

## Herring Bait Usage in the 3Ps Cod Longline and Handline Fisheries 2017/18 – 2018/19

MSC Fisheries Standard v2.01 requires that assessment teams “consider species used as bait in the UoA, whether they were caught by the UoA or purchased from elsewhere, as either primary or secondary species”.

Further, MSC notes “Bait species should be subject to the same Main filters as other species. When bait species are purchased from outside the UoA, the calculation of Main is still in relation to the volumes of total catch of the UoA, not the volumes of total weight from the fishery that the bait is purchased from. The latter volumes could, however, be used as part of the rationale as to whether or not the amount of bait purchased by the UoA is hindering/not hindering recovery of the bait-stock. This also means that if bait is purchased and it is main, teams need to assess the management and information PIs for the bait fishery for all scoring issues at the SG 60 and 80 levels. Although this might present a challenge in some cases, the MSC expectations are that all aspects of the fishery need to be sustainable, which include bait. Therefore, rationale needs to be presented that even purchased bait comes from well-managed and healthy stocks.”

The NAFO 3Ps Atlantic cod fishery is conducted by both fixed (gillnet, longline, handline) and mobile (otter trawl) gears. The fishery is open from mid-May through to end of February, with fleet sectors managed based on quota allocations of the overall 3Ps Atlantic cod TAC less portions issued to France (as part of the Canada-France Procès Verbal), amounts for undertaking of the Sentinel Fishery survey and to First Nations. In a broad sense, the remaining Canadian portion of the TAC are distributed in annual quota allocations to the various fleet sectors, roughly 23% to the mobile gear sectors and 77% to the fixed gear sectors. Approximately 91% of the fixed gear sector allocation is provided to the <65 foot vessel inshore sectors including the inshore <35' sector and the nearshore 35 – 65' sector with the remainder going to the mid-shore, 65 – 100ft sector<sup>1</sup>. In recent years (2015 – 2018), there have been between 330 and 350 active inshore/ nearshore fleet harvesters<sup>2</sup>. For the 2017/18 and 2018/19 fisheries, the <35' sector accounted for approximately 70% of fishing activity while the 35 – 65' sector accounted for the remaining 30%<sup>3</sup>.

On average, approximately 85% of the fixed gear catch is landed by harvesters who reported using non-baited gillnets, while longline was responsible for approximately 8% and handline approximately 7% of the landings<sup>4</sup>. Two important cod buyers and processors in the 3Ps area, Icewater Seafoods and Ocean

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<sup>1</sup> DFO Resource Management, 2020. Presentation to January 2020 3Ps Groundfish Advisory Committee.

<sup>2</sup> DFO Resource Management, 2019. Presentation to January 2019 3Ps Groundfish Advisory Committee.

<sup>3</sup> 21 August 2020. Pers Comm. Paul Glavine, DFO NL Policy and Economics Branch.

<sup>4</sup> 14 February 2020. Email. Gillian Janes, DFO NL Policy and Economics Branch.

Choice International, have both confirmed that to their knowledge there are no vessels in the 35 – 65' category fishing with longline

Under DFO Conditions of License, harvesters are able to deploy multiple fixed gears during their fishing trips. The predominant fishery is the gillnet fishery although some gillnet harvesters (and some longline harvesters) will use handlines either manually or with an autoline while the other gears are soaking during the day.

Bait used is effectively only herring. There is a commercial herring fishery conducted in the waters around Newfoundland. Landings from the commercial fishery were 21,303mt in 2017 (which would have supplied 2018/19 3Ps cod fishery) and 14,167mt in 2018<sup>5</sup>. There is also a personal-use bait fishery where harvesters can apply for licences to catch and preserve herring for use as bait in other fisheries (e.g. lobster (vast majority) and groundfish). DFO requires completion of a Herring Bait Fishery Logbook (mandatory in 2017) and also conducts an annual bait fishing phone survey. DFO herring biologist has indicated that the majority of herring bait is used in the lobster fishery. In the 3Ps area there are 50 – 70 active herring bait licenses, with approximately 40% of total personal-use herring bait landings occurring in the St. Mary's Bay area. Herring is also supplied from other commercial herring fisheries conducted on the northeastern (NAFO 3KL) and western (NAFO 4R) regions of Newfoundland<sup>6</sup>

To ascertain the information on bait use, AGC spoke with inshore licence holders (3), bait supply companies (2), wharf buyers (2) and processing company representatives (2) who participate directly in the 3Ps cod fishery or supply bait to harvesters. All parties were clear that there is comparatively little longlining or handlining done in the fishery and that while handlining may occur throughout the season, during soak times for other gears, longlining is typically done in the fall after fish have started to disperse into deeper (further) waters. All harvesters interviewed during this process indicated that handlining is now done almost exclusively with artificial feather hooks and not baited. However, for the purposes of this bait analysis, a maximum amount of 2% of the ~7% of landings during the two-year period were assumed to be baited with herring.

The inshore <35' fishery is strictly a day boat fishery, gear must be returned with harvesters when landing. Interviewed harvesters indicated that between 4 - 8 tubs of gear may be fished in a day (dependent on boat/ crew size). Tubs traditionally contain 7 lines with 50 hooks/line (350 hooks) and an average of 15kg (33lbs) herring used per tub.

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<sup>5</sup> DFO Atlantic Commercial Landing Quantities: <https://www.dfo-mpo.gc.ca/stats/commercial/land-debarq/sea-maritimes/s2017aq-eng.htm>

<sup>6</sup> March 2017. Pers Comm. Christine Bourne, DFO NL Science Branch.

A practical estimate range of bait usage was calculated in the following manner:

1. Actual proportions of longline (6 and 8%) and 2% handline landings for the 2017/18 and 2018/19 fisheries were calculated from the total fixed gear landings, (see footnote 4).
2. Using the total baited landings, converted to pounds, the total number of trips per year was calculated if a low of 1,500lbs of cod per trip were landed to a high of 2,500lbs (keeping in mind these are <35' vessels).
3. Bait usage was calculate assuming 15kg of bait per tub was used for a low of 4 tubs set per day and a high of 8 tubs per day.
4. Four different scenarios were tested for each fishing year to calculate a range of bait usage estimates. The four scenarios included if the total annual catch was caught by harvesters using 4 tubs of gear to catch either (a) 1,500lbs or (b) 2,500lb per day; or if 8 tubs of gear was used to catch (c) 1,500lbs or (d) 2,500lbs per day.

<b>Bait Estimation Variables.</b>	<b>2017/18</b>	<b>2018/19</b>
3Ps Fixed Gear Landings (mt)	4,090	3,846
Proportion of Catch by Baited Longline (%)	6	8
Proportion of Catch by Baited Handline (%)	2	2
Proportion of total FG landings caught with Bait (mt)	327	385
Proportion of total FG landings caught with Bait (lbs)	721,345	847,889
Number of trips if landing 1,500lbs	481	565
Number of trips if landing 2,500lbs	289	339
Bait used (kg) if fishing 4 tubs @ 15kg/tub	60	60
Bait used (kg) if fishing 8 tubs @ 15kg/tub	120	120
<b>Estimate Scenarios to land annual total catch of baited fixed gear fishery.</b>		
Bait used (mt) fishing 4 tubs/trip, landing 1,500lbs/trip	29	34
Bait used (mt) fishing 4 tubs/trip, landing 2,500lbs/trip	17	20
Bait used (mt) fishing 8 tubs/trip, landing 1,500lbs/trip	58	68
Bait used (mt) fishing 8 tubs/trip, landing 2,500lbs/trip	35	41

For the period of the 2017/ 18 and 2018/19 seasons, bait use in 3Ps cod longline/ handline fisheries varied from a low estimate (for <35' vessels setting 4 tubs of gear per day and landing 2,500lbs/trip) of 17mt of herring to a high estimate (for <35' vessels setting 8 tubs of gear per day and landing 1,500lbs/trip) of 68mt of herring per year.

<b>Proportion (%) of NL herring commercial landings used for 3Ps cod baited fixed gear fisheries</b>	<b>2017 (Rpt'd Landings)</b>	<b>2018 (Rpt'd Landings)</b>
Reported NL Commercial Landings (mt)	21,303	14,167
Proportion (%) of NL herring commercial landings used fishing 4 tubs/trip and landing 2,500lbs/trip from	0.08%	0.14%
Proportion (%) of NL herring commercial landings used fishing 8 tubs/trip and landing 1,500lbs/trip	0.27%	0.48%

This accounts for a low estimate of <0.1% to high estimate of 0.5% of the commercial herring landings in Newfoundland (which do not include the approximately 600mt (2017) and 200mt (2018) of personal-use herring bait harvested in 3Ps.

Based on the analysis presented herein, AGC concludes that the volumes of herring bait used in the 3Ps longline and handline fisheries would likely meet the MSC requirements for consideration as a main (5%) primary species. Further, with the high estimate range of bait usage <0.5% of the legally permitted commercial landings, we conclude that bait usage in the 3Ps cod fishery is not hindering recover or rebuilding of herring in Newfoundland.