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Dear Ian:

Thank you for the opportunity to submit written comments as a follow up to our in-person meeting about the possible Marine Stewardship Council (MSC) certification of up to 24 U.S. Atlantic gillnet, longline, and trawl fisheries for spiny dogfish (*Squalus acanthias*).

As discussed, many of my colleagues and I are concerned that the following factors associated with these dogfish fisheries make them exceptionally poor choices for the reward of an ecolabel, especially given the MSC's stated commitment to "never compromise on environmental standards":

- Species' inherent vulnerability (slow growth, lengthy gestation, few young)
- Practice of targeting schools of pregnant females (the largest individuals)
- Recruitment failure in the not too distant past due to serious, long-term overfishing
- Predicted decline in target population starting this year
- Truncated age structure
- Skewed sex ratio (significantly more males than females)
- Yet un-quantified effects of reduced size of reproductive females
- Bycatch of protected, prohibited, and overfished species
- Damage to habitat and/or discarded animals
- Disjointed state/Federal management plans
- Federal quota overages in three of past five years
- Lack of coordination with respect to Canadian fishery on same population
- History of industry pressing for catch limits that exceed scientific advice
- Internationally recognized failure of managers to heed scientific advice
- Lack of a Federal rebuilding target
- Considerable uncertainty

Details regarding these factors and related concerns are offered below according to the MSC categories associated with **population health, bycatch issues, and management reliability**.

## HEALTH OF TARGET POPULATION

### **Inherent vulnerability**

Spiny dogfish are exceptionally susceptible to overfishing, even when compared to other sharks. This species' aggregating habit, late maturity, low reproductive capacity, long generation time, and extremely low intrinsic rate of population increase make it one of the world's most vulnerable, commercial fish species. In the Northwest Atlantic, female spiny dogfish do not begin to reproduce until after age 12 and then give birth to only 2-9 pups after a record-long, two-year gestation.

The Food and Agriculture Organization (FAO) of the United Nations convened technical consultations in 2000 and 2001 to examine the resilience and extinction risk of marine fish in order to suggest listing criteria for the Convention on International Trade in Endangered Species (CITES). Expert participants found that long-lived, late-maturing species are at a relatively high risk of extinction from exploitation, and that life history characteristics, especially productivity, were key factors in extinction risk, and that the most vulnerable species are those with an intrinsic rate of population increase of less than 0.14 and a generation time of greater than 10 years (FAO 2001). Spiny dogfish fit within these parameters of exceptional vulnerability (the lowest productivity category for commercially exploited aquatic species).

The FAO report also highlighted other risk factors that hamper sustainability, including selectivity of removals; age, size or stage structure of a population; social structure, including sex ratio; and vulnerability at different life stages. All of these risk factors apply to spiny dogfish, which aggregate in schools of pregnant females that can be easily targeted.

### **Biomass**

I assume that you are well aware of the widely reported "rebuilt" status of U.S. Atlantic spiny dogfish as well as the 2010 report on the species status from the Transboundary Resources Assessment Committee (TRAC) (from which we draw many of the following points).

It seems worth noting that the latest estimates of Northwest Atlantic spiny dogfish biomass are only slightly above the Atlantic States Marine Fisheries Commission (ASMFC) biomass target. More important, it is essential to recognize that ***the population is predicted to decline between 2011 and 2017*** as a result of record low recruitment from 1997-2003. After 2017, ***mature female biomass recovery is dependent on recruitment improving despite decreased female size and a skewed sex ratio.***

Given that the MSC considers the level of uncertainty associated with population assessment, we note that the TRAC meeting participants were not able to reach consensus regarding the spiny dogfish population assessment.

## **Recruitment**

The TRAC report underscores that spiny dogfish fecundity is low and highlights that recent recruitment, while improved since 2003, has been lower than expected. Scientists point to decreased maternal size and skewed sex ratio as possible reasons, but questions remain.

## **Size Structure**

Scientists report marked declines in abundance of large (60+cm) dogfish, a pronounced, consistent decline in the average length of mature females (1992-early 2000s), and a resulting decline in average pup size. Pup survival is thought to decrease with size.

## **Sex Ratio**

The ratio of mature male to mature female dogfish has fluctuated since 1993 and, while improved, remains skewed. The lack of direct evidence for demonstrating a resulting negative effect on reproductive output should raise more concern with respect to uncertainty of projections and should underscore the need for a precautionary approach.

## **Limit and reference points**

It appears that there is still no agreed biomass target under the Federal Spiny Dogfish Fishery Management Plan (FMP) as the original target was disapproved in 2000. Such a long-term, significant oversight does little to signal that maintaining appropriate spiny dogfish reference points is a priority for fishery managers.

## **Additional Uncertainty**

Documents associated with the September 2010 meeting of the Spiny Dogfish Monitoring Committee reflect considerable uncertainty with respect to dogfish discards and Canadian fisheries and yet the buffer incorporated into the landings limit is described as “small.”

## **IMPACTS ON THE ECOSYSTEM**

### **Bycatch**

The MSC standards promote fisheries that do not pose risk of serious harm to recovery of retained and bycatch species. The MSC highlights the need for precautionary strategies to protect Endangered, Threatened, or Protected Species (ETPs) and monitor related impacts.

As you are aware, the Humane Society of the United States has documented serious issues with respect to Atlantic gillnet fishery bycatch of:

- right whales (*Eubalaena glacialis*)
- humpback whales (*Megaptera novaeangliae*)
- harbor porpoises (*Phocoena phocoena*), and
- bottlenose dolphins (*Tursiops truncatus*).

We urge you to take special note and consideration of this compelling cause for alarm stemming from some of the fisheries seeking certification.

In addition, the 2005 NMFS Bycatch Priorities and Implementation Plan for the Northeast Region reports that Mid-Atlantic dogfish gillnet fisheries have bycatch of:

- pilot whale (*Globicephala spp.*)
- common dolphin (*Delphinus spp.*), and
- sea turtles (species undetermined).

As we discussed, spiny dogfish fisheries, depending on the region, take numerous prohibited fish species as bycatch, including:

- thorny skate (*Amblyraja radiata*)
- barndoor skate (*Dipturus laevis*)
- smooth skate (*Malacoraja senta*)
- dusky shark (*Carcharhinus obscurus*)
- sand tiger shark (*Carcharias taurus*)
- sandbar shark (*Carcharhinus plumbeus*), and
- bigeye thresher shark (*Alopias superciliosus*)

Some Atlantic spiny dogfish fisheries are also likely taking as bycatch the following species included on the National Marine Fisheries Service (NMFS) Species of Concern list:

- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) \*proposed under Endangered Species Act
- Atlantic halibut (*Hippoglossus hippoglossus*)
- Atlantic wolffish (*Anarhichas lupus*)
- cusk (*Brosme brosme*)

Atlantic dogfish fisheries take additional overfished groundfish species as bycatch.

The fate of animals, particularly fish species, discarded in these fisheries is generally not well studied or documented.

### **Habitat**

As we discussed, there is widespread concern among the conservation and science communities with respect to damage to vulnerable benthic habitat from the use of bottom trawl gear. Trawls, gillnets, and longlines have the potential to break free and entangle marine wildlife and/or contribute to marine pollution.

## **RELIABILITY OF MANAGEMENT SYSTEM**

Given that spiny dogfish fisheries occur in U.S. state, Federal, and Canadian waters and are fishing essentially the same population, the lack of bi-lateral management as well as the loose connection between the state and Federal management plans is cause for great concern, as are the past decisions made by key management bodies.

As we discussed, I witnessed for many years repeated failures by the Atlantic States Marine Fisheries Commission (ASMFC) with respect to heeding scientific advice for spiny dogfish limits. In at least one case, managers adopted limits that had not been evaluated by their own technical committee, despite agreed procedures for such review. Indeed, the ASMFC became internationally notorious for such irresponsible actions; a 2007 FAO expert report noted the serious fisheries management failure and lack of coordination between Federal and state fishery management plans for the US Atlantic population, and called for “a closer alignment between management measures and scientific advice” (FAO 2007). Whereas the most recent spiny dogfish limits set by the ASMFC have been in line with scientific recommendations, it is important to note that in these cases advice has allowed for substantial increases in fishing. At the ASMFC level, there have been no fundamental changes to provide assurance that excessive limits would not again become the norm if/when scientists call for dogfish catch reductions.

As a result of the disconnect between Atlantic state and NMFS regulations, the Federal Atlantic spiny dogfish quota has been substantially exceeded in three of the last five years (156%, 146%, 204% taken by the end of April 2007, 2008, and 2009, respectively).

The New England Fishery Management Council (NEFMC) also has a problematic record with respect to following scientific advice for dogfish limits. As recently as 2009, the NEFMC rejected the Monitoring Committee advice (12 million lbs) and instead employed an alternative fishing mortality rate to derive a much higher quota of more than 20 million lbs.

Reckless dogfish quota decisions have of course been driven in large part by vocal representatives of the dogfish fishing industry whose advocacy for higher than advised fishing limits is well documented in the public record since the late 1990s. Associated fishermen have united to fight science-based dogfish catch limits, promote woefully outdated (1953) accounts of the dogfish diet, fund alternative scientific accounts of stock status and feeding habits, and disparage conservationists’ efforts. One has to question if such behavior is in line with the MSC’s laudable goal of “rewarding sustainable fishing practices.”

Whereas the dogfish quota setting records of the Mid-Atlantic Fishery Management Council and the NMFS have been consistently sound, and implementation of U.S. fisheries law amendments now provides for increased accountability in related processes, the ability for the ASMFC to set dogfish fishing limits that exceed those for Federal waters remains a serious

threat to dogfish sustainability, particularly if interest in the fishery were to resurge. Similar arguments can be made with respect to Canadian dogfish limits which have been based on catch history, not scientific assessment. Because of this lack of coordination, the MSC goals of “well defined and effective control rules” are not met.

## **CONCLUSION**

Whereas the biomass of Northwest Atlantic spiny dogfish has been increasing due to management and has recently exceeded the target level, this population cannot be considered healthy nor can the “harvest strategy” be considered “robust and precautionary” as prescribed in certain MSC criteria.

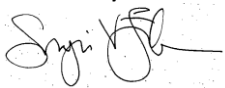
Egregious overfishing of Northwest Atlantic spiny dogfish -- focused on pregnant females, driven by industry pressure, and allowed by the fishery management process -- led to nearly a decade of recruitment failure of which all the negative effects have yet to be realized. The population remains in a precarious state, suffering from a truncated age structure, a skewed sex ratio, and decreased pup production, and is predicted to decline in the near future to well below target levels. Renewed recovery is predicated on good recruitment and associated timeframes are highly uncertain. Protection of sub-adult and mature females, by minimizing directed fishing, remains prudent. A precautionary approach, appropriate for such slow growing animals and called for by the MSC, cannot be assured through the current, disjointed management framework, particularly when under pressure from increased demand.

Ecolabels for Northwest Atlantic spiny dogfish will serve to encourage targeted fishing on the segment of the population (mature females) that is most crucial for population recovery.

**Given all of these factors as they compare to MSC standards, I cannot see how MSC certification is advisable or warranted for any of the applicant spiny dogfish fisheries.**

Thank you for your consideration. I look forward to the next steps in this process.

Sincerely,



Sonja V. Fordham  
President

### Literature Cited:

FAO. 2001. Report of the second technical consultation of the CITES criteria for listing commercially exploited aquatic species. *FAO Fisheries Report* No. 667. FAO, Rome.

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