



Joint Industry Response on Arctic Cod Bycatch Management Measures and Establishing Revised Conditions of License (COL)

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Introduction

This paper outlines a joint industry position, as agreed by the Nunavut Fisheries Association (NFA), Canadian Association of Prawn Producers (CAPP), and Northern Coalition (NC), with respect to DFO's request for input on the establishment of revised Conditions of License (COL) with respect to Arctic cod and groundfish bycatch in the northern Canadian shrimp fishery. Combined, NFA, CAPP and NC represent 100% of the active players in the shrimp fishery in the areas of interest, i.e. Shrimp Fishing Area (SFA) 1, the Eastern Assessment Zone (EAZ), and the Western Assessment Zone (WAZ).

Fisheries and Oceans Canada (DFO) has initiated consultations on a longer-term management approach for Arctic cod bycatch in SFA1, EAZ and WAZ, inclusive of the distribution of a Discussion Paper on January 2, 2020 and the holding of a conference call with stakeholders on January 7, 2020. CSAS Research Document 2019/073, from the July 2019 peer review process, has subsequently been made available to stakeholders.

Since 2017, amendments have been made to COLs in both SFA 1 and the WAZ to address bycatch levels of Arctic cod over the established COL for groundfish (in any haul exceed the greater of 2.5 percent by weight of the catch of shrimp or 100 kg). For SFA 1 since 2017 the COL has been changed to "total by-catches of all groundfish species exceed 10% by weight of the catch of shrimp over the previous six tows". In WAZ, for both the 2018/19 and 2019/20 seasons the COL was adjusted to "if total by-catches of Arctic Cod exceed the greater of 5 percent by weight of the catch of shrimp or 200 kg, averaged over the previous six tows".

DFO has requested input and recommendations from stakeholders with respect to the following variables for the COL: management unit affected, species included in the COL, bycatch limit, and number of tows (hauls). The following pages outline industry's recommendations on these variables for the COL, preceded by industry's concerns regarding what it views as overstatement of the potential impacts of Arctic cod bycatch.

Impact of Arctic Cod Bycatch

It is the position of industry that the past, current and potential level of Arctic cod bycatch under any of the proposed scenarios is small enough to have minimal impact on this resource. As such, none of the proposed scenarios would have a significant impact on the sustainability of the species.

DFO science identifies Arctic cod as a ubiquitous species occurring in a wide range of habitats in the Arctic, as seasonal migrants that can be found in large aggregations in both nearshore and offshore areas. It is also recognized that Arctic cod plays a pivotal role in the marine ecosystem, providing food for numerous species of seabirds, marine mammals, and fishes. Based on an energetic analysis DFO science estimates that 500,000 t to 1,000,000 t of Arctic cod are utilized annually by higher trophic level predators (whales, seals, birds, fishes), indicating that the actual biomass must be much higher.

Although DFO identifies Arctic cod as having a pivotal role in the ecosystem, the population status of this species is not formally assessed, and available data is collected through at-sea observers and fishery logbooks. This data was provided in graphical format in the Discussion Paper and indicates that the for the three areas in question combined the level of bycatch has been at most around 150 t (early 1990s and 2004). Data provided for more recent years indicates that the bycatch has been even lower, at no more than 75 t over the past couple of years (even with the adjusted COLs in SFA 1 and the WAZ). Based on the average shrimp catch of 15,397 tons over the period 2007 – 2017, peak Arctic Cod bycatch levels of 150 tons place bycatch levels at only about 1 percent of the directed fishery.

In the CSAS Research Document, the following is stated: “Considering the relatively small total mortality (less than 0.1% of the stock annually as proposed above based on predators’ requirements) of Arctic Cod stemming from the Eastern Canadian Arctic shrimp fishery, it can be assumed that the impact of shrimp trawling on the Arctic Cod population is minimal. It should also be noted that the Arctic Cod bycatch is not retained by fishing vessels and gets discarded, thus, the biomass is not removed from the ecosystem.”. On the January 7th conference call DFO indicated that Arctic cod bycatch in the past has not exceeded 0.01% of the estimated predator consumption, an extremely low level. In the discussion it was pointed out that even if the predator consumption estimates are off by a factor of 10, the bycatch would be at most 0.1% of predator consumption, which DFO agreed should not be considered a level for concern.

For the fishing industry, the history of encountering relatively elevated levels of Arctic cod bycatch can at best be referred to as spotty, especially in SFA 1 and the EAZ which have a longer history of fishing than the WAZ. Industry notes that even these minor elevations in Arctic Cod bycatch were demonstrated to be episodic and that no adverse effects on the stock or predators were noted. Additionally, industry experience in the WAZ has indicated that Arctic cod bycatch levels can be higher when the fishery starts in that area but that the bycatch drops off to minimal levels later in the season. The facts of the actual bycatch show that Arctic cod bycatch is extremely low and should not be an issue of concern.

COL Recommendations

NFA, CAPP and NC have consulted with their members and provide the following joint recommendations on the issues identified by DFO:

- *Management Unit:* To have the same COL for each of the impacted management units, i.e. SFA 1, EAZ, and WAZ, subject to ensuring that each area has an adequate bycatch level;
- *Species:* A separate COL to be implemented for each of Arctic cod and other groundfish;
- *Bycatch Limit:*
 - For Arctic cod: the greater of 200 kg or 10% of shrimp weight;
 - For Other Groundfish: the greater of 100 kg or 2.5% of shrimp weight;
- *Number of Tows (Hauls):* Each limit to be calculated based on averaging results over the most recent six tows

In addition, although bycatch levels to date have been extremely low, to mitigate concerns that may arise if bycatch levels demonstrate a significant increase, industry is suggesting that a clause be added to the IFMP with an annual threshold of 1,000t on total Arctic cod bycatch that would trigger a review of the COL for the following year. For example, if the total Arctic cod bycatch in the three areas exceeds 1,000 t or 500 t in any one area, the COL will be subject to review for the following year. This will ensure that the total bycatch remains at levels that should not impact on the overall availability of Arctic cod for predator consumption (1,000/500,000 or 0.2%) and provide for the level of caution recommended by DFO. Note as well that 1,000 tons of Arctic Cod bycatch, roughly ten times historic levels, would still constitute less than 6.5% of the directed fishery.