or industry to evaluate impact on the management of the fishery and review any potential changes to the scientific base of information, including stock assessments.

Should the legal status of loggerhead turtles, or any other species, change over the life of the certificate such change would be detected and addressed during the appropriate surveillance audit. Should any species become listed under SARA over the course of the certification validity period (5 years), the species would be re-scored under the ETP components during a surveillance or recertification audit, as necessary.

Under current and possible management changes to the fishery outlined through the Loggerhead Conservation Action Plan (LCAP), it is unlikely that the fishery will meet the legal requirements of SARA for loggerhead turtles and will soon fail the first clause of this performance indicator. It should be noted that there will be several differences between loggerhead and leatherback turtles in regards to the issuance of harm permits under SARA.

MML Response: As noted in the previous comment, the consequences of the change in the status of a species with respect to listing under Canada's Species at Risk Act, and the actions taken to address the requirements of that Act will be reviewed during the required annual surveillance audits. The expectation is that the management agency will respond to a SARA listing as they are legally required. The surveillance audit will evaluate that and, if necessary, can issue new conditions.

A permit to harm an endangered species under SARA requires the following conditions.

- (a) all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted;
- (b) all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and
- (c) the activity will not jeopardize the survival or recovery of the species.

The current conditions, as described in the LCAP do not move the fishery to a place where it will satisfy the legal conditions of SARA. Just as an example, the failure to increase the circle hook size to 18/0 is a clear indication that ALL feasible measures have not been considered especially when US fisheries in adjacent waters (and often overlapping waters) are regulated by a larger

hook size specifically to decrease interactions, limit deep ingestion of hooks, and improve post-release survivorship of loggerhead turtles.

MML Response: As loggerhead turtles are not currently designated on Schedule 1 of SARA, it was not necessary to assess the measures in place applicable to loggerhead turtles against the legal requirements of SARA. Should the status of loggerhead turtles change in relation to a listing under SARA, compliance with SARA would be reviewed during the surveillance audit following the change.

The assessment team should be made aware of a recent paper available at http://www.seaturtle.org/PDF/StokesLW_2011_EndangSpecRes.pdf released April 7, 2011, that supports the prevailing scientific consensus that fishing with large hooks, baiting with finfish instead of squid, and using single-baited baits are likely to reduce deep ingestion rates of hooks by loggerheads (Stokes et al. 2011).

The second clause of this performance indicator appears to have been generously interpreted. The second clause 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. The assessment team has made their interpretation; we have made ours in previous submissions. There is little else we can say at this point, it has come down to an interpretation of the criteria by the assessment team and Moody Marine.

MML Response: The team has interpreted the available information in accordance with the MSC guidance for this PI.

The peer reviewer of the draft report summed up the primary failing of this indicator. That is, a failure to recognize the cumulative impact of this fishery on an endangered species will simply lead to further declines in this species.

“Recognizing that other pelagic longline fisheries under ICCAT’s auspices are applying for MSC certification, and that the same arguments are used for finding that the fisheries meet at least a 60 under the scoring issues of PI 2.3.1, the MSC may find itself presiding over further decline of the North Atlantic loggerhead in the name of sustainability.”—
Peer Reviewer#1 of Public Draft assessment (pdf page 95)

The Public Draft states,

“The assessment team concludes that impacts [from the Canadian fleet] 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 creating unacceptable impacts to loggerhead turtles.”

While the statement is true, the same certainly would not be said if the assessment was covering all North Atlantic longline fleets.

MML Response: Section 7.1.14 provides additional guidance on the scoring of Principle 2 components, stating “The SGs in Principle 2 are structured to first address the status of the Component. If the status is low, for whatever reason, then the operative Principle 2 assessment issue is then whether the fishery is hindering recovery.” The same section states that “the assessment is based on the ‘marginal

contribution’ that the fishery makes to the status or recovery of the Component under consideration.”

Based on the above guidance taken from the FAM (v.1), all P2 components, including ETP species were assessed to examine the fisheries, as defined in the UoC, impact on each component, as there is no guidance to indicate that cumulative impacts are to be examined.

In our opinion, the only way to meet the 60 threshold in the context of cumulative impacts is when a fishery has demonstrated practices that are clearly distinct from all other fisheries in the North Atlantic and actually “minimize” their impact as required by the MSC (PI 2.3.2). This can be achieved through the implementation of best practices found in other jurisdictions. The current conditions and action plan does not move the fishery to this place. In fact, even with conditions being fulfilled, the Canadian fishery will not meet the existing practices of the adjacent US fishery and will be well below best practices currently in operation in the Hawaiian longline fishery.

MML Response: With the exception of the US Northeast Distant area fishery conducted in the Grand Banks, the hook requirements specified in the US Atlantic HMS federal regulations in subpart C, Management Measures (§50:635.21) states:

(C) Hook size, type, and bait. Vessels fishing outside of the NED closed area, as defined at §635.2, that have pelagic longline gear on board, and that have been issued, or are required to have, a limited access swordfish, shark, or tuna longline category permit for use in the Atlantic Ocean, including the Caribbean Sea and the Gulf of Mexico, are limited, at all times, to possessing on board and/or using only whole finfish and/or squid bait, and the following types and sizes of fishing hooks:

- (1) 18/0 or larger circle hooks with an offset not to exceed 10°; and/or,***
- (2) 16/0 or larger non-offset circle hooks.***

The assessment team is of the opinion that the current hook use practises are compatible with the US fishery regulations in place for the larger US fishery to the south. See the stakeholder comments appended from Mr. Eric Schwaab, Assistant Administrator for NOAA Fisheries in this appendix.

Given the continued decline of loggerhead population units impacted by the Canadian fishery, the Canadian fishery as one of several equally damaging fisheries is having unacceptable impacts.

PI 2.3.2 The fishery has in place precautionary management strategies designed to:

- Meet national and international requirements;
- Ensure the fishery does not pose a risk of serious or irreversible harm to ETP species;
- Ensure the fishery does not hinder recovery of ETP species; and
- Minimize mortality of ETP species.

The FAM guidance document has only the following statement regarding 2.3.2.

“All ETP Management Strategy PI scoring guideposts refer to the need to minimize mortality. When scoring these SGs, all sources of direct mortality shall be considered including, but not limited to direct deaths and injuries leading to death.”

The first clause of the 60 guideline requires that “there are measures in place that minimize mortality” the Assessment Team clearly admits in reviewing the performance of the fishery under the 80 guideline that “it will not be clear that the measures defined will minimize mortality of loggerheads”. In their statement, the Assessment Team has agreed that the management of loggerhead turtles in the Canadian fishery does not have measures to minimize mortality and therefore does not pass the 60 threshold.

MML Response: There are currently measures in place which reduce mortality, as identified in the Loggerhead Turtle Action Plan including:

1.1. Move to mandatory use of non-corrodible 16/0 circle hooks by December 2011 to reduce mortality of released loggerhead sea turtles.

1.2. Require the mandatory use of safe handling and release equipment and protocols beyond those currently in the voluntary code of conduct by May 2011.

1.3. Assess feasibility and potential effectiveness dynamic/temporary, time/area, temperature-based closures to minimize loggerhead sea turtle interactions.

The assessment team is of the opinion that these requirements, and the information cited in the scoring rationale support the score awarded for this PI.

The performance indicator explicitly states “there are measures in place that minimize mortality”, not there will one day be measures in place. Measures to minimize mortality are simply not present in the current fishery, LCAP, or even the conditions. Necessary measures based on best practices, best available science, and precautionary management (as required by the MSC guidance) would at a minimum include:

- mandatory switch to larger 18/0 hook sizes currently required by US vessels in adjacent and sometimes overlapping waters,
- mandatory transition to single-hooked fish baits to reduce deep ingestion interactions (discussion of bait is absent from the certifier’s assessment and the LCAP);
- mandatory restrictions on set depth (not mentioned in report or LCAP but proven factor in turtle mortality in other areas);
- enforceable interaction limits (as currently in place in the Hawaiian longline fishery);
- transition to other viable gear types to capture swordfish quota;
- regulation of the tuna directed aspects of the combined swordfish/tuna fishery to reduce loggerhead interactions.

Proven management actions to minimize mortality on sensitive species are already in operation in Canadian groundfish fleets (e.g., Pacific groundfish longline) and other international fisheries. The conditions of this certification once achieved through the LCAP will not meet existing best practices.

MML Response: Neither the performance indicator nor the 60 scoring guidepost make references to “best practices”. Best practice is typically associated with the 100 scoring guidepost.

Regarding the second clause of the 60 guideline pertaining to national requirements, the current management and anticipated conditions will not meet national requirements under SARA (see explanation above).

MML Response: See response above, during the current assessment Loggerhead turtles were listed in an appendix of CITES, therefore requiring scoring as ETP species. At the time of the assessment loggerhead turtles were not listed as protected on a schedule of SARA, as such the regulations of SARA do not apply and the measures in place in the candidate fishery were not assessed against SARA requirements. Scoring rationale provided for PI 2.3.1 provides a clear explanation of the scoring of Loggerhead turtles against national and international regulations.

Loggerhead Conservation Action Plan

This Action Plan was developed in absence of any public consultation. It reads as a document designed as a means for getting past the MSC performance indicators. It is not an action plan to recover or better manage threats to loggerhead turtles in Canadian waters.

The assessment team states “should the species be listed under SARA this Conservation Plan will form the basis of the recovery approach and subsequent action plan requirements under SARA”. That is simply not true. The SARA Recovery and Action plans require public consultation and have a far broader focus than what is presently included in the LCAP.

MML Response: The statement “Should the species be listed under SARA this Conservation Plan will form the basis of the recovery approach and subsequent action plan requirements under SARA.” is an excerpt taken directly from the Atlantic Canadian Loggerhead Turtle Conservation Action Plan (p.3), as referenced. It is assumed that while it may provide the basis for requirements under SARA the necessary consultation process will be followed. As noted above, should the species be listed under SARA any resulting actions to address requirements of the Act will be assessed during a surveillance audit.

While aspects of the LCAP are positive, it is void of any immediate precautionary actions and there is nothing in the strategy suggesting it will achieve the required goal to minimize mortality.

Strategy 1 of the LCAP is about monitoring what is caught.

Strategy 2 is about capacity building and carrying out and strengthening existing international obligations.

Strategy 3, is about better use of safe handling equipment and other protocols currently in the Code of Conduct, change to 16/0 hook size (which is not best practice), and possibly in the future implementing closed areas if the science supports it. The only positive statement is under the category of “longer term” which will look at actual fishing practices based on results of research, however this is not time bound by the surveillance audits. Meanwhile the LCAP and this certification process is ignoring current best science and practices.

Strategy 4 outlines research, which of course is useful, but does not ensure any long term changes.

Final Remarks

The David Suzuki Foundation does not agree with the scores in the Public Draft assessment for Performance Indicators 2.3.1 and 2.3.2. In this submission we have reiterated the rationale for why this fishery does not meet the 60 scoring guidepost and therefore does not meet the scoring requirements for certification at this time.

Appendix 8.4 – Comments from Ecology Action Center and CB/ Team Responses

Moody Marine Ltd.
Suite 815, 99 Wyse Road
Dartmouth, N.S., Canada
B3A 4S5

Re: Comments on the Public Comment Draft Report (PCDR) for the North West Atlantic Canada Swordfish Longline fishery

Dear Amanda Park,

Please accept the following comments on the PCDR. We have been stakeholders since the beginning of the assessment in 2009. We have carefully reviewed the draft report and previous responses from the assessment team to our comments and those of other stakeholders and still have some grave concerns that have yet to be addressed by the assessment team.

Shannon Arnold
Marine Conservation Coordinator
Alexandra Curtis
Sustainable Fisheries Scientist
Ecology Action Centre
2705 Fern Lane
Halifax, Nova Scotia
Canada B3K 4L3

General Concerns on the PCDR

Throughout the report there are inconsistencies and contradictions in the assessment team's evaluation. Most troubling is the lack of scoring distinction between the fishery in its current state of practice and scoring based on proposed actions. It is the current practices and level of harm on ETP, bycatch, and retained species that we feel often do not meet the minimum scoring guideline of 60. There is a clear lack of data currently for much of the scoring justification for these categories and, therefore, precautionary strategies need to be in place according to the scoring guidelines. For the most part, there are no specific strategies currently in place, only proposed strategies. Until these practices are at the minimal level, the fishery should not pass. Further, the proposed plans do not implement any concrete changes that will lead to reduction in bycatch.

Principle 2 – Endangered, Threatened and Protected Species

Loggerhead turtles

PI 2.3.1

Score of 75

The Assessment team states that since the fishery accounts for a small percentage of the overall catch of loggerhead turtles in the Atlantic, it is 'unlikely' that direct effects of the fishery are

creating unacceptable impacts on the species and that reduction or elimination of mortality in Canadian waters alone is highly unlikely to reduce threats to be sufficient to achieve recovery.

The assessment team concludes this for loggerhead turtles based on two main points:

1. Estimation of adult equivalency based on US Recovery Plan methodology.

We do not feel that the assessment team has considered the following problems with relying on this data: a) it is based on extrapolation to Canadian waters of turtle sizes measured in US NED region, so there is inherent uncertainty about accuracy; b) the extrapolation to adult females is based on a mean size for that stage, not the spread of sizes observed to be affected, so it likely underestimates true “adult equivalents”.

2. Statements in the US Recovery Plan of sources of threat to the species and a failure to account for the fishery’s proportional responsibility for its impact.

We have grave concerns with this scoring justification. The assessment team states that its rationale is based on the degree of the species’ interaction with this fishery and concludes that impacts are ‘unlikely’ to be unacceptable since it is a small proportion of overall Atlantic interactions. As peer review #1 states however, “the relatively small number of mortalities generated by the individual 50+ ICCAT national add up to a very high overall mortality”. As the current, MSC guidelines for P2 species do not sufficiently take into account cumulative impacts on ETP species, the only reasonable way to ensure an individual fishery is indeed ‘unlikely to be creating unacceptable impacts’ on a species is to ensure that the fishery take proportional responsibility for its percentage of impact. This includes addressing the fishery’s impacts in the Canadian context in which it fishes and assessing whether it has taken steps to minimize and, therefore, be unlikely to create unacceptable impacts. The assessment team has used US sources to argue that pelagic longlining is not the primary source of loggerhead fishing mortality, but rather “in the U.S. shrimp trawling is the most detrimental.” This is irrelevant in the context of this fishery. The assessment team fails to address the Canadian source literature stating the proportional impact of this fishery on loggerhead turtles in national waters.

The COSEWIC report acknowledges other threats to loggerheads such as nesting beach loss in the U.S. and other fishing impacts, but clearly states that, “the Canadian population is threatened directly by commercial fishing, particularly bycatch in the pelagic longline fleet.” Nowhere does the assessment team acknowledge this. Within the Canadian context, pelagic longlining is singled out as having known direct effects on the species. MML states that P2 assessment is based on the “impact of the assessed fishery on the recovery of the depleted species, even if no effort was being made to recover the species in other fisheries. The assessment is based on the ‘marginal contribution’ that this fishery makes to the status or recovery of the Component under consideration...in any event the fishery is required not to hinder recovery or rebuilding.” The assessment team focuses on the ‘marginal contribution’ of the fishery to the status of the loggerhead turtle, but fails to assess whether the fishery has contributed to recovery of the species.

MML Response: The assessment team has considered the comments provided EAC regarding the issue of estimation of adult equivalency based on the US Recovery Plan methodology. The team recognizes that there are uncertainties involved with both the methodology and with the data , as identified in the RPA. However, the team has reviewed the approach and findings of the US Recovery Plan and found that the plan is

well defined, has had robust input from those knowledgeable in the field of marine turtles and has been internally peer reviewed. The team is confident in the science presented in the US Recovery Plan and the Canadian RPA.

Section 7.1.14 provides additional guidance on the scoring of Principle 2 components, stating “The SGs in Principle 2 are structured to first address the status of the Component. If the status is low, for whatever reason, then the operative Principle 2 assessment issue is then whether the fishery is hindering recovery.” The same section states that “the assessment is based on the ‘marginal contribution’ that the fishery makes to the status or recover of the Component under consideration.”

Based on the above guidance taken from the FAM (v.1), all P2 components, including ETP species were assessed to examine the fisheries, as defined in the UoC, impact on each component, as there is no guidance to indicate that cumulative impacts are to be examined.

With respect to the comment regarding the fisheries contribution to the recovery of loggerhead sea turtles, the assessment team considered all measures in place, both voluntary and required, which are believe to contribute to limiting interactions and mortality in addressing PI2.3.2.

MML responds to the peer reviewer saying the LCAP is being implemented to move the fishery to ‘highly unlikely’, but this does not address the peer reviewer’s comment and our shared concern that the fishery is not currently ‘unlikely’ to be creating unacceptable effects. Given that this fishery is the main source of threat to the species in Canadian waters and the population is continuing to decline the fishery is indeed “hindering the recovery” of this ETP species in Canadian waters. Current voluntary use of circle hooks and dehooking gear has produced no overall downward trend in catch of loggerheads (instead, the trend is towards increasing interactions), and analysis has shown that catch rates for loggerheads on 16/0 circle hooks are not lower than on J hooks in this fishery. They have not shown reduction of this bycatch or any solid evidence that the catch rate does not constitute unacceptable impacts. The assessment team states that it “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. While this statement speaks to the need for this fishery to act no matter how small their proportional impact, it is based on an incorrect premise – the trend in the fishery over the time reported in the assessment is towards increased, not ‘reduced bycatch’. The level of acceptable impact on the species needs to be quantitatively assessed before it can be deemed that the fishery is “unlikely to create unacceptable impacts to ETP species” and thus achieves the minimal score of 60. While the assessment team does not feel that a score of 80 is justified, there is no clear rationale for how the score of 75 was assigned on the second scoring issue in this indicator for loggerhead turtles.

MML Response: The last paragraph of the loggerhead scoring rationale provides the summary of why the score of 75 was awarded. In short, because the team considered that the first and third scoring issues were met and that the second was not met. In accordance with MSC FCM v1, Section 4.6d, a score of 75 was awarded as all elements meet SG60; most achieve higher performance, at or exceeding SG80; only a few fail to achieve SG80 and require intervention action.

Having concluded that the fishery falls in the ‘unlikely’ category, but not yet the ‘highly unlikely’ category, in response to peer reviewer #1’s concerns, the assessment team states that a condition requiring the “fishery to significantly reduce its interactions with loggerheads.” While the peer reviewer was commenting on PI 2.3.1, the condition MML refers to is actually for 2.3.2, therefore, we comment on it below.

PI 2.3.2

Score 75

We strenuously object that the fishery has *in place* sufficient measures to pass the scoring guidepost of 60 for loggerhead turtles.

The scoring rationale set forth by the assessment team conflates measures that are currently in place with the LCAP strategy that is yet to be implemented. The scoring guidepost of 60 only pertains to current measures. The LCAP strategy would only be considered for achieving the scoring guidepost of 80.

MML Response: The LCAP is now a condition of license, as of the 2011 season. Prior to the LCAP, measures in place in relation to the protection of turtles, including the use of dehooking equipment, training on the safe release of turtles, and the move toward using circle hooks, were defined in the NSSA Code of conduct. Since 2009, Section 33 of the longline licence conditions required licence holders to abide by the terms of the previously voluntary NSSA code of conduct. The score remains unchanged for loggerhead turtle and the condition will be evaluated during subsequent surveillance audits, in the instance the fishery is certified.

The loggerhead measures in place were scored at 65, indicating that MML believe the measures in place currently minimize mortality. The measures stated in the Client Action Plan to satisfy minimizing mortality are 1) sea turtle handling training, 2) dehooking kits on vessels; and to ‘decrease interactions’ 3) “larger” circle hooks (referring to 16/0), 4) longer leaders. There are a number of shortcomings to these voluntary measures:

- 1) the training is only done by the vessel operator, not the whole crew
- 2) despite MML’s brief investigation into the matter, there is still widespread anecdotal information that the dehooking kits are not used consistently, primarily due to the number of turtles hooked and how labour intensive it is to dehook them. The observer coverage is too low to ensure compliance with this measure. The best solution to this difficulty faced by fishermen is to reduce the interactions with loggerheads, and thus the dehooking time
- 3) Again it is difficult to assess how widespread the use of circle hooks for swordfish directed trips are in this fishery with such low observer coverage, however even if they are widely used the measure cannot be considered likely to work based on “general experience, theory or comparison with similar fisheries/species”. The size of the circle hook being voluntarily used is 16/0. While there is some evidence that this size hook decreases leatherback catch there is no evidence that it has any effect on loggerhead catch. Brazner and McMillan (2008) conclude that the CPUE for loggerhead turtles does not decrease with 16/0 circle hooks over J hooks in the Canadian fishery. Read et al’s (2007) review on fishing experiments with 16/0 and 18/0, clearly shows that 18/0 circle hooks or larger optimize reduction of loggerhead interactions. Brazner and McMillan (2008) showed that 16/0 circle hooks do not reduce interactions over J hooks.

Moreover, Carruthers et al (2010) took a more rigorous statistical approach to the analysis of injury by hook type than Brazner and McMillan (2008) did, and showed that 16/0 circle hooks do not reduce the severity of injury.

The assessment team must address this evidence in the report and justify how the fishery still passes the 60 scoring guideline for current measures. The client also states that the circle hooks and longer leaders were changes implemented in fishing practice that were not specifically directed at reducing turtle catch rates or harm, but may have the side effect of doing so. This begs the question of intent – can these measures, which also form key elements of the LCAP strategy to be implemented, actually be considered “strategies designed to” ensure the fishery does not pose a risk of serious harm or to minimize mortality.

MML Response: During the site visit, the assessment team heard evidence from both the client and DFO that while training is done with vessel operators, a number of those operators attended the training with crew. The training sessions were delivered to the same standard as required in the US (i.e. that owners and operators of vessels must attend).

MML was informed by DFO that C&P officers verify that dehooking kits are aboard vessels, the client indicated that all members used the equipment.

MSC FCM v1, section 7.1.21 defines the intent of “measures” in the context of management strategy. Guidance is clear that measures can be either explicitly or coincidentally in place to manage impacts on the component. According to the 2009 Conditions of License for this fishery, the previously voluntary measures identified in the Code of Conduct have been a requirement since the 2009 season.

We do not agree that the fishery should pass the minimum score of 60 for 2.3.2. Furthermore, the condition MML places on the fishery is insufficient to achieve a score of 80 eventually. As stated above, in response to peer reviewer #1’s concerns, the assessment team states that a condition requiring the “fishery to significantly reduce its interactions with loggerheads” has been added.

MML Response: The condition defined is in accordance with the requirements of the MSC guidance on condition setting. In particular, that conditions not be prescriptive, be worded in accordance with the requirement of the 80SG scoring issue which is not met, provide a timeline and metric for the deliverable.

We have two concerns with this statement. First, this is inconsistent with the actual wording of the condition for PI 2.3.2, which states that the LCAP strategy is in place for managing the impact of the fishery on ETP species, “including minimizing mortality.” Secondly, the LCAP actions, according to published best practices, will not reduce interactions.

We agree that the best way to ‘minimize mortality’ is to reduce interactions in the first place. This is also in accordance with FAM guidance 7.4.6. stating that with scoring pertaining to minimizing mortality “all sources of direct mortality shall be considered including, but not limited to direct deaths and injuries leading to death.” This should be explicitly stated in the condition to clarify the difference between minimizing through reducing interactions and minimizing mortality through handling and release practices only. Reduction of interactions is a

clearly measurable outcome. In fact, the client action plan based on the LCAP states that it “will introduce regulatory and process/protocol changes aimed at reducing *both the interaction and post release mortality* of loggerhead turtles.”

MML Response: The conditions drafted for this PI are in accordance with the requirements of the MSC FCM v6 and applicable TAB directives and Policy Advisory, particularly PA 17(v1), issued in May 2010. This PA provides guidance on Condition Setting, and requires that, among others, the condition must follow the narrative or metric form of the PIs and SGs used in the assessment tree (FCM 3.4.5).

The only measure in the LCAP aimed at reducing interactions is the mandatory use of ‘circle hooks’. As outlined above, the peer reviewed literature and latest DFO science does not support the conclusion that 16/0 or smaller circle hooks will be sufficient to reduce interactions. 18/0 or larger circle hooks have been shown to be minimize loggerhead catch. This is also borne out by the mandatory implementation of 18/0 circle hooks in the portion of the U.S. fleet shown to have had the highest interaction levels in the NED area and in Hawaii. This is “general experience, theory or comparison with similar fisheries/species” and “objective basis”. The assessment team must justify why it has not based the assessment on this available data.

MML Response: With the exception of the US Northeast Distant area fishery conducted in the Grand Banks, the hook requirements specified in the US Atlantic HMS federal regulations in subpart C, Management Measures (§50:635.21) states:

(C) Hook size, type, and bait. Vessels fishing outside of the NED closed area, as defined at §635.2, that have pelagic longline gear on board, and that have been issued, or are required to have, a limited access swordfish, shark, or tuna longline category permit for use in the Atlantic Ocean, including the Caribbean Sea and the Gulf of Mexico, are limited, at all times, to possessing on board and/or using only whole finfish and/or squid bait, and the following types and sizes of fishing hooks:

- (1) 18/0 or larger circle hooks with an offset not to exceed 10°; and/or,***
- (2) 16/0 or larger non-offset circle hooks.***

The assessment team is of the opinion that the current hook use practises are compatible with the US fishery regulations in place for the larger US fishery to the south. See the stakeholder comments appended from Mr. Eric Schwaab, Assistant Administrator for NOAA Fisheries in this appendix.

PI 2.3.3

Score 70

The scoring rationale for this PI seems to be in direct contradiction to the scoring rationale of PI 2.3.1. for which the assessment team concluded that the fishery was not posing unacceptable harm to loggerhead turtles. In PI 2.3.3, the team concludes that there is insufficient information available to even determine whether the fishery is a threat to the recover of loggerhead turtles. The assessment team states that they used Brazner and McMillan (2008) as well as fishery observer data to assess the ETP species, but state here that they are “concerned that there may be insufficient observer coverage.” These two positions need to be reconciled.

MML Response: PI 2.3.1 scoring is based on several sources of information, including the North West Atlantic stock assessment for loggerhead which was conducted by NMFS, with input from Canadian scientists and not solely observer coverage, to determine the likelihood that fishery impacts are within national and international requirements for protection and the likelihood that unacceptable impacts are occurring. The scoring rationale and score for 2.3.3 are separate and distinct from PI 2.3.1, which calls for a level of understanding to support a full strategy. There have been no changes to the score or rationale for PI 2.3.3.

The research plan outline in the LCAP represents part of the client action for PI 2.3.2 and 2.3.3. There are shortcomings in the research that need to be addressed by the assessment team. The LCAP includes further assessment of the sufficiency of the observer coverage for this fleet. To date there has already been solid work done to address observer coverage needs for bycatch management (NMFS 2004), as well as evidence presented in Paul (2010) already that the observer coverage in this fishery is not representative. Furthermore, the years of increased coverage that the research plan proposes to use to examine statistical sufficiency are (1) only about 20% coverage, and thus do not address the key concern of accuracy in the likely event of observer effect, and (2) are not representative of current fishing practices, which have changed substantially since 2000-2001 with the introduction of the ITQ system and changes in targeting. The assessment team does not address the above relevant references nor justify why it is acceptable that the fishery has not already implemented these practices

MML Response: Research plans are evaluated under PI 3.2.4, which scored 70 and had a condition raised. PI 2.3.3 relates to the collection of information to support the ongoing management of the fishery and its impacts on ETP species.

The condition for improving information gathering needs to explicitly state that the action plan address accuracy of information. Nowhere do conditions or action plan address accuracy, which is certainly essential to determining whether fishery meets scoring guideline and as important as ‘precision’ in observer data. The client action plan for observer changes should also explicitly state that injury categories for all taxa should be consistent with US observer data so post-release mortality estimates can be comparable. The action plan also should explicitly state that it will implement recommendations emerging from the research plan.

MML Response: The conditions drafted for this PI are in accordance with the requirements of the MSC FCM v6 and applicable TAB directives and Policy Advisory, particularly PA 17(v1), issued in May 2010. This PA provides guidance on Condition Setting, and requires that, among others, the condition must follow the narrative or metric form of the PIs and SGs used in the assessment tree (FCM 3.4.5).

Principle 2 – Retained Species

Marlins

PI 2.1.1

The table of observer data presented in the report clearly show that marlin that reach the boat in live condition are often still landed, not released as required by ICCAT. This represents a failure to abide by the measures in place to protect marlins, and a management failure on the part of the regulator in meeting their international obligations.

MML Response: ICCAT resolution 2006-09, section 10 states that Contracting Parties and non-contracting parties, entities or fishing entities shall promote the voluntary release of live blue marlin and white marlin. While the data in Table 6 does show that some live marlin are retained, it does not state the health status of the fish in question. The table also clearly states that more live fish are released than kept.

Shortfin mako shark

PI 2.1.1

Score 85

The assessment team considers that the catch of shortfin mako is ‘highly likely’ to be within biologically based limits. While MML states that “the shortfin mako shark has been assessed recently by ICCAT and the SCRS stated that there is a ‘non-negligible probability that the stock could be below MSY’ and overfished”, the only scoring justification given for the score of 80 is that this fleet “accounts for a (3-4%) small percent of the landed catch.”

MML Response: In light of informative stakeholder comments, and upon further consideration of available information, the assessment team has re-evaluated the awarded score for shortfin mako and rescored at 70. 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. 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. A certification condition has been raised in relation to this PI.

The 2008 ICCAT SCRS ecological risk assessment stated that shortfin mako was assessed as a species at the highest risk to overfishing even at low levels of fishing mortality. In 2005 and 2007 (Rec 05-05, Rec 07-06), the SCRS recommended that member states reduce fishing mortality on short fin mako shark. The assessment team scores a fishery based on their ‘marginal contribution’ to impact on a species and recovery of the species. This fishery has not made a proportional contribution through any measures to reduce their impact on this species. The current 100t guideline is not a hard cap limit and is *above* the average landings for the past few years, which have decreased only due to lack of markets for short fin mako. This guideline is based on historical catch levels, does not represent a reduction in mortality as mandated by ICCAT, and is not a biological based limit. Moreover, the discard mortality is unknown for this species and discard mortalities are not taking into account in management of shortfin mako. The precautionary approach states that insufficient information cannot be used a reason for inaction. At the 2010 ICCAT meeting a proposal was put forward, and supported by numerous countries, to set a precautionary limit on shortfin mako catch at a country’s average catch from 2004-2008, thus reducing catch until biological limits can be introduced. Given, the status concerns of this species indicated by ICCAT, the current scoring justification is too weak. The assessment team does not provide sufficient information to support a 70% probability and, therefore ‘highly likely’ chance that the catch of shortfin mako is within biological limits.

MML Response: As stated above, this scoring rationale and associated score have been revised to 70. However, it is important to point out that Section 7.1.14 provides additional guidance on the scoring of Principle 2 components, stating “The SGs in

Principle 2 are structured to first address the status of the Component. If the status is low, for whatever reason, then the operative Principle 2 assessment issue is then whether the fishery is hindering recovery.” The same section states that “the assessment is based on the ‘marginal contribution’ that the fishery makes to the status or recover of the Component under consideration.”

Based on the above guidance taken from the FAM (v.1), all P2 components, including retained species were assessed to examine the fisheries, as defined in the UoC, impact on each component, as there is no guidance to indicate that cumulative impacts are to be examined.

With respect to shortfin mako, Campana et al. (2005) states “Annual catches in Canadian waters average 60-80t. These catches represent about 4% of that reported for the North Atlantic population (ICCAT, 2004), and probably represent an even smaller fraction of the actual North Atlantic catch.” The research presented concludes “Given the low numbers of makos caught in Canadian waters, it appears unlikely that current exploitation rates in Canada are having an appreciable impact on the population.” (Campana et al., 2005).

PI 2.1.2

Score 95

The scoring rationale for short fin mako in this PI also relies on the fact that this fleet accounts for a small percentage of the catch. The assessment team states under PI 2.3.1 that “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.” MML must justify why this statement is not consistently applied to all bycatch and retained species. The management strategy stated to be in place, cannot be considered a strategy. 100% dockside monitoring and effort controls are aimed at the target species, which have a hard cap limit in place. These measures do not reduce short fin mako catch and the reduction below the 100t guideline in recent years is coincidental, this is not a ‘management measure’ to reduce mortality. The justification that most are released alive does not address the fact that there is no post-release discard mortality estimates built into the management plan.

MML Response: The assessment team rescored this PI to 75 for both shortfin mako and porbeagle sharks, revising the rationale accordingly. In addition, the rationale has been expanded to provide additional justification of scoring. The team considered that two of three scoring guideposts of the 80SG were met. However, the assessment team is not confident that there is an objective basis for confidence that the partial strategy will work. A condition has been raised to require the improvement of the partial strategies used to manage these species.

PI 2.1.3

Score 90

The assessment team relies on the accuracy of observer data for scoring this indicator. However, numerous times throughout the report they express concern as to the accuracy and effectiveness

of this data. As MML states for marlin, low observer coverage makes it difficult to estimate effectiveness of the live release strategy. The scoring of 90 seems overly optimistic in the light of the assessment team's contradictory statements.

Moreover, the fishery is not required by Canadian management to collect and report all dead discards of bycatch and retained species. This is explicitly required for task I reporting to ICCAT, specifically to be able to estimate total mortality rates for these vulnerable species and Canada is out of compliance.

MML Response: This PI has been revised to a score of 80 in keeping with the requirements of the scoring issues under SG80 and MSC guidance on scoring main retained species.

Porbeagle shark

PI 2.1.1

Score 85

The current information available for the assessment of the impact of the fishery on the NW Atlantic porbeagle population does not support even the minimum score of 60, since several problems with current management and evidence from population trends make it *unlikely* that current measures “maintain the main retained species at levels ... within biologically based limits, or ... ensure the fishery does not hinder their recovery and rebuilding.” The key problems are:

- Current management is based on models that ignore discard mortality for porbeagle as “negligible” (SCRS 2009), but the observer data for the fishery under assessment show that discard levels for porbeagle are of similar magnitude to or substantially greater than landed weight on an annual basis. Thus both the population model and the current limit, which addresses only landed porbeagle and fail to account for discard mortality (expected to be higher than the 35% level estimated for blue sharks, since porbeagle are less hardy), are seriously flawed and unlikely to successfully manage to maintain the population within biological limits. The problem is exacerbated by recent evidence from tagging that mature female porbeagles migrate outside of the Canadian EEZ, and thus are vulnerable to international fishing mortality at much higher than negligible levels. The current population trends for porbeagle indicate that recovery is not occurring – the population is stable or slightly decreasing.

MML Response: The scoring rationale and score for porbeagle shark have been revised to 70 and a condition has been raised. 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.

PI 2.1.2

Score 95

As discussed above the current management measures for porbeagle are not expected to maintain the population or allow it to recover.

MML Response: See previous response.

PI 2.1.3

Score 90

The current information available for porbeagle is insufficient to assess whether the fishery is impacting the population. Discard mortality is unknown, but overall interaction mortality is suspected to be at least 40-50%, considering that porbeagles are less hardy than blue sharks, for which interaction mortality is estimated at 35%. Quantification of total fishery interactions with porbeagles is completely lacking. Observer data show that porbeagle interactions with the fishery are highly spatially dependent, so any assessment of discard mortality must take this spatial heterogeneity into account – for example, a quick analysis of observer data by location shows that porbeagle CPUE by weight is approximately 4 times higher in Emerald Basin than elsewhere

MML Response: The assessment team considered this and other similar stakeholder comments but did not revise the score below 80, however additional detail has been added to provide scoring justification. Qualitative and quantitative information is sufficient to estimate outcome status with respect to biologically based limits, the information is adequate to support a partial strategy to manage main retained species and sufficient to detect any increased risk to main retained species, the SG80 is met. The corrective action plan proposed for PI 2.3.3 by the client includes a review of the at-sea observer plan in order to evaluate the precision and stratification of observer data and to recommend changes, if required, to improve monitoring, deployment strategies and schedules, including coverage. This outcome will be evaluated as part of the annual surveillance audit program should the fishery be certified.

Principle 2 – Bycatch Species

Blue shark

2.2.1

Score 80

Population status:

The assessment team considers the catch of blue shark to be ‘highly likely’ to be within biological limits. The only justification given for this score is “the reported prevalence”. The assessment team does not offer sufficient information on how they arrived at this conclusion. Is this based on anecdotal reports? The 2008 ICCAT stock assessment concludes that: ‘although both the quantity and quality of the data available to conduct stock assessments has increased with respect to those available in 2004, they are still quite uninformative and do not provide a consistent signal to inform the models. Unless these and other issues can be resolved, the assessments of stock status for these and other species will continue to be very uncertain.’ Furthermore, the assessment team failed to include the response by Baum *et al.* (2005) in their discussion of other population assessments, which addressed the concerns of Burgess *et al.* (2005) and others. Additionally, the review team ignored the fact that ultimately, despite differences in levels of decrease of the population over time, most attempts to assess the trend of blue shark populations in the Northwest Atlantic (Campana 2006, Baum *et al.* 2003, Aires da

Silva *et al.* 2008, and Simpfendorfer *et al.* 2002) did conclude that the population has declined, so it is highly likely that the fishery under assessment and is having a significant, negative impact on the blue shark population. The available evidence suggests that the stock status is declining, and ‘poorly known’ and, therefore according to the scoring guidepost for 60 there need to be current measures in place that are expected to result in the fishery not causing the species to be outside biologically based limits or hindering recovery. There are no management measures directed specifically at blue shark for this fishery. Given, that the assessed fishery is responsible for nearly all fishing mortality of blue sharks in Canadian waters, there should be precautionary measures in place.

Interaction mortality:

The interaction mortality of blue sharks is misrepresented in the client submission on several levels:

- (1) The calculations are by weight, not numbers, which is nonsensical. Based on this correction alone, the percent animals reaching the boat in dead or UTD status is 11%.
- (2) The simplistic calculations do not omit trips where observers failed to record any dead blue sharks, which is likely an observer error, not a true hooking mortality rate of zero for those trips.
- (3) The injury status assessment by observers underestimates sharks that are guthooked because it can be difficult to determine hooking location as a shark is cut off over the side. Thus animals are often recorded as uninjured when in fact they are seriously injured. The scientific observer assessments of hooking injury are more reliable since they were able to closely examine the animals. As explained in Campana *et al.* (2009): “Many of the “guthooked sharks looked healthy from the outside, which may explain the large variations in the percentages of healthy and injured sharks between the scientific and observer studies.”
- (4) Hooking mortality is also likely underestimated by observers recording status over the side due to similar issues with lack of time to make a proper determination.
- (5) The prevalence of circle hooks in the sharks sampled for Campana *et al.* (2009) re similar to the prevalence in the fishery as a whole (ca. 75%, as seen in the observed trips for the fishery, which better reflect percent circle hooks than gear sales reported by the client might if hooks have different lifetimes), so the suggestion that a shift to circle hooks over time may have reduced interaction mortality relative to that reported in that study is incorrect.

Nonetheless, even for interaction mortality rates lower than 35%, tens of thousands of sharks are being killed in the fishery, and the apparent population declines suggest a negative impact of this mortality level on the population.

MML Response: The scoring rationale for blue shark has been revised to explicitly define what information is considered as the basis of the awarded score of 80. ICCAT (2008c) does not state a biomass limit reference point (LRP). Consistent with MSC FAM, Ver 1, paragraph 6.2.16, the assessment team considers $0.5 B_{MSY}$ (or $0.25 B_0$) as the LRP. There is no indication in ICCAT (2008c) that B_{MSY} is less than $0.4 B_0$ and thus $0.5 B_{MSY}$ is appropriate as an LRP (see FAM 6.2.16). All surplus production models estimated 2007 biomass as $1.5 - 1.95$ of B_{MSY} . The age structured models provided a wide range of current status with one set of models indicating that it is $0.3 B_0$ ($0.6 B_{MSY}$) and another set $0.95 B_0$ ($1.9 B_{MSY}$) with the latter being the higher probability. Thus, it is likely ($P > 60\%$), that the species is within biologically based limits. Given the number and variety of assessment models indicating this, it cannot be

said that the status is poorly known. SG 60 is met. Further, it is highly likely ($P>70\%$) that the status is within biologically based limits. SG 80 is met.

2.2.3

Score 85

The assessment team considers that there is ‘sufficient’ information to detect any risk to the ‘main bycatch’ species; however, it is clearly stated in the ICCAT assessment that the data sets available are “still quite uninformative and do not provide a consistent signal to inform the (stock) assessment.” Furthermore, it states that unless these issues are resolved, the assessment of stock status will continue to be very uncertain and our ability to detect stock depletion to levels below the convention objective level will remain considerably low. The level of uncertainty in stock combined with the already stated lack of confidence in the observer data makes it clear that this fishery does not pass the scoring guideline of 80 for blue shark.

MML Response: The PCDR score for PI 2.2.3 was 80, not 85. The team has reviewed the stakeholder comments resulting from the PCDR consultation period, and has added additional information to the scoring rationale, to support the score of 80 in relation to this PI.

i Baum, J. K., D. Kehler, and R. A. Myers. 2005. Robust estimates of decline for pelagic shark populations in the northwest Atlantic and Gulf of Mexico. *Fisheries* 30(10): 26-28

Burgess, G. H., et al. 2005. (Is the collapse of shark populations in the Northwest Atlantic Ocean and Gulf of Mexico real?) *Fisheries* 30(10):19-26.

Baum, J. K., et al 2003. Collapse and conservation of shark populations in the northwest Atlantic. *Science* 299:389-392.

Simpfendorfer, et al. 2002. Results of a fishery-independent survey for pelagic sharks in the western North Atlantic, 1977-1994. *Fisheries Research* 55:175-192.

Appendix 8.5 – Comments from Friends of Hector Email Campaign and CB/ Team Responses

Dear Rupert Howes,

I am deeply concerned about the certification of the Atlantic Canadian Longline Swordfish fishery by the Marine Stewardship Council (MSC). Giving this fishery your eco-label compromises the integrity of your standards in the eyes of informed consumers like me. I worry that I will no longer be able to trust the MSC brand to help me make informed choices that support sustainable changes on the water.

MML Response: No response required on behalf of MML. No changes to report text or scoring rationales.

The Atlantic Canadian surface longline fishery is one of the most wasteful fisheries in Canada. Every year in this fishery an estimated 1200 endangered loggerhead sea turtles, 170 critically endangered leatherback sea turtles, and 100 000 sharks are caught as unintentional catch, or 'bycatch'. All of these species are listed by the International Union for the Conservation of Nature (IUCN) Red List of Threatened species. Scientific estimates say that 35% of these sharks and 20-45 % of the loggerheads die once they are back in the water.

The MSC's minimum passing grade requires that "the fishery does not pose a risk of serious or irreversible harm to Endangered, Threatened, or Protected (ETP) species and does not hinder recovery of ETP species," and this Canadian fishery clearly poses a risk to endangered sea turtles and sharks.

MML Response: Over the course of the assessment, the assessment team reviewed information available regarding the impact of the candidate fishery on ETP species as per the MSC guidance on ETP definition. As outlined in the scoring rationales associated with PI2.3.1, 2.3.2 and 2.3.3 based upon the information available the conditional requirements of the Standard have been met in relation to Principle 2 indicators. As these three performance indicators did not score above 80, all three will be subject to performance improvement requirements (certification conditions) in order to be awarded certification with conditions. The client and management agency have accepted these performance improvement requirements and have presented an action plan, including deliverables and timelines to achieve improved performance.

Calling this fishery sustainable is an eco-fraud of environmentally conscious consumers. When I buy MSC-labeled products, I expect to be helping protect our oceans, not contributing to the extinction of species. I ask that you reconsider granting your eco-certification to the shameful practices of this fishery.
Signed,

Appendix 8.6 – Comments from Katie McLean and CB/ Team Responses

Katie McLean
1173 Wellington St
Halifax, NS, B3H 3A2
(902)-877-8203
Katie.mclean@dal.ca

April 11, 2011

To: Amanda Park, Moody Marine, Ltd. (a.park@moodyint.com)
Rupert Howes, CEO, Marine Stewardship Council (objections@msc.org)

RE: Opposition to the certification of the Canadian North Atlantic Fishery for Swordfish
I am writing this letter to express my opposition to the potential certification of the Canadian North Atlantic Fishery for Swordfish with the Marine Stewardship Council (MSC) label.

Considering the significant role that the longline swordfish fishery plays in the incidental catch and mortality of several threatened species in Canadian waters it seems inconceivable that this fishery could receive certification. Multiple reports indicate that this fishery is a primary threat to several endangered species, including loggerhead and leatherback turtles and blue, shortfin mako and porbeagle sharks. Furthermore, it has come to my attention that even if awarded certification there is no requirement that the fishery alter its management practices to reduce the bycatch of these threatened species. Upon reviewing the Public Comment Draft Report, issued by Moody International, it appears that unless significant changes are implemented to address the issue of bycatch it should be unacceptable to designate this fishery as ‘sustainable’.

MML Response: Under the MSC program, fisheries are certified as sustainable if they meet the MSC’s Principles and Criteria for Sustainable fishing. As assessment against the MSC Standard is an evidence based exercise, any fishery can qualify to be certified provided the evidence is available to demonstrate that the scoring requirements (60, 80, 100 scoring guideposts) are met.

In order to be deemed certified, the fishery must obtain a score of 80 or more, based on the weighted average score for each of the three MSC Principles as interpreted by the default performance indicators and scoring guideposts under each MSC Principle as well, the fishery must obtain a score of 60 or more for each individual Performance Indicator. As detailed in the report, in particular in the scoring rationales table, both these requirements have been met and the fishery has therefore been deemed eligible to be certified under the MSC program.

For those indicators that have scored less than 80 but above 60, certification conditions are developed. Conditions require that clients agree to improve management performance of the fishery for those performance indicators scoring less than 80 to at least the 80 performance guidepost within a period set by the certification body but no longer than the term of certification (i.e. five years). The conditions of certification as

well as the client action plan which details the actions to be taken to meet these conditions are included in Section 10 of the report.

Current knowledge of total catch and bycatch as a result of this fishery are inadequate to award certification. The Draft Report acknowledges that low observer coverage cannot assure accurate estimates of total catch or incidental catch. Additionally, there is no recording of bycatch, unless a species is listed under SARA. It seems impossible then, to say with any certainty, that this fishery does not pose a serious threat to the endangered species previously mentioned. Other reports suggest that a minimum of 20% observer coverage would be necessary to make accurate estimates of bycatch trends².

MML Response: Bycatch recording is performed by independent at-sea observers who record all catch as well as what is retained and discarded. Observer coverage, while low in some years, has ranged from as low as 4% to 19% (see Table 4).

It is my understanding that one of the principles behind MSC certification is that environmental impact is minimized, and that certified fisheries do not pose a threat to the structure and diversity of the ecosystem that the fishery depends on. As a consumer of sustainable seafood products, if the Canadian longline swordfish fishery receives certification it will in effect nullify the meaning that the MSC label carries.

It is my hope that both MSC and Moody Marine Ltd. use discretion in their decision regarding this fishery. It would be unfortunate for this decision to compromise the integrity of the MSC label.

Sincerely,
Katie McLean

¹ Brazner, J., & McMillan, J. (2008). Loggerhead turtle (*Caretta caretta*) bycatch in Canadian pelagic longline fisheries: Relative importance in the western North Atlantic and opportunities for mitigation. *Fisheries Research*, 91(2-3), 310-324.
Campana, S., Marks, L., & Joyce, W. (2005). The biology and fishery of shortfin mako sharks (*Isurus oxyrinchus*) in Atlantic Canadian waters. *Fisheries Research*, 73, 341-352. Canadian Science Advisory Secretariat. (2010). Recovery potential assessment for loggerhead sea turtles (*Caretta caretta*) in Atlantic Canada. Science Advisory Report 2010.042.
COSEWIC. (2006). COSEWIC assessment and status report on the blue shark *Prionace glauca* (Atlantic and Pacific populations) in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada.
Dulvy, N., Baum, J., Clarke, S., Compagno, L., Cortes, E., ... & Valenti, S. (2008). You can swim but you can't hide: the global status and conservation of oceanic pelagic sharks and rays. *Aquatic Conservation*. DOI: 10.1002/acp
Lewison, R., & Crowder, L. (2007) Putting longline bycatch of sea turtles into perspective. *Conservation Biology*, 21(1), 79-86.
² Gilman, E., & Lundin, C. (2008). Minimizing bycatch of sensitive species groups in marine capture fisheries. Lessons from commercial tuna fisheries. In Grafton, Q., Hilborn, R., Squires, D., Tait, M., & Williams, M. *Handbook of marine fisheries conservation management*. Oxford University Press.

Appendix 8.7 – Comments from Oceana and CB/ Team Responses

April 11, 2011

Amanda Park
Lead Assessor, Canadian Pelagic Longline Swordfish Fishery
Moody Marine Ltd.
Suite 815, 99 Wyse Road,
Dartmouth, Nova Scotia B3A 4S5
Canada

Re: Oceana comments on the Public Comment Draft Report for the Canadian Pelagic Longline MSC Assessment

Submitted via email to a.park@moodyint.com as an attachment to Oceana's MSC Comment Template Dated April 11, 2011.

Dear Ms. Park:

Please accept the following comments related to the Public Comment Draft Report (PCDR) for Moody Marine's assessment of the pelagic longline component of the Canadian swordfish fishery that was published on March 10, 2011. As you know Oceana has participated as a stakeholder in this assessment since its beginning in 2009 and has an even longer interest in the reform of pelagic longline fisheries in general around the world.

Oceana has carefully reviewed the Public Comment Draft Report and have serious concerns about the validity of this draft assessment. Specifically, Oceana is concerned that the current MSC assessment of the Canadian pelagic longline fishery is fundamentally flawed in its assessment of the status quo fishery and treatment of pending regulations for the fishery, fails to use available information, makes unsupportable conclusions in scoring the fishery relative to the MSC Performance Indicators (PIs), and fails to consider information that was provided to the assessment team during the development of the assessment.

Oceana repeats its concerns with the assessment process that were included in our December, 2010 comment letter and include those concerns by reference here. The responses of the assessment team to those concerns were inadequate and simply marginalized these valid claims without appropriate care or consideration.

With regard to the current PCDR Oceana urges the assessment team to make the following significant changes to its draft results before publishing its final findings or recommendations:

- The Current Assessment must assess the *Status Quo* Fishery and not consider proposed, informal or in process regulations except in the context of conditional certification

- The Scores Assigned to the Fishery by the Assessment Team are inappropriate and not supported by the available data related to the fishery or the use of Pelagic Longlines in general and must be amended

Collectively these concerns lead Oceana to urge the assessment team to fail this fishery in its application for an MSC certification until significant changes are made to the fishery and its true environmental impacts can be assessed.

I. The Current Assessment must assess the *Status Quo* Fishery and not consider proposed, informal or in process regulations except in the context of conditional certification

The current fishery under assessment is managed through a series of management measures required by the Canadian Department of Fisheries and Oceans (DFO) under its Integrated Fishery Management Plan (IFMP). These measures are enforced by the full power of the Canadian government in an effort to ensure that conservation and management laws are respected. In addition to these regulations, the fishery also has created a system of informal regulations in the form of a Code of Conduct for the fishery including regulations on gears, baits, areas and at-sea observers. These informal regulations do not carry the weight of the Canadian government and violations of these loose measures do not carry civil or criminal penalties for violations. Finally, in addition to these measures, the DFO has published a series of regulatory changes for the fishery which are in the process of being approved and implemented in the fishery but have not taken effect.

MML Response: The stakeholder has missed an important legal document in its response, in fact, the most important, as it is the empowering regulations for each individual harvester, which are the Conditions of License. Article 33 of the 2009 Conditions of License states:

33. While fishing under the authority of this license, the License Holder/ Operator is required to adhere to the “Code of Conduct for Responsible Sea Turtle Handling and Mitigative Measures” as provided by the Nova Scotia Swordfishermen’s Association.

This article, like the other 37 articles listed in the Condition of License are the legally binding measures which were in force during the time of the MSC evaluation and prior to the issuance of the PCDR. These formal regulations absolutely are enforceable, formal regulation and do carry criminal penalties for violations.

At the same time that the Atlantic Canadian Loggerhead Turtle Conservation Action Plan was submitted for consideration by the assessment team, a letter from DFO supporting the plan and outlining their commitment to implementation was also received. The DFO letter states that the management measures required by the Action Plan for the 2011 fishing season will be included in the licence conditions to ensure the fleet’s continued compliance with the Action Plan.

It is critically important for the assessment team to make a clear distinction between these three varieties of regulations in its discussion of the fishery and its scoring of the fishery relative to the MSC PIs. The fishery must only be scored against the current

regulations in place in the fishery as of a date certain which needs to be clearly stated established in the assessment document. The fishery cannot be scored based on informal regulations or those that have not been promulgated by the DFO or on a moving target or regulations. Giving the fishery potentially inflated scores in anticipation of future action is not appropriate. Future regulations should only be discussed in the conditions for this fishery if and when the *status quo* fishery as managed by the IFMP satisfies the criteria for conditional certification. It appears at many instances throughout the PCDR that the assessment team has blurred the lines between regulations, proposed regulations and informal agreements. These must be corrected and clearly articulated or risk violating the 'serious procedural irregularity' language of MSC TAB D023 which describes the grounds for formal objection¹.

MML Response: It is the assessment team's opinion that the fishery was scored against the existing measures in place during the period of the assessment, up to December 2010 and these measures form the basis of the scoring rationales presented. Text has been added to Section 11 of the Final Certification Report (FCR) in order to clearly understand the nature of "Client" and "Scoring Rationale" information provided in response to each Performance Indicator.

Proposed Regulations- One example of the an inappropriate assessment of regulations is the discussion of the Atlantic Canadian Loggerhead Turtle Conservation Action Plan. This document which was developed by DFO in 2010 after the initiation of the current assessment contains a series of intended changes to the pelagic longline fishery to conserve sea turtles such as:

'Move to mandatory use of non-corrodible 16/0 circle hooks by December 2011 to reduce mortality of released loggerhead sea turtles.'

'Maintain and/or increase observer coverage to ensure statistically robust estimation of bycatch levels,'

These proposed approaches to address bycatch of sea turtles in the pelagic longline fishery are steps in the right direction by the Canadian government but they are not regulations or binding changes to the fishery. They are therefore inappropriate for use as the basis for MSC assessment. In practice, the fishery *does not require* 16/0 circle hooks, *does not have* observer coverage to allow statistically robust estimations of catch and will not have these at any time in the future since the measures proposed in the Action Plan are merely intended changes to the fishery.

MML Response: Section 1.3 of the assessment report states that information available until December 2010 was considered, as such it was appropriate that the Loggerhead Turtle Conservation Action Plan was reviewed and considered. As noted previously, the assessment team received a letter of support for the LCAP from DFO, which also stated that the measures defined in the action plan are to implemented as a condition of licence, and therefore enforceable.

Informal Regulations- Equally objectionable to the scoring based on an action plan without current supporting regulations is the scoring of the fishery based on a voluntary industry code of conduct. These measures such as the use of circle hooks have no

enforcement or accountability for violations and their implementation can only be estimated by the industry itself (emphasis added):

In addition, *although not mandatory*, the use of circle hooks is *encouraged* to prevent deep hooking of unintentionally caught bycatch species (NSSA 2002). Currently, *it is estimated that over 90% of the hooks set are circle hooks* (Troy Atkinson, pers. comm.); however the Atlantic Canadian Loggerhead Turtle Conservation Action Plan states that by December 2011 the use of noncorrodible 16/0 circle hooks *will be mandatory*².

These steps are again steps in the right direction, but there are no means to ensure compliance with these measures or ensure that these estimates are accurate. They are a part of the fishery but are not appropriate for use in scoring against MSC standards.

MML Response: As defined by the conditions of certification, during the first surveillance audit the implementation of and compliance with measures outlined in the LCAP will be reviewed. If at that time, it is identified that the client is not compliant with the conditions of certification, appropriate actions, as defined by the MSC will be taken.

To remedy this issue, the assessment team should clearly articulate the varieties of regulations and guidelines that are used to manage this fishery and the applicability of these regulations to the scoring of the fishery. Any discussion of the LTCAP or any future work to reform this fishery such as the Regional Advisory Process (RAP) scheduled for the summer of 2011 may be discussed in the assessment but must be appropriately placed in context relative to the assessment of the current fishery.

No scores should be based on the language of these in process regulations or planned processes. Future measures should only be considered in the context of conditions on the fishery *if* the fishery achieves conditional certification.

II. The Scores Assigned to the Fishery by the Assessment Team are Inappropriate and not supported by the available data related to the fishery or the use of Pelagic Longlines in general

Oceana has carefully reviewed the scoring proposed by the assessment team and offers the following comments related to the scoring of the fishery.

Analysis of Catch is Weak and does not support the conclusions of the Assessment-

The status quo Canadian pelagic longline fishery does not have adequate catch information to assess the performance of the fishery relative to retained species, bycatch species, or ETP species. As noted at in the introduction to the assessment availability of information on incidental catch is highlighted as a 'primary weakness' for the pelagic longline sector³. The same section goes on to note that, 'with exception to retained species, there is no recording of bycatch (i.e. discards or released catch) by harvesters; therefore estimates of the total catch of bycatch species are based on extrapolation of observer data.'⁴

However, the discussion of observer coverage then goes on to note that:

‘An issue is the adequacy of at-sea observer coverage, which for the longline fleet has ranged 3.7 – 4.8% (by sea days) during 2004 – 2008 (DFO,2009). There is no analysis of the adequacy of this sampling coverage although based upon experience elsewhere, it is likely too low to provide more than general trends on age groups in the fishery⁵.’

and

‘Information on by-catch species is available from observers but the quality and reliability of the at-sea observer information is unknown (there are no confidence limits on by-catch estimates) mostly because the observers are not deployed according to a statistically designed plan⁶.’

and

‘In 2001 and 2002 a, 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 interactions⁷.’

It is interesting to note that at various points in the assessment the reported observer coverage level in the fishery varies and there is no clear discussion of the coverage in the fishery, something that appears to be an artifact of the various members of the assessment team drafting individual sections of the report without integration into one document.

MML Response: Table 4: Percentage At-Sea Observer Coverage, 2001 – 2010, has been added to the FCR to provide the information identified by the stakeholder. Concerns associated with the observer program have been addressed in the condition, and resulting action plan, in relation to PI 2.3.3.

The DFO has recognized the weaknesses of this observer program and has made reference to a desire to change the program to better sample the catch of the fishery:

‘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.⁸’

and

‘A RAP review is scheduled for 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.⁹’

The current data collection program is clearly insufficient to the task of monitoring and reporting the catch of this fishery of retained species, bycatch species and ETP species. For this reason it should fail to satisfy PIs 1.2.3, 2.1.3, 2.2.3, 2.3.3 which are related to the adequacy of information on the nature and amount of different components of catch

to determine the risk posed by the fishery and the effectiveness of the strategy to manage these elements of catch. Even the low standards associated with SG60 for these PIs cannot be satisfied or justified without statistically robust catch data including discussion of accuracy and precision of catch estimates the available catch information.

MML Response: Refer to the scoring rationale for PI 1.2.3 for a clear explanation of information considered in scoring that PI and how it met the defined SGs. With respect to the scoring of Principle 2 information/monitoring PIs, the PIs at the 60SG are similar for retained, bycatch and ETP species. The 60SG for PIs 2.1.3 and 2.2.3 refers to ‘qualitative’ information rather than quantitative information as referenced at the 80SG. While the observer coverage may be low in some years for the candidate fishery, information available does classify as more than qualitative, and is considered adequate to support measures in place to manage fishery impacts on main retained and bycatch species. PI 2.3.3 at the 60SG requires that information is adequate to broadly understand the impacts of the fishery on ETP species; adequate to support measures to manage impacts on ETP species, and is sufficient to qualitatively estimate the fishery related mortality of ETP species. The scoring rationale for this PI clearly identifies that as a minimum these requirements are met.

Effects of Poor Catch Data on the Current Assessment- Further complicating the effect of inadequate analysis of catch (retained, bycatch and ETP) is the scoring for all of the other PIs that draw on the scant data available to describe the catch of bycatch and ETP species in the fishery including 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1, 2.3.2. For example, Tables 3, 4 and 5 of the PCDR are used as the primary means to describe the retained, bycatch and ETP species catches in the fishery. However, these tables are the direct result of questionable observer coverage without any analysis estimation or extrapolation of the overall performance of the fishery in review. Yet these same tables are used to support conclusions about the fishery

For example, this flawed application of catch data is in the scoring for PI 2.1.1 on page 100 of the PCDR:

‘The assessment team considers that accurate and verifiable information is available on the catch of retained species and the consequences for the status of affected populations (SG 100).’p.114.

MML Response: The provided example is not in relation to PI 2.1.1 but 2.1.3. The assessment team has revised rationales for several Principle 2 indicators related to retained, bycatch and ETP species, providing more detailed explanations of what information was considered in the scoring rationales

How the assessment team used flawed catch data to make this conclusion is troubling and needs review. Without a complete discussion of discards of retained species that are undersized, unmarketable, or of low quality it is difficult to understand how can any of these conclusions be valid or rationalized. The available information does not provide data with indicators of accuracy and in fact never analyzes accuracy of catch data or estimates. Without this fundamental data on catch of the fishery, this PI cannot pass at the SG80 level and Oceana believes, does not satisfy the SG60 level.

This myopic view of catch is just one example of the flawed trend of this assessment to using available catch information in inappropriately rationalizing the current fishery as worthy of MSC certification. This approach is also used in scoring bycatch species and ETP species PIs.

Until reliable and statistically robust analysis of the overall catch of this fishery is available and based on a sound sampling design that considers and corrects for bias, the conclusions of the assessment team whether retained, bycatch or ETP species is flawed and fully supported in the MSC documentation for objection¹⁰.

Suggested Remedy

Fail this fishery at this time- The status quo Canadian pelagic longline fishery is not suitable for certification under the MSC standards at this time for the reasons explained above. Oceana understands that changes to the management and enforcement of the fishery are under way that may make the fishery suitable for certification at some time in the future. However, until these changes are in place as regulations in the IFMP, they are inappropriate for use as the basis of certification.

The applicant should be encouraged to re-apply for certification when changes to the fishery are complete and an appropriate baseline period as elapsed that will allow for a robust assessment of the performance and management of the fishery. Without necessary information about the catch, including robust estimates of landings and discards, the fishery and its environmental effects cannot be adequately assessed.

Oceana notes that a number of the claims and comments included in this letter are suitable as the grounds for objection as described by the latest MSC guidance, MSC TAB D 023. Oceana believes that the use of future management measures warrant remand as ‘a serious procedural or other irregularity in the fishery assessment process that made a material difference to the fairness of the assessment’ and that the scores assigned to the fishery under principle 2 ‘cannot be justified, and the effect of the score in relation to one or more of the particular performance indicators in question was material to the outcome of the Determination, because: (1) the certification body failed to consider material information put forward in the assessment process by the fishery or a stakeholder; and (2) the scoring decision was arbitrary or unreasonable in the sense that no reasonable certification body could have reached such a decision on the evidence available to it.’

Oceana is seriously concerned by this assessment and views this assessment to be critically important test of the MSC process. The MSC promotes and certifies those fisheries that are substantially better than other similar fisheries. We believe that this data-poor fishery is not better than even average pelagic longline fisheries and should not be certified at this time because of uncertainties in its catch including retained species, bycatch species and the catch of ETP species.

Any award of a certification at this time will be premature and risk the credibility of the MSC label as well as the credibility of Moody itself.

Thank you for considering these comments,

Sincerely,
Gib Brogan
Oceana
Wayland, MA 01778
USA

¹ MSC TAB D023. Section 4.8.2

² PCDR, p.20.

³ PCDR Page 6.

⁴ PCDR Page 6.

⁵ PCDR p.96.

⁶ PCDR p.120.

⁷ PCDR, p.188, Scoring of PI 3.2.4.

⁸ PCDR, p.67.

⁹ PCDR p.67

¹⁰ MSC TAB D 023, Section 4.8.2

Appendix 8.8 – Comments from Canadian Shark Conservation Society and CB/ Team Responses**Comments from Dr. Stephen Turnbull, Executive Director, Canadian Shark Conservation Society.****Submitted using Stakeholder Input Template.**

At present, the amount of by-catch alone is too high to award certification to this industry. Before certification is to happen, more research on by-catch reduction should be conducted and more thorough stock assessments done on shark population. Many fishers dispute DFO stock assessments and are calling for the same thing.

MML Response: This assessment used all available stock assessments, including those from DFO and ICCAT. The DFO stock assessment process certainly encourages stakeholders to participate in the reviews and are subjected to a peer review process to identify uncertainties in the stock assessment approach. The stakeholder has not provided specific comment in regards to PCDR or performance indicators.

Also, the whole concept of "by-catch" should be clarified as it means different things to different stakeholders. The Swordfish industry is allowed to take sharks as part of their license so by the nature of this, it is not really a by-catch. Also discards do not mean dead sharks thrown back into the water, so this term also has to be clarified.

MML Response: At the beginning of Section 3.7 and 3.8, definitions for the terms retained and bycatch species are provided, which are also provided in MSC guidance materials readily available on the MSC website. Where a species could be treated in either as retained and/ or bycatch category, the report has provided a rationale for how it's been treated.

More research into the use of shark smart hooks that are supposed to repel sharks should be used, as well as apparently some hooks that omit an olfactory repellent to sharks. These should be used to determine if they do indeed work to repel sharks and become mandatory to use if they are effective in reducing unwanted species.

MML Response: The assessment team cannot be prescriptive in the actions required of the client however the client action plan has been accepted as responding to the conditions of certification related to the outcome status, management and information and monitoring PIs related to the ETP species component of Principle 2. The Atlantic Canadian Loggerhead Turtle Conservation Action Plan, committed to in the client action plan, commits DFO and the client to research pertaining to best practices, review of feasibility and effectiveness of measures to decrease interaction, and commits to possible change to gear configuration and practices as a result of research. In addition Section 4 of the LCAP states that the plan will be updated as new knowledge of status and the effectiveness of measures to manage incidental catch increases.

To be ecologically sustainable, true by-catch of unwanted species should be mortality free and every effort must be done to obtain this. While the industry does seem to be leading the fishery

field in terms of this with change of gear, release gear, and training, it must go the extra step. Government should become more involved in the research of alternative hooks as indicated above.

MML Response: The MSC guidance in relation to retained, bycatch and ETP species is not that there is no interaction with or mortality of incidentally caught species, rather that species are within biologically based limits or if outside limits, the fishery under consideration does not hinder the recovery or rebuilding of retained and bycatch species. In relation to ETP species, as a minimum the known effects of the fishery are within national and international requirements for protection and that effects are unlikely to create unacceptable impacts. Based on this and other MSC guidance provided in the FAM (v.1) the assessment team used the default assessment tree to assess the impact of the fishery on retained, bycatch and ETP species, concluding that the requirements were met, as outlined in the scoring rationales, and that the fishery met the standard with respect to Principle 2 indicators.

I do not think the industry as a whole wishes to have such a high by-catch and appears to be willing to work with organizations to reduce this problem. It comes down to cooperation at many levels, and a will to succeed which I believe exists.

So, until this problem of mortality in by-catch of unwanted species is resolved, I can not support the certification of this industry at this time. I call for more research into by-catch release and standardized release methods be drafted. The industry should reapply for certification after these issues are addressed.

MML Response: The candidate fishery has been assessed against the MSC Standard using the default assessment tree found in FAM (v.1), resulting in the assessment team recommending the fishery for certification. The standard steps of the assessment will continue as stated in the Fisheries certification Methodology.

Appendix 8.9 – Comments from National Marine Fisheries Service and CB/ Team Responses

Ms. Amanda Park
Moody Marine Ltd.
Suite 815, 99 Wyse Road,
Dartmouth, Nova Scotia
B3A 4S5
Canada

Dear Ms. Park,

I am contacting you to provide information on the U.S. pelagic longline fishery for North Atlantic Swordfish (*Xiphias gladius*).

The North West Atlantic Canada longline swordfish fishery operates in international waters alongside the U.S. pelagic longline fleet. Pursuant to the U.S. National Environmental Policy Act and Endangered Species Act (ESA), NMFS has rigorously evaluated the environmental impacts of its Atlantic pelagic longline fleet on a range of species caught as bycatch, including sea turtles, marine mammals, and billfishes. NMFS is especially concerned about, and has taken action to address, the impact on loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*) sea turtles, which are listed under the ESA as threatened and endangered, respectively.

U.S. pelagic longline vessels are subject to many regulations designed to minimize their environmental impact. In the Grand Banks area, mandatory sea turtle conservation measures include the use of 18/0 (or larger) corrodible circle hooks with an offset not to exceed 10 degrees and the use of whole mackerel bait. NMFS also requires attendance at workshops on safe handling and release of sea turtles as a condition of obtaining a longline permit. Enclosed, for your convenience, is an excerpt of the applicable regulations for sea turtle bycatch mitigation in the U.S. Atlantic pelagic longline fishery. [NMFS Technical Memorandum 580](#) outlines protocols for the use of the sea turtle bycatch mitigation gears. Current scientific literature supports these specific measures as effective means for reducing longline fishery interactions with sea turtles and minimizing associated mortality. I have also enclosed a publication by NMFS scientists that highlights some recent findings related to the use of bait types and hook sizes for bycatch mitigation (Stokes et al. 2009). For the US longline fleet operating in the Grand Bank fishing grounds, the use of larger hook sizes, such as 18/0, in combination with finfish bait have shown to have a significant benefit over the 16/0 or smaller circle hooks in terms of their success in reducing sea turtle bycatch and bycatch associated mortality. These methods are long-standing, proven, and effective best practices.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) has also recognized that fishing operations carried out in the Convention Area can adversely affect sea turtles and that there is a need for all parties to implement measures to mitigate these adverse effects. At its 2010 Annual meeting, ICCAT parties adopted a binding recommendation that requires each party to report information on the interactions of its fleet with sea turtles in ICCAT fisheries and implement procedures for the safe handling of hooked turtles, among other things.

ICCAT's Standing Committee on Research and Statistics has been tasked with assessing the impact of the incidental catch of sea turtles resulting from ICCAT fisheries, no later than 2013 (see ICCAT Recommendation 10-09, enclosed).

MML Response: The assessment team has reviewed and considered the information provided and have incorporated it within expanded scoring rationales associated with sea turtles.

We hope this information is helpful.

Sincerely,

Eric C. Schwaab
Assistant Administrator
for Fisheries

Enclosures:

US Code of Federal Regulations Title 50 Section 635.21

Hook ingestion rates in loggerhead sea turtles *Caretta caretta* as a function of animal size, hook size and bait

Recommendation by ICCAT on the By-catch of Sea Turtles in ICCAT Fisheries

Appendix 8.10 – Comments from Sierra Club of Canada – Atlantic Canada Chapter and CB/ Team Responses

Sierra Club of Canada- Atlantic Canada Chapter
1657 Barrington St.
Roy Building, Suite 533
Halifax, NS, B3J 2A1, Canada
(902)-444-3113
gretchenf@sierraclub.ca

RE: Opposition to the MSC certification of the North Atlantic Swordfish Canadian Pelagic Longline Fishery

April 10, 2011

To: Rupert Howes, CEO, Marine Stewardship Council (objections@msc.org)
Amanda Park, Moody Marine, Ltd. (a.park@moodyint.com)

As an environmental organization tasked with the mission to restore healthy ecosystems and promote the sustainable use and enjoyment of them, the Sierra Club of Canada, Atlantic Canada Chapter certainly supports tools such as consumer product certification labels, as they serve to guide more sustainable consumer choices. The MSC is one such label, but the pending decision to certify the Canadian North Atlantic Fishery for Swordfish threatens the integrity of this certification label and consequently threatens our support for this label.

It is well established that pelagic longline fisheries contribute to the incidental catch and mortality of multiple threatened species, including loggerhead turtle, leatherback turtle, blue shark, shortfin mako shark and porbeagle shark. The following table summarizes the current status of these species according to: the Committee on the Status of Endangered Wildlife in Canada (COSWEIC), the IUCN Redlist and The Canadian Species at Risk Act (SARA). The listing of these species under multiple registries should make their status as threatened abundantly clear.

STATUS OF SPECIES THREATENED BY THE PELAGIC LONGLINE SWORDFISH FISHERY			
Species Common Name	COSWEIC Status	IUCN Redlist Status	SARA Status
Loggerhead Turtle	Endangered (2010)	Endangered (1996)	
Leatherback Turtle	Endangered (2001)	Critically endangered (2000)	Schedule 1, Endangered
Blue Shark	Special concern (2006)	Near threatened (2005)	
Shortfin Mako	Threatened (2006)	Vulnerable (2004)	
Porbeagle Shark	Endangered (2004)	Vulnerable (2006)	

Recent research reinforces the vulnerability of loggerhead and leatherback turtles to incidental catch as the result of the longline swordfish fishery and identifies the fishery as an important source of mortality¹. Young juvenile loggerheads in Canadian waters are particularly susceptible to bycatch,

and the trend of bycatch appears to be on the rise². Furthermore, the fishery is the single greatest threat to the recovery of loggerhead turtles in Canada³.

MML Response: The assessment team recognizes that the main identified threat to loggerhead sea turtles in Canadian waters is the pelagic longline fishery for swordfish and tunas, as stated in the RPA published by DFO. However, the conclusion of the RPA which states that “the reduction or elimination of mortality in Canadian waters alone is highly unlikely to be sufficient to achieve recovery” is accepted, and as such it is deemed that the impact of the Canadian fishery on the total population is marginal. This is further explained in the scoring rationale for PI 2.3.1.

Over the course of the assessment it was noted that the majority of interactions between the longline swordfish fishery and loggerhead turtles occur with primarily oceanic and neritic juveniles (Chris Sasso and RPA). Lewison and Crowder (2005) referenced above states “Sea turtle population growth is most sensitive to disturbances that kills individuals from older age classes because these individuals have higher per capita reproductive values.” Therefore the fishery under consideration is interacting, for the most part, with the less vulnerable age classes.

The assessment team was aware of these references and took the findings into consideration when awarding the scores under PI 2.3.1.

Sharks are considered to be less resilient to fishing pressure when compared with most fishes, and current global populations are at historic lows⁴. Pelagic longlining has been identified as the most significant source of threat in Canada to the shortfin makos⁵ and blue shark⁶ populations.

MML Response: The references noted in this comment have been reviewed, and considered in responding to the comment. While the Canadian pelagic longline fleet under consideration is considered as the primary fishery interacting with these shark species in Canadian waters, it is evident both in Campana et al. (2005) and COSEWIC (2006) that the overall impact of the fishery under consideration on the total populations of these species, is marginal.

With respect to shortfin mako, Campana et al. (2005) states “Annual catches in Canadian waters average 60-80t. These catches represent about 4% of that reported for the North Atlantic population (ICCAT, 2004), and probably represent an even smaller fraction of the actual North Atlantic catch.” The research presented concludes “Given the low numbers of makos caught in Canadian waters, it appears unlikely that current exploitation rates in Canada are having an appreciable impact on the population.” (Campana et al., 2005).

Similarly the COSEWIC assessment for blue shark states “in Canada’s Atlantic water approximately one third of the biomass of animals caught in the Canadian pelagic fishery (tunas and swordfish) is blue shark, but removals in Canada are probably 1% or less of total North Atlantic removals.” (p. v). The COSEWIC report provides the comparison of blue shark mortality in Canadian waters, as compared to mortality in the entire North Atlantic, stating that average mortality in Canadian waters is 1,000t per year since 1986, whereas it was conservatively estimated that more than 100,000t of blue shark were caught in the entire North Atlantic resulting in an approximate catch mortality of 37,000t (COSEWIC, 2006).

The scoring rationales related to retained and bycatch species, have been revised based on comments received on the PCDR to provide additional detail to justify the scores assigned. In addition, based on the consideration of information presented from stakeholders during the PCDR consultation, several PIs have been re-scored.

The MSC advertises a vision of “the world’s oceans teeming with life, and seafood supplies safeguarded for this and future generations”. Certainly this vision would be incomplete without viable populations of marine turtles and sharks. Yet, a fishery that directly threatens this vision is being considered for certification.

The external review of this fishery, conducted by Moody Marine Ltd., recommended conditional certification. The terms of these conditions make it clear that current practices do not meet MSC standards. The fishery represents the status quo, and has not earned distinction as a sustainable fishery. If the MSC proposes to accomplish their vision by awarding certification to those fisheries who exhibit sustainable practices, it would seem appropriate that only after the fishery has satisfied these conditions it be re-evaluated for certification.

MML Response: Under the MSC program, fisheries are certified as sustainable if they meet the MSC’s Principles and Criteria for Sustainable fishing. As assessment against the MSC Standard is an evidence based exercise, any fishery can qualify to be certified provided the evidence is available to support the scoring of performance indicators so that scoring requirements are met.

In order to be deemed certified, the fishery must obtain a score of 80 or more, based on the weighted average score for each of the three MSC Principles as interpreted by the default performance indicators and scoring guideposts under each MSC Principle; as well, the fishery must obtain a score of 60 or more for each individual Performance Indicator. As detailed in the report, in particular in the scoring rationales table, both these requirements have been met and the fishery has therefore been deemed eligible to be certified under the MSC program.

For those indicators that have scored less than 80 but above 60, certification conditions are developed. Conditions require that clients agree to improve management performance of the fishery for those performance indicators scoring less than 80 to at least the 80 performance guidepost within a period set by the certification body but no longer than the term of certification (i.e five years). The conditions of certification as well as the client action plan which details the actions to be taken to meet these conditions are included in Section 10 of the report.

Current knowledge of total catch and bycatch resulting from this fishery are inadequate to award certification. The *Draft Report* acknowledges that low observer coverage cannot assure accurate estimates. Additionally, there is no recording of bycatch, unless a species is listed under SARA. It is not possible with 5% observer coverage to determine an accurate, unbiased estimate⁷. It is therefore not possible to conclude that this fishery does not pose a serious threat to the endangered species previously mentioned. Other reports suggest that a minimum of 20% observer coverage would be necessary to make accurate estimates of bycatch trends for common species^{7,8}, and 50% for rare species⁷.

MML Response: Bycatch recording is performed by independent at-sea observers who record all catch as well as what is retained and discarded. Observer coverage, while low in some years, has ranged from as low as 4% to 19% (see Table 4 in the Final Certification Report.

We implore that MSC upholds their self-proclaimed objective to **never compromise** environmental standards, by choosing not to certify the Canadian longline swordfish fishery. To certify a fishery that plays a significant role in the decline of threatened species erodes the credibility of the MSC label. In the case that the MSC and Moody Marine Ltd. fail to exercise discretion, and the Canadian longline swordfish fishery receives certification, the Sierra Club Atlantic will continue to educate members as to the reasons to avoid this product.

Sincerely,

The Sierra Club Atlantic Chapter
Halifax, NS

1 Brazner, J., & McMillan, J. (2008). Loggerhead turtle (*Caretta caretta*) bycatch in Canadian pelagic longline fisheries: Relative importance in the western North Atlantic and opportunities for mitigation. *Fisheries Research*, 91(2-3), 310-324.

2 Lewison, R., & Crowder, L. (2007) Putting longline bycatch of sea turtles into perspective. *Conservation Biology*, 21(1), 79-86.; Brazner & McMillan, 2008.

3 Canadian Science Advisory Secretariat. (2010). Recovery potential assessment for loggerhead sea turtles (*Caretta caretta*) in Atlantic Canada. Science Advisory Report 2010.042.

4 Dulvy, N., Baum, J., Clarke, S., Compagno, L., Cortes, E., ... & Valenti, S. (2008). You can swim but you can't hide: the global status and conservation of oceanic pelagic sharks and rays. *Aquatic Conservation*. DOI: 10.1002/acp

5 Campana, S., Marks, L., & Joyce, W. (2005). The biology and fishery of shortfin mako sharks (*Isurus oxyrinchus*) in Atlantic Canadian waters. *Fisheries Research*, 73, 341-352.

6 COSEWIC. (2006). COSEWIC assessment and status report on the blue shark *Prionace glauca* (Atlantic and Pacific populations) in Canada. Ottawa, ON: Committee on the Status of Endangered Wildlife in Canada.

7 Babcock, E., & Pikitch, E. (2003). How much observer coverage is enough to adequately estimate bycatch? Miami, FL: Pew Institute for Ocean Science.

8 Gilman, E., & Lundin, C. (2008). Minimizing bycatch of sensitive species groups in marine capture fisheries. Lessons from commercial tuna fisheries. In Grafton, Q., Hilborn, R., Squires, D., Tait, M., & Williams, M. *Handbook of marine fisheries conservation management*. Oxford University Press.

Appendix 8.11 – Comments from Sven Koschinski and CB/ Team Responses

Dear Mrs Park,

on the MSC web page I read that Moody International is the certifying body within the MSC certification process of the North West Atlantic Canada longline swordfish fishery.

If this specific fishery is to be certified this would threaten the credibility of the MSC label because it is unsustainable with respect to other than the target species.

In my opinion, by-catch of turtles, sharks, birds and marine mammals should per se prohibit a certification under MSC - no matter what score the fishery gets within the certification process.

MML Response: The MSC Standard, against which the fishery was assessed, does not require the fishery under consideration to be void of incidental catch of non-targets species. Rather the Standard requires that the fishery does not hinder the recovery and rebuilding of species which may be outside biologically based limits, and is unlikely to create unacceptable impacts to ETP species.

When I look at the current certification practice I have a strong feeling that the status quo is to be certified and that fisheries do not get better at all. We had this discussion at an MSC meeting in Hamburg recently.

MML Response: As with all fishery certified to date, if certified the candidate fishery will be certified with conditions. Conditions require that clients agree to improve management performance of the fishery for those performance indicators scoring less than 80 to at least the 80 performance guidepost within a period set by the certification body but no longer than the term of certification (i.e five years). The conditions of certification as well as the client action plan which details the actions to be taken to meet these conditions are included in Section 10 of the report.

The North West Atlantic Canada longline swordfish fishery is responsible for the by-catch of a high number of endangered leatherback sea turtles and loggerhead turtles (listed as threatened in the U.S.), as well as blue-, shortfin mako- and porbeagle sharks, all considered to be species at risk based on scientific assessments. Although many of these individuals are released alive, many later die from injuries from being trapped on the hook.

MML Response: As outlined in Sections 3.7, 3.8 and 3.9, retained, bycatch and ETP species have all been explicitly defined by the MSC in the FAM. Over the course of the assessment, the assessment team classified and assessed each species based on the definitions provided. In scoring P2 indicators consideration was given to information available with respect to post capture mortality. Certification conditions have been imposed on the fishery to address a number of concerns related to retained, bycatch and ETP species, the result of which will increase knowledge and improve practises for the handling of non-target species.

For avoiding turtle by-catch there may be a simple solution regarding the shape of hooks (however, this should be proved before certifying such fishery).

MML Response: As part of the client action plan, the management agency has committed to ensuring the fishery is subject to mandatory use of non-corrodible 16/0 circle hooks by December 2011 to reduce mortality of released loggerhead sea turtles.

Avoiding shark by-catch may not be possible without changing the fishing method completely. Please do not certify this unsustainable fishery!

Kind regards,
Sven Koschinski
Dipl. Biol. Sven Koschinski
Kühlandweg 12
24326 Nehnten
Germany
Tel. ++49-(0)4526-381716

Appendix 8.12 – Comments from WWF and CB/ Team Responses**WWF comments on the Public Comment Draft Report for the North West Atlantic Canada Longline Swordfish Fishery**

submitted to Moody Marine Ltd.

April 11th, 2011

Introduction

WWF actively engages as a stakeholder in a number of fishery assessments conducted by certification bodies in the MSC certification process in order to improve individual fisheries and to recognize advancements that fisheries have been making. We recognize that the Canadian longline swordfish fleet has taken steps to reduce bycatch and mortality of non-target species; however, as this fleet is responsible for the highest „bycatch to target catch“ ratio in Atlantic Canada and it is the first pelagic longline fleet in the world recommended to be MSC certified, this precedent-setting certification is of concern to WWF.

WWF has carefully considered the Public Comment Draft Report. We acknowledge that the draft assessment report identifies a number of conditions which, if met, will improve this fishery over time. While WWF is convinced that MSC's certification program is the most rigorous available, we are concerned that the draft report does not adequately assess the outcome status or information on retained species or the high level of bycatch taken by this fishery, particularly with regards to the „main bycatch“ species, blue sharks.

WWF's main concern with the draft assessment is with the evaluation of information and scoring rationale for performance indicators within component 2.1 and 2.2, particularly with regards to sharks. Given the clear gaps in knowledge that exist for shark species, particularly for blue sharks, and the associated uncertainties with the available information, it does not seem sufficient to score these indicators at 80 or above and consider these species to be “highly likely”, as opposed to “likely”, within biologically based limits.

The following sections outline WWF's specific concerns and questions.

Component: 1.1 Stock Status***Performance indicator 1.1.1 - stock status:***

The stock is at or fluctuating around its target reference point.

Nature of the comment:

We are concerned with the scoring and/or rationale used to score the performance of this indicator is inadequate to support a score of 80.

Justification:

Given that there is only a probability of 50% that the stock is at B_{msy} level, the stock may not even “likely” (FAM 6.2.7) be reaching its target reference point. Further justification as to the assessment teams scoring is needed.

MML Response: Section 6.2.5 of FAM (v.1) states that “...the guidance on PI 1.1.2 identifies default limit reference points as being 1/2B_{MSY} of 20% of B₀. Such points should be generally consistent with being above the point at which there is an appreciable risk that recruitment is impaired, though clearly for some short-lived

stocks the actual point at which there is an appreciable risk that recruitment is impaired may be lower than 20% B_0 and for some long-lived species it may be higher than this.” Based on this guidance and the results of the most recent ICCAT assessment it was determined that the first scoring issue of the SG 80 was met, and that it is highly likely that the stock is above the point where recruitment would be impaired.

With respect the target reference point, the SG80 only requires that the stock is at or fluctuating around the target reference point, with no associated probability. It is not until the 100SG that a ‘high degree of certainty’ is associated with the stock status in relation to target reference points.

Component: 2.1 Retained Species

Performance indicator 2.1.1 - retained species status:

Main retained species are highly likely to be within biologically based limits or if outside such limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.

Nature of the comment:

Bigeye, yellowfin, albacore and bluefin tuna and shortfin mako and porbeagle sharks are identified as “main retained” species. Each species was assessed against the scoring guideposts (SG) individually. Bigeye and yellowfin tuna score 100, while the other 4 retained species score 80. The scoring rationale does not provide convincing justification for an 85 score for all main retained species (2.1.1). Albacore tuna, bluefin tuna, shortfin mako and porbeagle sharks are NOT highly likely to be within biologically based limits and therefore shouldn’t score above 80.

Justification:

Yellowfin and bigeye tuna

Yellowfin and bigeye tuna are not currently fluctuating around their target reference point. In 2006 the biomass was only just at a Bmsy level. FAO status of these stock estimates Bcurrent/Bmsy to be 0.96 and 0.92 respectively (Miyake, Guillotreau, Sun, & Ishimura, 2010) and therefore the scoring of 100 by the assessment team is not justified.

MML Response: PI 2.1.1 scoring rationale and score have been revised. Yellowfin and bigeye tunas have been rescored to 80. Scoring rationales for both have been expanded to provide more detailed explanation.

Albacore tuna

Fishing mortality of albacore tuna is 50% larger than Fmsy ($F_{current}/F_{msy} = 1.5$) and the FAO status of this stock estimates Bcurrent/Bmsy to be 0.81. Thus, it is likely that the current catches hinder recovery. The report states that Northern albacore tuna is below its target reference point but likely within biologically based limits (page 110). Further rationale is needed by the assessment team as to the scoring of 80 for this species.

MML Response: PI 2.1.1 scoring rationale and score have been revised. Scoring rationale for albacore tuna has been expanded to provide more detailed explanation.

Bluefin tuna

The scoring for this species was 80 given the justification that “Western bluefin tuna is under a recovery plan”. To obtain a score of 80 there must be a partial strategy of demonstrably effective measures in place such that the fishery does not hinder recovery of rebuilding. The recovery plan in place by ICCAT for this species is certainly NOT demonstrably effective – biomass is dramatically low (estimates range from 14 to 57% of Bmsy (Miyake, Guillotreau, Sun, & Ishimura, 2010)) and Atlantic bluefin tuna is heavily overfished due to failing management. There was no review given by the assessment team as to the adequacy of the recruitment scenarios put forward by ICCAT. A thorough examination of the state of the stock must be provided, and a clear and precautionary assessment as to whether the stock is outside biologically based limits must be made. We believe a precautionary approach would be to assume that $B_{current}/B_{msy}$ for this species is 0.14 which means that this species (according to MSC) is below a limit reference point. This would suggest that this species would not score above 80. Further justification regarding the assessment and scoring of this species is needed.

MML Response: PI 2.1.1 scoring rationale for bluefin tuna has been expanded to provide more detail. In particular, the team found that there was a partial strategy with demonstrably effective measures in place. The score has not been changed.

Shortfin mako

Shortfin mako catch is restricted through limiting overall fishing effort (limited entry and swordfish quotas) and limited overlap between the fishery and the shortfin mako distribution. FAM 7.1.22 states that “measures” are individual actions or tools that may be in place either explicitly to manage impacts on the component or coincidentally, being designed primarily to manage impacts on another component, that indirectly contribute to management of the component under assessment.

The ICCAT Standing Committee on Research and Statistics (SCRS) recommended in 2005, and again in 2007, that member states reduce fishing mortality for North Atlantic shortfin mako sharks. In 2008, the ICCAT stock assessment indicated that the shortfin mako stock is near likely overfished and experiencing overfishing. In addition, the 2008 SCRS ecological risk assessment stated that shortfin mako was assessed as a species at the highest risk to overfishing even at low levels of fishing mortality. This alone is justification that the stock status could not be considered to be “highly likely” of being within biologically based limits. The “measures” limiting shortfin mako catch are clearly in place coincidentally and are not part of a demonstrably effective “partial strategy” to reduce shortfin mako bycatch. At best there are “measures” in place that are expected to ensure that the fishery does not hinder recovery (SG60).

MML Response: PI 2.1.1 scoring rationale and score have been revised for shortfin mako. The partial strategy present was not considered fully effective and a score of 70 was awarded. A condition was raised in regards to shortfin mako.

Porbeagle shark

In 2006, landings in round weight from all Canadian fisheries for porbeagle shark were 192.9t. The assessed fishery accounts for 20.2% of that total; a significant proportion of the total landed Canadian catch. While the assessed fishery as an individual may contribute a “marginal contribution” to the total landings, the overall Canadian catches were higher than recommended for rebuilding the stock. While the TAC was reduced in 2007 to account for this oversight, total discard mortality remains uncertain (e.g. post-release survival studies have yet to be done for porbeagle sharks) and thus we do not have a good estimate of total porbeagle mortality in Canadian waters. The 2009 population estimate for porbeagle sharks suggests that the stock is stable or slightly decreasing with low biomass, and is vulnerable to human-induced mortality greater than 4% of vulnerable biomass. As the assessed fishery

accounts for a quarter of all porbeagle landings, and in light of the continuing data uncertainties, such as discard mortality, how can it be assumed that this fishery does not contribute to the overall decline seen in this stock?

The assessment team does not present objective evidence that there is a “partial strategy” of demonstrably effective management measure in place. At best the “measures” in place are expected to ensure the fishery does not hinder recovery (SG60). As the majority of the North West Atlantic stock of porbeagle shark resides in Canadian waters, the assessed fishery should demonstrate that direct effects of their activity are “highly unlikely” to create unacceptable impacts or hinder recovery or rebuilding of the stock.

MML Response: PI 2.1.1 scoring rationale for porbeagle has been expanded and the score has been revised. The current partial strategy was not considered fully effective and a score of 70 was awarded. A condition was raised in regards to porbeagle shark.

Performance indicator 2.1.3 - retained species information:

‘Information is sufficient to estimate outcome status with respect to biologically based limits.’

Nature of the comment:

We are concerned that the information and/or rationale used to assess this performance indicator for porbeagle sharks are inadequate to justify the given score (SG80).

Justification:

Most measures for reducing porbeagle shark bycatch are aimed at the directed porbeagle shark fishery. The area closure for the directed porbeagle fleet greatly helped to reduce fishing mortality of gravid females. We are concerned that information to support “measures”, such as area closures, have not been considered for the assessed fishery.

Emerald Basin is an area of regular fishing activity for the longline fleet. While there is limited information on this region, the information available suggests that this area may represent a critical habitat for this species. Of concern to us is that a disproportionate number of juvenile porbeagle sharks are caught in the Emerald Basin area relative to other fishing areas. Comparing age composition of porbeagle catch in this fishery, the catch in Emerald Basin is four times higher than in other fishing areas and represents a majority of age two sharks, in contrast with an average age composition of age eight sharks caught in other fishing areas. As the Emerald Basin area could represent a critical habitat for the species, the fishery should demonstrate that its impact on porbeagle sharks, particularly those in the Emerald Basin area, are highly unlikely to impact the outcome status and recovery of the species.

Also, it is not clear whether the lack of post-release survival information for porbeagle sharks, as well as shortfin mako sharks, was taken into considerations when the assessment team evaluated the species status and recovery. As both stocks are particularly vulnerable to human-induced mortality, this issue requires scientific investigation with collaboration from the assessed fishery, as the incorporation of such information may cause total mortality to exceed acceptable limits indicated in previous reports, as it has in the past.

MML Response: PI 2.1.3 scoring rationale and score have been revised (score now 80). The issue of post capture mortality for porbeagle has been incorporated by the team in the condition related to PI 2.1.1 The assessment team considered the

stakeholder comments but could not corroborate the source of data, should information be published over the next year, findings would be reviewed as part of the surveillance audit process, should the fishery be certified. It is also noteworthy that the at-sea observer program was identified as a source of concern in 2.3.3 and is subject to a condition. It is expected that any improvements as a result of that condition would also see improvement for retained and bycatch species.

Component 2.2: Bycatch Species

Performance indicator 2.2.1 - bycatch species status:

Main bycatch species are highly likely to be within biologically based limits or if outside such limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.

Nature of the comment:

We are concerned that the information and/or rationale used to assess this performance indicator for the “main bycatch” species, blue sharks, are inadequate to justify the given score (SG80).

Justification:

The assessment team has provided a comprehensive introduction on the bycatch of blue sharks in the assessed fishery. The report discusses bycatch mortality, knowledge gaps and uncertainties in population estimates. This introduction is followed by a score (SG80) that does not seem to match the narrative. While we acknowledge that the assessed fishery has taken measures to reduce and/or mitigate bycatch and mortality of non-target species, particularly with regards to turtle bycatch (e.g. voluntary use of circle hooks and turtle de-hooker kits), this fishery still lacks several key measures to manage bycatch, including bycatch limits for sharks, particularly blue sharks, and no comprehensive reporting of the amount of shark discards. In this context, we are concerned with the assessment team’s decision to consider blue sharks as “highly likely” to be within biologically based limits given clear gaps in knowledge of stock population levels, discard levels and uncertainties with regards to impacts on this species” status and their recovery.

The assessment team acknowledges that estimates for the North Atlantic blue shark population are contradictory. Estimates range from no change in population to a 60% decline in the North West Atlantic. Whether we consider the 60% decline estimate more reliable than the ICCAT assessment of little population change is not relevant. What is relevant is that the assessment of the blue shark stock status is highly uncertain. The assessment team should have come to the conclusion that the status of the “main bycatch” species is poorly known (SG 60). The assessment team based their assessment and score on the “reported prevalence” of blue sharks as opposed to sound stock assessments. This is not scientifically justifiable or acceptable.

The assessment team furthermore states that immature sharks are caught as bycatch in the assessed fishery and juveniles have been identified as a vulnerable stage. A sound stock assessment and an improved understanding of the impact of fishing induced mortality of blue shark juveniles on population growth are needed to properly assess the impact of the fishery on the bycatch species.

MML Response: The team has revised the scoring rationale for PI 2.2.1. The score has not change, however, the scoring rationale has been expanded to provide justification and source for a score of 80 for this PI.

Performance indicator 2.2.3 - bycatch species information:

Information is sufficient to estimate outcome status with respect to biologically based limits.

Nature of the comment:

We are concerned that the information and/or rationale used to assess this performance indicator for the “main bycatch” species, blue sharks, are inadequate to justify the given score (SG80).

Justification:

The assessment team considers that there is “sufficient” information to detect any risk to the “main bycatch” species; however, it is clearly stated in the ICCAT shark assessment (p.151) that the data sets available are “still quite uninformative and do not provide a consistent signal to inform the (stock) assessment.” Furthermore, it states that unless these issues are resolved, the assessment of stock status will continue to be very uncertain and our ability to detect stock depletion to levels below the convention objective level will remain considerably low. If uncertainties associated with the current stock assessment inhibit the ability to detect stock depletion levels, how can the assessment team consider blue sharks “highly likely” to be within biologically based limits?

The 2008 ICCAT stock assessment mentioned that precautionary measures should be considered for stocks for which there is very little information. As scientific information is unable to indicate whether or not this fishery is impacting blue sharks, the burden of proof should fall to the fishery to demonstrate that it is „highly unlikely” to create unacceptable impacts to the “main bycatch” species. Therefore, precautionary measures should be applied to account for this uncertainty until such a time that it is proven otherwise.

In order to achieve a score of SG80 for this performance indicator through qualitative assessment, MSC FAM 7.1.16 states that it would require the risk to be *very low*. Enough uncertainties exist with regards to the blue shark stock that risk cannot be considered *very low*. While some quantitative information is available, this information is contradictory and has many uncertainties associated with it. We believe that the information that currently exists for blue sharks is insufficient to justify the given score of SG80. At best it could be considered adequate to broadly understand and interrupt outcome status with respect to biologically based limits.

MML Response: The team has reviewed but not revised the score for PI 2.2.3, however additional detail has been added to the scoring rationale to further support the assigned score. The 60SG for PIs 2.1.3 and 2.2.3 refers to ‘qualitative’ information rather than quantitative information as referenced at the 80SG. While the observer coverage may be low in some years for the candidate fishery, information available does classify as more than qualitative, and is considered adequate to support measures in place to manage fishery impacts on main retained and bycatch species.

Comments on Certification Recommendations and Condition Setting

Moody Marine requested an exemption from the condition requirements defined in TAB D 033 “Condition setting and reporting”. Variation request was granted, subject to the following condition: the requirements of TAB D 033 must be met by the Final Report stage of assessment. We were extremely surprised that the condition set in conformance to the MSC scheme requirements will not be peer reviewed or is not available for adequate stakeholder review; this seems a fundamental failure in the application of the system. The rationale under which this request was made does not seem to have any

grounds. Stakeholder information submission finished on the 23rd of December to allow peer review and condition setting to happen after this date, and the policy was issued on the 17th of January. We can see no grounds as to why this variation request was granted.

MML Response: Information provided in stakeholder submissions received in the consultation period ending on December 23rd was considered when finalizing scores and setting conditions of certification. As stated in the request for variation the Peer Review Report (PRR), inclusive of finalized scores and conditions, was completed on January 17, in advance of the issuance of Tab Directive 033. The request pertained to the review of the client action plan by peer reviewers, which was not required in the past, so therefore was not included in the PRR. Both the conditions and client action plan was included in the PCDR, therefore allowing for adequate stakeholder comment on either component.

Tab Directive 33 also includes a requirement that all conditions are to define milestones for each year. As this was not required in the past, the variation requested by MML asked for an exemption from this requirement. However, as stated in the MSC response, while the variation for the review of the client action plan by peer reviewers was granted, MML is required to provide milestones for each condition. This action was completed prior to the release of the PCDR, allowing for review of completed conditions at that time.

Condition 1

The FAM clearly defines that the reference points to be assessed in this fishery are those “set by management” (FAM 6.2.17). FCM 3.4 requires that condition(s) shall improve performance to at least SG80 and be based on measurable outcomes. The outcome of this condition must be that the limit reference point is *adopted* and *used* by ICCAT not simply that steps have been taken to develop a limit reference point.

In addition FCM 3.4.8 requires that ICCAT should have been consulted as the conditions are likely to require an investment of time, money and/or changes to the arrangement of management, regulations and/or research priorities by these entities.

Condition 2

FCM 3.4.8 requires that ICCAT should have been consulted as the conditions are likely to require an investment of time, money and/or changes to the arrangement of management, regulations and/or research priorities by these entities.

Condition 6 and 7

FCM 3.4 requires that condition(s) shall improve performance to at least SG80 and be based on measurable outcomes. The outcome of this condition must be that the limit reference point is adopted and used by ICCAT not simply that steps have been taken to develop a limit reference point.

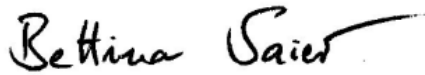
In addition FCM 3.4.8 requires that ICCAT should have been consulted as the conditions are likely to require an investment of time, money and/or changes to the arrangement of management, regulations and/or research priorities by these entities.

MML Response: Fisheries and Oceans Canada and Canada’s representative ICCAT commissioners have requested to work directly through the formal process of ICCAT to achieve the necessary outcomes which the conditions require. Failure to achieve the outcomes will lead to suspension or withdrawal of any conditional certificate.

Comment on peer review comments

It appears as if the comments by peer reviewer 2 in appendix 6 are incomplete. We welcome thorough peer review of Principle 2 and 3.

MML Response: Peer Reviewer 2 had no comments on Principle 2 and 3.



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Select Citation

Miyake, M., Guillotreau, P., Sun, C.-H., & Ishimura, G. (2010). Recent developments in the tuna industry - stocks, fisheries, managemnet, processing trade and markets. *FAO Fisheries and Aquaculture Technical Paper 543* , 125.

APPENDIX 9 – COMMENTS FROM MSC AND CB RESPONSES

Appendix 9 – Comments from MSC and CB Responses

April 11 2011

Sent via eCert

SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Amanda Park,

Please find a below the results of our partial review of compliance with scheme requirements.

CB	Moody Marine Ltd
Lead Auditor	Amanda Park
Fishery	North West Atlantic Canada longline swordfish
Fishery Assessment Product Type	Public Comment Draft Report Posted
Type of Review	Desk Study

No.	Type of Finding	Scheme Requirement	Requirement Description	Report Reference	Description and Evidence of non-conformity
1	Major	FCMv6 Appendix 1: 5.2	The report shall set out the scope of the fishery assessment in the context of the assurances the certification body can make about the point to which products from the fishery can be traced.	Pg 62	According to the report traceability was verified to the point of first landing. However, it is unclear if first point of landing falls under the responsibility of the fishery or the client of the fishery (operation that buys from the fishery). All activities carried out by the fishery, also if subcontracted, need to be described in this section.

MML Response: Clarification has been provided in the report. In the context of this fishery, harvesters own the fish up to the point of weigh-out of the fish upon landing, which is completed by an independent, certified dockside monitor who verifies species, quantity (in the case of large pelagics) and weight of fish and record the buyer. Legal ownership of the fish usually changes after completion of the landing. Harvesters are responsible to inform a certified Dockside Monitoring company (DMC) of their impending landing. The DMC will issue a “Hail in” confirmation number and will dispatch an independent DM to observe the offloading. In most cases, the purchasing processor or broker will be financial responsible for paying an offloading company to physically transfer the fish from the vessel, to the scale, to the transport vehicle of the purchasing company.

2	Major	FCMv6	Appendix 1: 5.2	The report shall set out the scope of the fishery assessment in the context of the assurances the certification body can make about the point to which products from the fishery can be traced.	Pg 62	This section states that product must be landed at designated ports. However, the names of the designated ports are not listed, nor does it make a reference to where a list of these ports can be found.
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MML Response: Text has been added to Section 9 of the report to indicate authorized ports in Atlantic Canada where legal offloading can take place. The majority of landings are in Nova Scotia ports, although some may be conducted in other Atlantic Canadian provinces.

3	Major	FCMv6	Appendix 1: 5.2	The report shall set out the scope of the fishery assessment in the context of the assurances the certification body can make about the point to which products from the fishery can be traced	Pg 62	This section states that the subsequent links must be able to prove that they can track (should be trace) the swordfish longline product back to the permitted vessels which landed the product. However the report does not provide a list of permitted vessels nor does it make reference to where a list of permitted vessels can be found.
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MML Response: Text has been added to Section 9 of the report to indicate where a list of list of licence holders, and the associated vessel names, that are eligible to land certified product can be found following certification.

4	Major	TAB	D-021: 4	The target eligibility date shall be included in the traceability section of the Public comment draft report.	Pg 62	This section does not contain the target eligibility date. On page 10 it is stated that Moody Marine and the swordfish certification clients have agreed that the eligibility date for this certification will be the date on which the fishery is certified. This information must be repeated in the traceability section of the PCDR.
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MML Response: The following text has been added to Section 9 of the report to reiterate the eligibility date: “Moody Marine Ltd. and the client for the North West

Atlantic Canadian swordfish longline assessment have agreed that the eligibility date for this certification will be the date on which the fishery is certified.”

5	Major	FCMv6	3.5.1	...that fish and fish products from the fishery may enter into further chains of custody...	Pg 62	This section does not state clearly that fish and fish products from the fishery may enter into further chains of custody, and be eligible to carry the MSC logo.
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MML Response: The following text has been added to Section 9.0 of the report: “Fish and fish products from the fishery may enter into further chains of custody, beyond the first point of landing, and be eligible to carry the MSC logo”

6	Major	FAMv2.1	7.2.3	SG100 does not include the qualifier 'main' and all retained species are included in the assessment.	Pg 100	PI 2.1.1: In order to meet SG100, the scoring must consider all retained species, not only the main retained species (which are the focus of SG60 and SG80). Scoring must be revised or rationales presented addressing all retained species in order for elements to score SG100 for this PI.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI rescore of 75. Only main species have been considered.

7	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 110	PI 2.1.1: The rationale does not justify the score for several scoring elements, such as for the tuna species, shortfin mako, porbeagle shark, and blue and white marlin. It is also unclear what information supports the assessment team scoring conclusions for these elements or whether the team accepts the information presented in the client section of the scoring table. This links to finding #21 on further clarity needed on extent of team evaluation of the client submission.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI rescore of 75. Only main species have been considered.

8	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 113	PI 2.1.2: The rationale does not support the score for this PI. The rationale appears to justify the SG80 for the first scoring issue, with the hard TACs constituting a partial strategy, but then goes on to score the scoring elements at SG100 although at the SG100 requires a strategy to be in place for managing retained species.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI rescore of 75. Only main species have been considered.

9	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 113	PI 2.1.2: No rationale or scoring is provided for blue and white marlin, elsewhere considered as main retained species.
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MML Response: Scoring rationale and scores have been added for the marlin species.

10	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 114	PI 2.1.3: The rationale does not justify the score. Further information is required for how the scoring issue is met under SG100 for all retained species. This is particularly the case as for PI 2.2.1 and 2.3.3 the observer programme is considered potentially insufficient in terms of quality and reliability.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI rescore of 80. Only main species have been considered.

11	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 120	PI 2.2.1: Further justification and supporting information is required in the final paragraph of the scoring rationale in order to justify the score of 80 for blue shark bycatch. This links to finding #21 on further clarity needed on extent of team evaluation of the client submission.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI rescore of 80. Only main bycatch species have been considered.

12	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 123	PI 2.2.3: The rationale does not justify the score. Clarification is required on what supporting information has informed the team's conclusions for each scoring issue.
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MML Response: Scoring rationale has been revised and expanded to provide detailed information which supports the awarded PI score of 80. Only the main bycatch species have been considered.

13	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	Pg 151	PI 2.4.3: The rationale does not justify the score. More detail is required on how each scoring issue is met.
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MML Response: Scoring rationale has been revised to provide reference to the separate scoring issues.

14	Major	FCMv6	3.4.5	The certification body shall specify conditions that closely follow the narrative or metric form of the performance indicators and scoring guideposts used in the assessment tree	Pg 177	PI 3.2.2 & Condition: The scoring rationale states that the second scoring issue for SG80 was not met, however the condition does not address this scoring issue. The issue of responsiveness of decision-making processes (SI2), and not only the precautionary approach (SI3), must be addressed by this condition.
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MML Response: After further consideration of the swordfish science and management advice provided by ICCAT, the team has rescored this PI to 75, leaving condition unchanged for the precautionary approach scoring issue.

15	Guidance	PA	5v2: 5	The traceability section should include the information necessary to answer the following questions, and should be separated into the following sub-sections	Pg 62	The traceability section of this report does not follow the structure nor does it include any risk assessments as suggested in PA 5v2 section 5.
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MML Response: Section 9 of the report has been amended to ensure compliance with Policy Advisory 5 (v.2). Subcomponents pertaining to traceability within the fishery, at-sea processing, point of landing, and eligibility to enter Chain of Custody have been added, as required by Policy Advisory 5.

16	Guidance				Pg 62	This section mentions at-sea observer coverage in the context of traceability in the fishery. It does not state the level of at-sea observer coverage. On page 47 it is stated that over the course of 2 years, approximately 20% observer coverage was attained in the fleet. Reference to observer coverage in the traceability section without stating the extent is considered misleading.
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MML Response: The section on Traceability within the fishery has been revised to point readers to Table 4, Percentage At-sea Observer Coverage, 2001 – 2010, which has been added to Section 3.5.

17	Guidance				Pg v	Final paragraph, last sentence: Text should be removed as relates to Final Report & Determination stage but is not valid at PCDR stage, unless the Moody Marine Governing Board has already reviewed the PCDR.
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MML Response: No change to text, as report has now been reviewed by the MML Governing Board and the statement is valid.

18	Guidance				Pg 7	Section 1.5, paragraph 1: Suggest change in wording to final sentence, as the conditions and client action plan have been preliminarily approved by assessment team prior to the publication of the PCDR.
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MML Response: Text has been revised to reflect that the client action plan has been accepted by the assessment team.

19	Guidance					Throughout the report there is incorrect or unclear referencing to tables and figures. This should be checked and revised in all instances. E.g. Pg 23 reference to Table 8 for Principle 1; pg. 101 reference to Table 3 in section 3.6 for the years 2000-2006.
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MML Response: The document has been reviewed and revised so that the text refers to the appropriate Table and Figure numbers.

20	Guidance				Pg 57	Second paragraph: Suggest clarification on whether stakeholder submissions were also received at this stage.
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MML Response: Clarification has been added to the end of the paragraph in question referring reader to Appendix 3 where comments and resolution by MML are presented.

21	Guidance				Pg 75	Section 11: Further explanation is required here on the format of the scoring tables. For example, it is not clear what the 'Client' sections are for each PI, and how much/to what extent this information has been considered/accepted by the assessment team.
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MML Response: The following paragraph has been added immediately following the first paragraph in Section 11.

Each individual performance indicator is presented in a table. The performance indicator and the MSC defined 60, 80 and 100 scoring guideposts are presented. The weighting that the performance indicator has within the specific level of the assessment tree, as defined by the MSC FAMv1, is noted. The numerical score in the last cell of the second row is the score that has been awarded by the assessment team. The lower cell of each performance indicator table provides two types of information. The first

paragraph(s) are denoted as “Client” information. This is a direct copy of information that the client has provided as evidence to demonstrate their compliance to that specific performance indicator. Neither the Certification Body, nor the assessment team, have modified that information. The second category of information in the lower portion of that cell is denoted as “Scoring rationale”. This is information which has been provided by the assessment team to demonstrate the rationale and the supporting evidence used to award the score for that performance indicator.

22	Guidance				Pg 110	PI 2.1.1: 'Retained species' should be changed to 'main retained species' in first sentence of 'Scoring Rationale'.
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MML Response: Text has been edited as suggested.

23	Guidance					Conditions: It should be clarified in the conditions, client action plan, and scoring rationales where work is already underway within ICCAT to meet these conditions (e.g. limit reference points). While this is currently implicit in places throughout the report, clearer statements would be beneficial.
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MML Response: Text has been edited as suggested.

This report is provided for action by the Certification Body and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all Certification Bodies work products and this review should not be considered a checking service. If any clarification is required, please contact Maylynn Nunn on +44 20 7811 3338 for more information.

Regards,



Maylynn Nunn

Senior Fishery Certification Manager
Standards and Licensing Department

cc: Accreditation Services International