

Canada 3Ps Cod FIP - Bycatch and ETP Information

Background

Conditions were raised during the 2016 MSC Certification Assessment of the 3Ps cod fishery in relation to Principle 2 information performance indicators for bycatch (PI 2.2.3) and ETP species (PI 2.3.3). In short, the assessment team determined that information from the fixed gear units of certification was not sufficient to estimate outcome status with respect to biologically based limits for main bycatch species nor adequate to support a partial strategy to management main bycatch species (PI 2.2.3). For this PI, the assessment team further noted:

‘The observer coverage figure of 1.5% of the landings for the fixed gear UoCs is low, and it is not possible to confirm that the bycatch data for UoCs 1, 2 and 3 are representative of each component of the 3Ps cod fishery as a whole. It is also not clear that the data are collected sufficiently frequently to support the partial strategy to manage bycatch in its entirety, which includes closing areas for the season in the event that the small fish or incidental catch protocols are breached more than twice in a season.’

For ETP species in all units of certification including otter trawl, similar conditions were raised including that, insufficient information was available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species; and Information was insufficient to measure trends and support a full strategy to manage impacts on ETP species (PI 2.3.3). The team also noted:

‘The available information on interactions between ETP species and the 3Ps cod fisher comes from observer records, SARA logbooks, the sentinel fishery logs and from non-fishery observations (observer networks, strandings data, etc.). None of these data sources appear to be sufficiently comprehensive to meet the requirement for the impact of fishing to be quantitatively estimated. These data do provide indices of interactions over time, sufficient to support measures to manage the impacts on ETP species, but not to measure trends and support a full strategy to manage impacts on ETP species.’

Subsequent to self-suspension of the MSC certificate, these conditions were translated into a FIP action item (Ensure bycatch information is sufficient to estimate outcome status of bycatch and ETP species.) with the stated objective to develop a plan to address bycatch and ETP species data concerns in 3Ps cod fishery.

The action plan to evaluate the current information collection focused on confirming where fleets fished, whether the at-sea observer coverage from the 35 – 65’ sector would be representative of where the <35’ sector fished and maintaining all current data information streams including at-sea observer coverage, mandatory catch reporting and verification, mandatory Species at Risk (SARA) or ETP species reporting.

Fixed Gear Bycatch Monitoring Requirements

Bycatch monitoring is achieved in a number of different ways within the 3Ps cod fishery. The annual Conservation Harvest Plan for the NAFO sub-division 3Ps groundfish fisheries describes the management

measures in place for each year by gear type (fixed and mobile) as applicable to the administrative fleet sectors. The plan describes how catch is monitored on the water and at dockside, as well as defines the reporting requirements.

Regulated measures relative to bycatch species management includes:

Dockside Monitoring Requirements:

- All Groundfish species except Lumpfish are subject to Dockside Monitoring of landings in accordance with DMP Schedule 01.

At-Sea Observer Requirements:

- Unless otherwise stated, industry-funded observer coverage is required. The target level of coverage is 5% of the fleet sector.

Fishing Restrictions:

- Once the amount of cod in the fish harvester's IQ has been taken, from any fishery whether directed or by-catch, the fish harvester must cease fishing for all species of groundfish in 3Ps.

Incidental Catch

For the purposes of this CHP, the following definitions apply to incidental catch provisions:

- Directed catch means the authorized species or combination of species authorized to be taken by the fisher at a time, in an area and/or by a means that is authorized in Species Specific Licence Conditions.
- Incidental catch means the catch retained on board of any species other than a directed species as defined above.
- Unless otherwise stated, incidental catch restrictions are always expressed as daily limits (00:01 hours to 24:00 hours local time) *and calculated using round weights*.
- Unless otherwise stated, incidental catch restrictions expressed as a percentage are always calculated as a percentage of the round weight of the directed species retained onboard.

The following provisions apply to all Groundfish fisheries in NAFO sub-Division 3Ps:

1. When directing for any authorized Groundfish species or combination of species, incidental catch shall not exceed 10% of the directed species retained onboard or 200 pounds whichever is greater, unless otherwise specified below or in a species-specific provision.
2. The incidental catch of Pollock shall not exceed either the weight of the directed species retained onboard or 20,000 pounds weekly, whichever is greater.
3. The incidental catch of American plaice shall not exceed 10% or 1,000 pounds, whichever is greater.
4. The incidental catch of Haddock shall not exceed 20% or 2,000 pounds, whichever is greater.
5. The incidental catch of Redfish, when the directed Redfish fishery is closed, shall not exceed 10% or 1,000 pounds, whichever is greater.

6. An incidental catch of Shark is authorized per trip, with the exception of Shortfin mako shark and white shark. The incidental catch must not exceed 10% of the total weight of the authorized Groundfish onboard your vessel, to a maximum of 500 kilograms (1,100 pounds). The fins must not be removed from any shark until after it is offloaded from the vessel.
7. The incidental catch of Atlantic (Striped) wolffish shall not exceed 10% of the directed species retained onboard or 200 pounds, whichever is greater.
8. There is no limit on the incidental catch of Hake in the directed gillnet fisheries for Cod and Redfish.
9. The incidental catch of Witch flounder shall not exceed 10% of the directed species retained on board or 1,000 pounds, whichever is greater.
10. The retention or possession of any Atlantic halibut (dead or alive) is not permitted, unless harvesters are otherwise authorized to retain. When authorized, the incidental catch of Atlantic halibut in unit areas 3Ps (a) (b) and (c) shall not exceed 3% up to a maximum of 200 pounds, and in 3Ps (d) (e) (f) (g) and (h) shall not exceed 3% up to a maximum of 1500 pounds per trip.

Where there are widespread incidental catch concerns in a directed fishery, an area or portions thereof may be closed to the fleet sector.

Release Of Incidentally Caught Species

1. All Atlantic halibut less than 81cm must be released to the place from which it was taken.
2. Dogfish and Lumpfish may be returned to the water immediately, dead or alive.
3. Live Winter flounder less than 25cm and American plaice less than 20cm in length may be returned to the water immediately.
4. The retention of Shortfin mako shark is not permitted.
5. Under the *Species at Risk Act*, any incidentally caught Northern wolffish, Spotted wolffish, Leatherback turtle, and White shark must be released to the place from which it was taken and, where it is alive, in a manner that causes the least harm. The license holder or vessel operator must also complete the SARA section in the fishing logbook to provide information regarding interaction with species at risk, including: the position (latitude and longitude) at time of catch, the quantity, weight, and condition (alive or dead).

Species Specific Provisions – Cod General

In addition to the provisions outlined for all Groundfish fisheries, the following applies to the Cod fishery in 3Ps.

FISHING GEAR

Cod Traps:

- Cod traps - a maximum of 2 per enterprise may be fished for those licensed to fish cod traps;
- Mesh sizes: minimum 3 1/2-inches mesh size is authorized throughout the trap and a minimum 7 inches mesh size is authorized in the leader.

- Cod traps will be set a minimum of 3 meters (1.64 fathoms) below the surface; OR cod traps will have salmon deflectors attached, as follows:
- Each trap will be rigged with two, 178mm (7-inch) mesh deflectors and each deflector will be a minimum of 20 meshes deep (hung depth 1.64 fathoms).
- The hung length of each deflector will be 1.5 times the distance from the trap front corner to the leader. One end of each deflector will be attached to the top front corners of the trap and the other end attached to the leader head rope so that each deflector is taut.
- Each deflector will have floats on the head rope and leads or lead rope on the footrope.
- One end of the deflector skirt line is to be attached 20 meshes down the leader, while the skirt line on the other end of the deflector will be attached 3 metres (1.64 fathoms) down the trap front corners.

Gillnets:

- A minimum of 5 1/2 inch (140 mm) mesh size to a maximum 6 1/2 inch (165 mm) mesh size is authorized to be used;
- Each gillnet is not permitted to exceed 50 fathoms in length.
- The maximum number of gillnets authorized to be used is as follows: 30 nets in 3Ps (a), (b), (c); 80 nets in 3Ps (d), (e), (f), (g), (h);
- In 3Ps (d), (e), (f), (g), and (h), all gillnets must be returned with the vessel at the end of each trip;
- Gillnets may not be left unattended in the water for more than 48 hours;

Hook and Line:

- The maximum number of hooks authorized on a longline is 4,000.
- A maximum of 6 baited or feathered hooks may be used on a handline.
- Jiggers and jigging are not authorized.

FISHING RESTRICTIONS

- For those with cod Individual Quota (IQ) licences, all cod caught, from any fishery, whether directed or by-catch will be charged against the IQ for that licence.
- Once the amount of cod in the fish harvester's IQ has been taken, the fish harvester must cease fishing for all species of groundfish in 3Ps.
- Fish harvesters are not authorized to fish cod in two NAFO divisions or sub-divisions (e.g. 3Ps, 3Pn or 3KL) during the same fishing trip or on the same day.
- The licence holder/operator is not permitted to fish in the French Maritime Area around Saint-Pierre and Miquelon unless a licence has been issued by France and DFO has authorized the licence holder/operator to conduct the fishing activity in the French Maritime area.

OTHER

- The minimum size for cod is 45 cm (18 inches).
- Areas will be closed for specified fleet sectors when the number of undersize cod reaches 15% of the catch.

- The cod trap fishery is susceptible to small fish. If necessary, the cod trap fishery will be closed to ensure that the overall catches of small fish in cod traps do not exceed 30%.

QUANTITY

Individual quotas issued to harvesters in 3Ps can be seen in Table 1.

Table 1: Individual Quotas by fleet sector in Areas 10 and 11. DFO 2020 FG CHP

Individual Quotas (3Ps Based) Fleet Sector	Area 10	Area 11
< 24’11”	10,382 lbs. (round weight)	10,382 lbs. (round weight)
25’- 39’11”	16,606 lbs. (round weight)	16,606 lbs. (round weight)
40’ – 64’11”	28,029 lbs. (round weight)	34,618 lbs. (round weight)

NOTE: The IQ amount has been reduced by 20% from the 2019-20 level and does not reflect an equal share of the current TAC.

Fixed Gear Fishing Locations

It is clear that there is a detailed catch monitoring program in place, that it is specific to the fixed gears used and is reflective of season, biology and other trigger species. For fixed gear, it is important to recognize both where the gear is used and the gear’s catchability for bycatch species.

AGC presented information relative to fishing effort locations in its FIP action related to fishing habitat impacts (MSC Pls 2.4.3).

In its habitat submission, AGC noted that fishing catch, effort and location data was provided by Fisheries and Oceans Canada (DFO) for approximately **half** the landings from the 3Ps cod fisheries, representing fishing log data from vessels greater than 35 feet. DFO has noted that there is no spatially-referenced fishing data required for the less than 35-foot fixed gear vessels which fish for Atlantic cod, primarily in the inshore area of the 3Ps subareas a-c habitat area (see Figure 1).

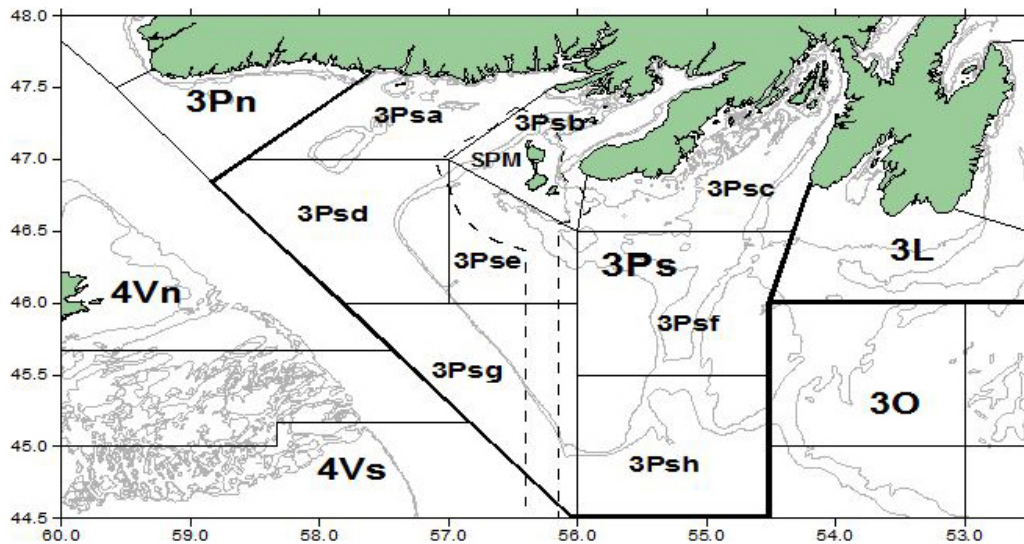


Figure 1: Map of NAFO Subareas within Subdivision 3Ps.

As seen in Figure 2, the main inshore fixed-gear fishing area is in Area 10 Placentia Bay (NAFO 3Psc) as represented by the solid green line which shows that since 2013 this area is responsible for 30 to 60% of the annual landings by all gears including otter trawl. Second most important inshore area is Area 11 Fortune Bay (NAFO 3Psb) represented by the solid red line. Landings over the same period ranged between 10 and 19%. Finally, inshore area NAFO 3Psa, represented by the solid black line, was responsible for <10% of total 3Ps cod landings in that period.

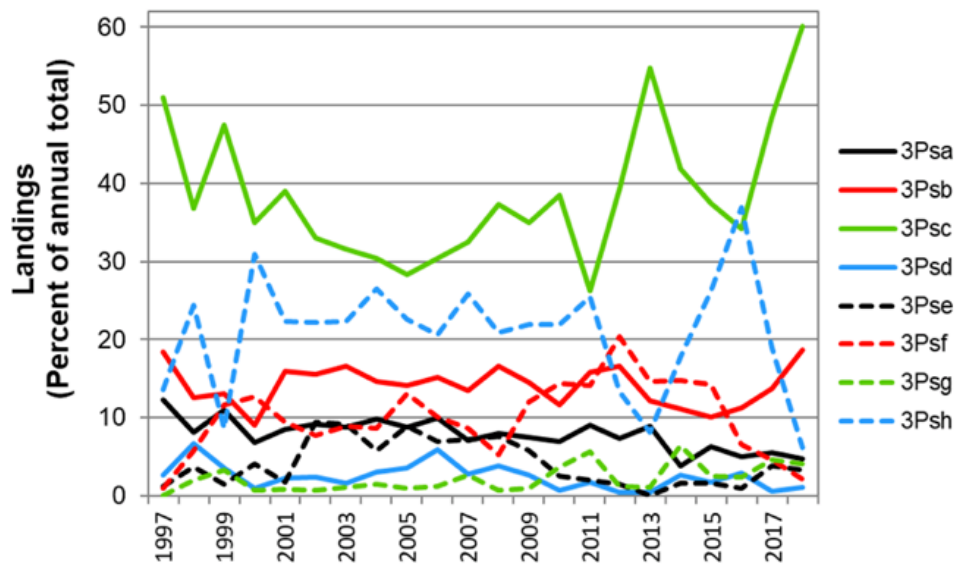


Figure 2: Proportion of landings by NAFO 3Ps subarea, 1997-2018. (DFO, 2019).

DFO have reported that over the 2014-2017 period, the proportion of the fixed gear 3Ps cod catch was about 51% from the <35' vessel sector and 49% from 35-65' sector within the <65' fixed gear fishery

(Pers. Comm. P. Glavine, DFO). Both the <35 and 35-64' fixed-gear fleets can fish cod in NAFO 3Ps subareas a-h (i.e. the <35 fishers are not limited to a-c and the 35-64' are not limited to d-h, subject to identified closure provisions and other area restrictions, however it is expected the majority of activity by <35 vessels would occur in a-c (Pers. Comm. S. Dwyer, DFO). This is due to smaller vessel capacity (to return with catch), lower number of gillnets permitted and vessel safety issues such as crew number and fuel capacity. This spatial partitioning of effort towards inshore areas is supported by the landings patterns in Figure 2.

Further, DFO have reported that for the 2014 – 2017 period, 80% of the inshore cod catch originated from gillnets while the other 20% originated from longline/ handlines.

This information is important in the context of reporting and analyzing bycatch information from the fishery. As there is no geo-location data available from the <35' vessels, it is imperative to understand whether the spatial data provided by the 35 – 65' vessels which are required to have VMS and are required to report fishing location, is representative of fishing effort from the <35' sector (and therefore representative of the same bycatch profile).

Since 2014, handlining and longlining cod catch have each represented roughly 10% or less of the overall cod catch, and by extension bycatch as well. Figure 3 displays the handline fishing effort registered to 35 – 65' fixed gear fishing vessels for the 2014-15, 2015-16 and 2016-17 seasons. It is clear that handlining takes exclusively within Placentia Bay (NAFO 3Psc) at the head of the bay as well as midway out along both eastern and western shores.

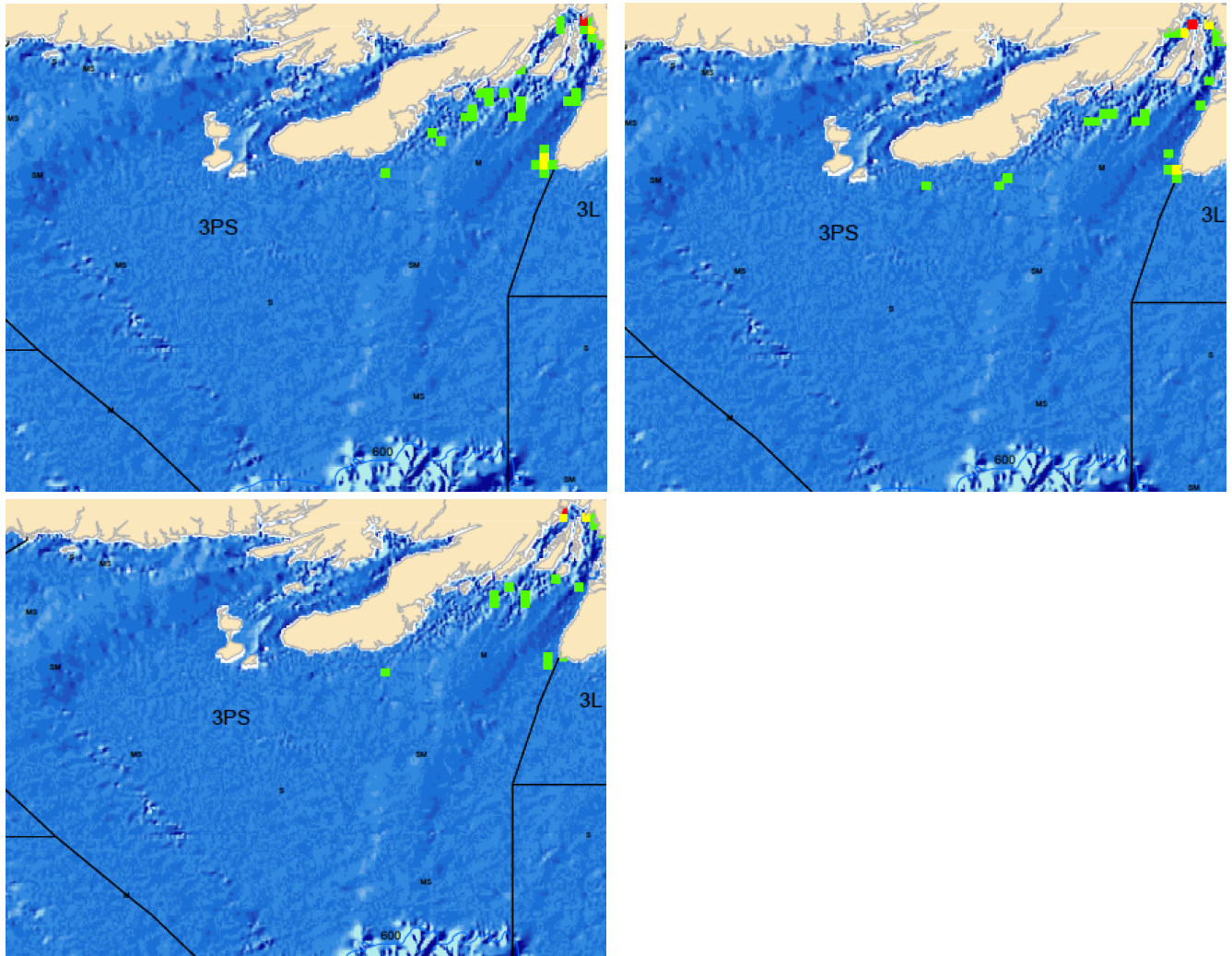


Figure 3: Handline fishing effort 2014-15 (upper left), 2015-16 (upper right), and 2016-17 (lower left).

As seen in Figure 4, longlining takes place both inshore in NAFO areas 3Psa – c and offshore in areas 3Psd-h. The majority of inshore longlining takes place in NAFO 3Psb (Fortune Bay), with some effort also in the other inshore areas. It is expected that <35' vessel activity would closely mirror this effort given the high level of gillnet fishing effort in Placentia Bay (3Psc). Traditionally, the longline fishery takes place primarily in the later summer/ early fall after the gillnet fishery declines as cod schools dissipate and move out of the bays after feeding on capelin and herring in the early summer.

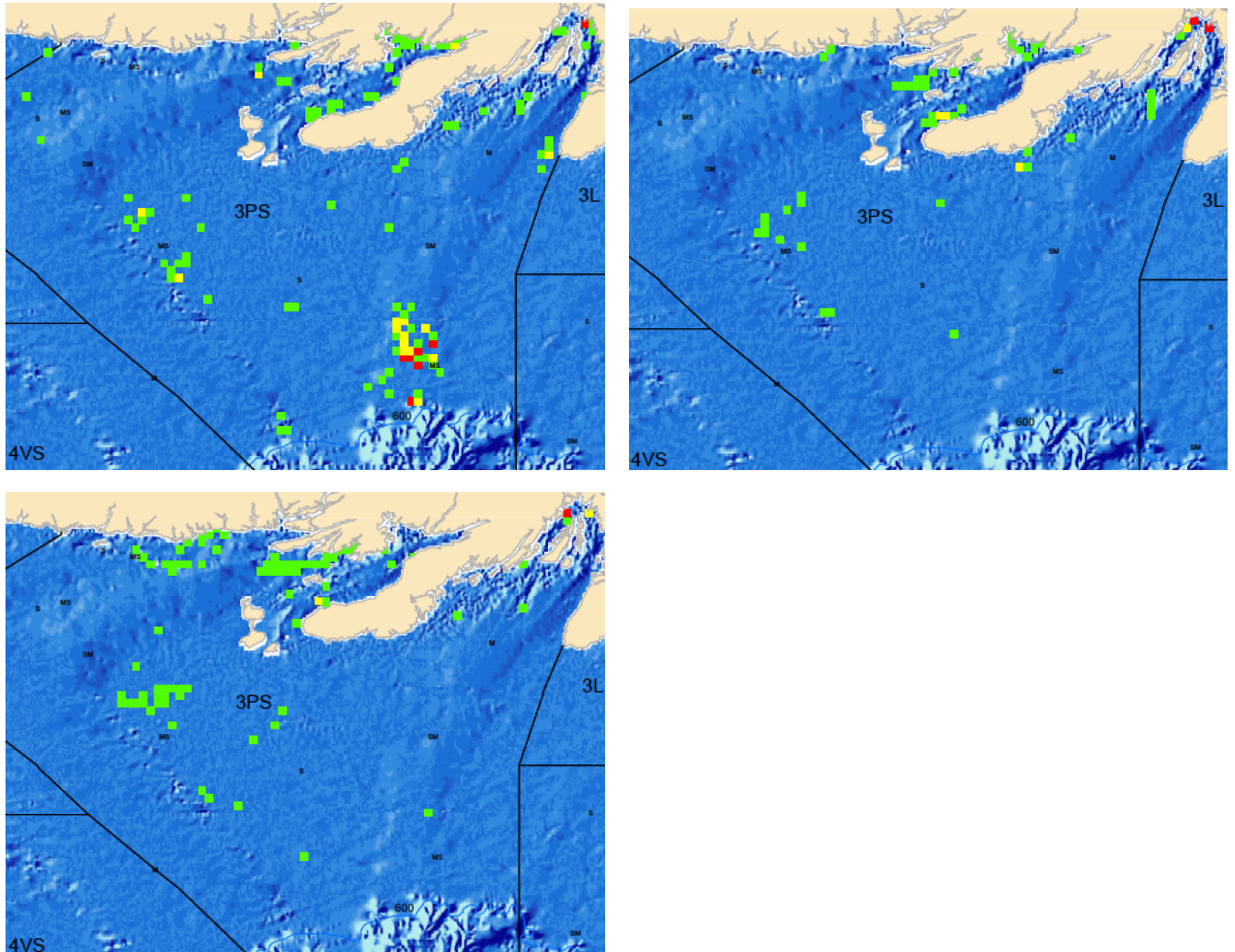


Figure 4: Longline fishing effort 2014-15 (upper left), 2015-16 (upper right), and 2016-17 (lower left).

Gillnet fishing effort can be seen in Figure 5. These images display a consistent pattern of a high level of activity within Placentia Bay as well in the offshore.

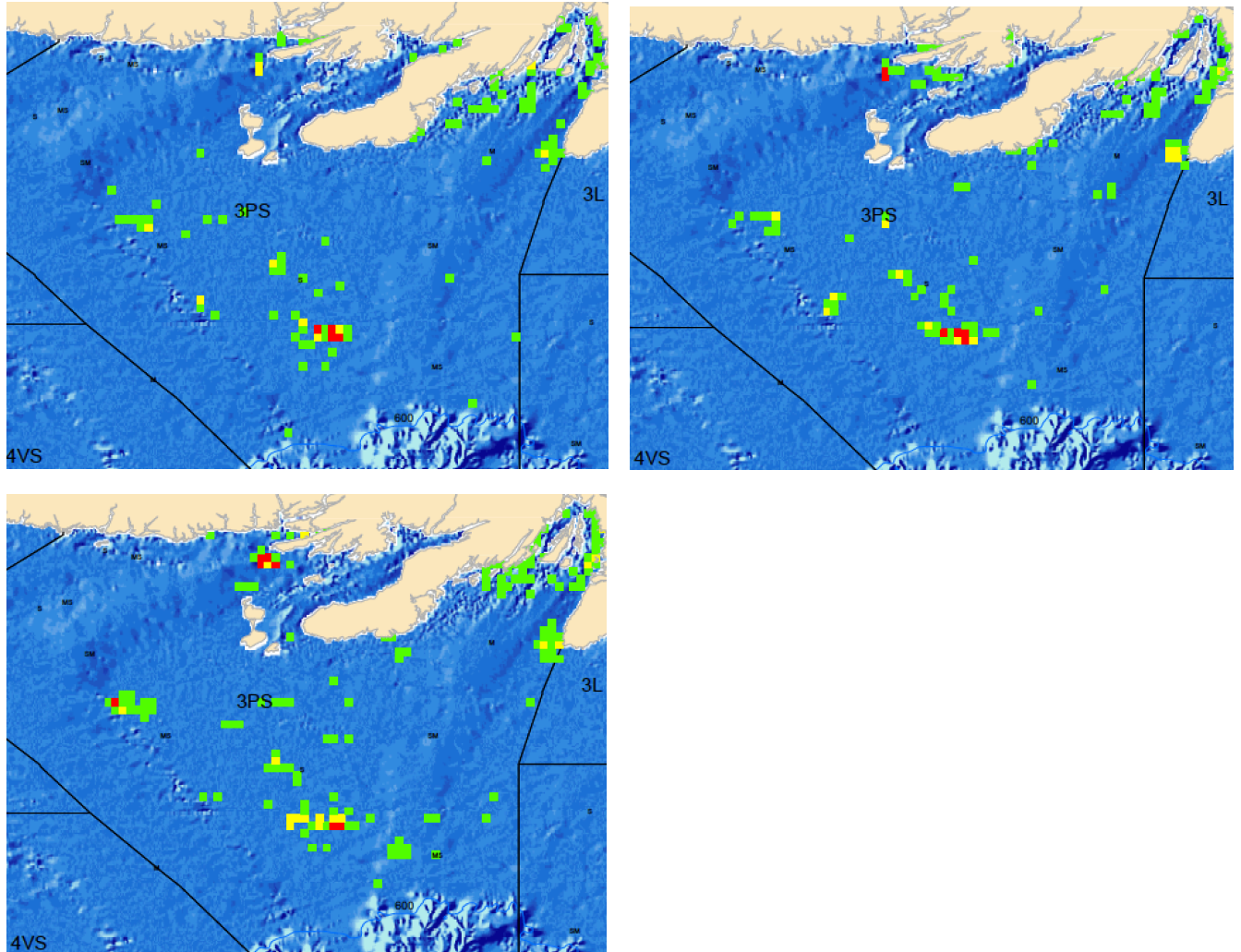


Figure 5: Gillnet fishing effort 2014-15 (upper left), 2015-16 (upper right), and 2016-17 (lower left).

Noting that <35' vessels represent approximately 50% of the landings and that inshore area 3Psc Placentia Bay account for 30 – 60% of all cod landings during the period of 2014 – 2017, it is safe to conclude the following:

- that the footprints of the predominant fishing gear, gillnets, as seen in Figure 5 would also represent a very similar inshore fishing footprint of the <35' sector for whom no fishing effort geo-location exists;
- that the majority of handlining also takes place in Placentia Bay (3Psc), which would be also be expected of the smaller vessel sector;
- Longlining represents a small proportion of the catch (~10% or less per year) and typically takes place inshore in similar locations each year within in area 3Psb.

AGC concludes that fishing effort geo-location information presented herein for the 35-65' vessel sector that represents ~49% of overall fixed gear cod catch has sufficient coverage of the key fishing areas and uses the same fishing gears such that direct fishing operations and bycatch profile observed by At-Sea Observers for this sector would be representative of the bycatch profile from the <35' vessel sector.

Fixed Gear Reported Landings

DFO provided landings for the fixed gear sector for the period of 2016 – 2019, noting that the last two years are still considered preliminary data (Table 2). As a result of Canadian Privacy Act requirements, which for commercial fishing data state that exact data can only be provided if there are five or more harvesters, buyers and processors for each data request (aka. 'Rule of 5'), DFO were able to meet these requirements by providing landings data for the aggregate fixed gear sector (as opposed to for each gear type). Further, in some years numerous individual species which did not meet the 'Rule of 5' requirements and were thus aggregated as well and reported as 'Other Species'. DFO did provide as much clarification on the nature of the aggregated species for each year as possible, indicating the possible (likely) species which make up this category.

Landings data consists of the quantities of each species caught as reported by the harvester on fishing logs and verified by independent dockside monitors who confirm the species and weight of all fish at offload. Landing data is a key component of the bycatch monitoring plan as it indicates the species being reported as required by the Conservation Harvest Plan and Conditions of Fishing Licence. This is critical information because it confirms that there is economic value associated with these species and a mechanism to sell the landed product exists. For fishing gears that are more selective, such as 5 ½ inch gillnets and hooks, it would be expected that the species landed and rough proportions versus the species profile observed at sea would be very similar.

The landings data demonstrate that cod is >90% of landings in all years and Atlantic halibut landings account for over 2% each year. Individually, all other species account for approximately 1% or less of landings each year.

Table 2. Fixed Gear Directed Cod Fishery landings in kilograms, 2016 – 2019.

3Ps Directed Cod Fishery Landings, Fixed Gear (Hand Line, Long Line, Gill Net)				
2016				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
American plaice	38,550	100	0	0
Cod, Atlantic	3,298,003	11,173	0	0
Cusk	5	0	0	0
Greyscale/witch	2,122	0	0	0
Groundfish Heads	5	0	0	0
Haddock	40,823	5	0	0
Hake, white	47,686	36	0	0
Halibut	74,056	2,688	0	1,226
Monkfish (Am angler)	3,919	0	0	0
Pollock	28,046	0	0	0
Redfish	25,541	3	0	0
Skate	37,969	73	0	0
Tongues, sounds, cheeks	8	0	0	0
Turbot/Greenland halibut	4,978	2	0	0
Winter flounder	22,443	0	0	0
Wolfish, Striped/ Atlantic	335	0	0	0
Yellowtail flounder	2,112	0	0	0
Other species (cannot be identified, but did not include SARA species or marine mammals)	1,434	2,744	0	0
Total	3,628,035	16,823	0	1,226
2017				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
American plaice	48,103	132	0	0
Cod, Atlantic	4,359,700	13,478	0	1,157
Haddock	9,190	5	0	0
Hake, white	39,509	11	0	0
Halibut	90,981	1,944	0	215
Mackerel	51	0	0	0
Monkfish (Am angler)	1,607	32	0	0
Pollock	37,895	0	0	0
Redfish	22,142	2	0	0
Skate	5,157	104	0	0
Turbot/Greenland halibut	3,378	0	0	0
Other Species (may include: cusk; greyscale; monkfish; winter flounder; wolfish and yellowtail)	29,526	14	0	0
Total	4,647,237	15,721	0	1,372

3Ps Directed Cod Fishery Landings, Fixed Gear (Hand Line, Long Line, Gill Net)				
2018				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
American plaice	58,341	240	0	0
Cod, Atlantic	4,059,923	7,228	0	45
Haddock	15,032	2	0	0
Hake, white	23,821	187	29	0
Halibut	119,455	2,200	0	38
Monkfish (Am angler)	2,345	0	0	0
Pollock	58,727	77	0	0
Redfish	24,836	20	0	0
Skate	9,470	930	0	0
Tongues, sounds, cheeks	6	0	0	0
Turbot/Greenland halibut	4,846	4	0	0
Yellowtail flounder	2,700	0	0	0
Other Species (may include: blue shark; winter flounder; and wolffish)	38,837	23	49	0
Total	4,418,339	10,911	78	83
2019				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
American plaice	35,972	85	0	0
Cod, Atlantic	2,770,222	6,282	0	0
Greysole/witch	6,540	0	0	0
Haddock	7,893	11	0	0
Hake, white	12,456	168	0	0
Halibut	118,940	1,208	0	3,176
Herring, Atlantic	5	0	0	0
Monkfish (Am angler)	750	0	0	0
Pollock	23,975	0	0	0
Redfish	12,778	18	0	0
Sculpin	15	0	0	0
Skate	11,016	4	0	0
Turbot/Greenland halibut	1,236	56	0	0
Winter flounder	18,113	0	0	0
Other Species (may include spider/toad crab; cusk; lumpfish; wolffish and yellowtail)	2,373	0	0	53
Total	3,022,283	7,832	0	3,228

Wednesday, August 26, 2020

Fixed Gear At-Sea Observer Coverage

At-sea observer (ASO) coverage rates are presented below in Table 3. DFO have noted that deployment of ASOs in <35' vessels is highly problematic, due to vessel capacity and safety issues to take an additional person aboard. DFO's target for ASO coverage in the 3Ps fishery is 5%. The ASO coverage noted below is from the 35-65' sector. ASO coverage has ranged from 5 to 14% of fishing effort and <1% of reported landings.

Table 3: Fixed gear Fishing Effort and Observer Coverage (hours and % of landings) in the 3Ps Cod Fishery (2016 - 2019).

Year	Total Hours Fished	Total Hrs ASO** Observed	% ASO hrs of total Fishing Hours	Total Landings Atlantic Cod (mt)	Observed Weight Atlantic Cod (mt)	% of Landings observed
2016	38573	5583.9	14.5%	3298.003	22.711	0.7%
2017	31441	1977.3	6.3%	4359.7	13.874	0.3%
2018	30270	1468.6	4.9%	4059.923	23.609	0.6%
2019	23470	1163.4	5.0%	2770.222	26.106	0.9%

* - Data provided by DFO NL Region, August 2020.

** - ASO = At-sea Observer

ASO data on catch and fishing hours observed from the directed fixed gear fishery is presented in Table 4. As with the landings data, 'Rule of 5' privacy requirements prevented much of the data from being presented as there were many species which were observed in fewer than five harvesters activities. What is notable in this data is that the observed species mix is very similar to the landings data, with the reported proportions similar (i.e. Atlantic cod represents the vast majority of the observed catch with Atlantic halibut, redfish, American plaice and Greenland halibut being other noted species).

Three identified ETP species were identified in the ASO data for fixed gear fisheries, including Atlantic (striped), broadhead (northern) and spotted wolffish. Due to Rule of 5 privacy requirements (most likely, fewer than 5 harvesters observed with these species), the majority of the specific observed weights were not reported. However, in 2018 and 2019, 45 and 35kg of broadhead wolffish were reported. Based on the very few observed harvester interactions (and mandatory release for broadhead and spotted wolffish), it is very likely the overall risk from the fixed gear fisheries is very low.

AGC concludes that that the level of information, specifically fishing location information, similarity in catch landings and ASO data species mix and low prevalence (with some overlap) of handlining and longlining activities now make it possible to confirm that the bycatch data for UoCs 1, 2 and 3 are representative of each component of the 3Ps cod fishery as a whole. Given the short nature of the fishery, gillnet is primarily June through September, longline is primarily Sept through January, it is also clear that the data are collected sufficiently frequently to support the partial strategy to manage bycatch (secondary and ETP species) in its entirety.

Table 4: At-sea observer data on catch and hours fished from the directed fixed gear fishery for 3Ps cod during 2016 to 2019.

Year	Species	Landed Round Weight (kg)	Discarded Weight (kg)	Hours Fished
2016	Skates	0	395	
2016	Atlantic Cod	22711	520	5583.9
2016	Haddock	*	*	
2016	Pollock	*	*	
2016	White Hake	756	0	
2016	Cusk	*	*	
2016	Broadhead Wolffish	*	*	
2016	Atlantic/Striped Wolffish	*	*	
2016	Redfish	142	1	
2016	American Plaice	11	66	
2016	Witch Flounder/Greysole	*	*	
2016	Yellowtail flounder	*	*	
2016	Greenland Halibut	771	0	
2016	Atlantic Halibut	1265	90	
2016	Winter Flounder	4	89	
2017	Skates	0	590	
2017	Atlantic Cod	13874	897	1977.3
2017	Pollock	*	*	
2017	White Jake	*	*	
2017	Cusk	*	*	
2017	Broadhead Wolffish	*	*	
2017	Spotted Wolffish	*	*	
2017	Redfish	253	9	
2017	American Plaice	3	20	
2017	Witch Flounder/Greysole	*	*	
2017	Yellowtail flounder	0	13	
2017	Greenland Halibut	*	*	
2017	Atlantic Halibut	0	331	
2017	Winter Flounder	*	*	
2017	Monkfish	*	*	
2018	Skates	0	362	
2018	Atlantic Cod	23609	740	1468.6
2018	Haddock	*	*	
2018	Pollock	43	0	
2018	White Hake	*	*	
2018	Broadhead Wolffish	0	35	
2018	Atlantic/Striped Wolffish	*	*	
2018	Redfish	820	3	
2018	American Plaice	37	29	
2018	Witch Flounder/Geysole	*	*	
2018	Greenland Halibut	309	0	
2018	Atlantic Halibut	*	*	
2018	Winter Flounder	0	36	
2019	Skates	0	168	
2019	Atlantic Cod	26106	727	1163.4
2019	Broadhead Wolffish	0	45	
2019	Redfish	76	17	
2019	American Plaice	66	150	
2019	Witch Flounder/Greysole	*	*	
2019	Greenland Halibut	*	*	
2019	Atlantic Halibut	0	298	
2019	Winter Flounder	59	22	

* Less than 5 harvesters

Mobile Gear Bycatch Monitoring Requirements

For ETP species in all units of certification including otter trawl, similar conditions were raised including that, insufficient information was available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species; and Information was insufficient to measure trends and support a full strategy to manage impacts on ETP species. This section will present information on the currently bycatch monitoring requirements, fishing location, landings and ASO data to demonstrate that there is sufficient information collected to support both an analysis of fishing impacts on ETP species as well as to support a management strategy.

Bycatch monitoring provisions are described in the CHP for mobile gear users and include very similar requirements as those described for fixed gear. The plan describes how catch is monitored on the water and at dockside, as well as defines the reporting requirements.

Pertinent regulated measures relative to bycatch and ETP species management includes:

Authorized Fishing Gear

COLUMN I	COLUMN II	COLUMN III
SPECIES	STOCK AREA	MINIMUM MESH SIZE (mm)
COD	2GH, 2J3KL, 3NO, 3M, 3Ps, 4RS3Pn	155 diamond or 145 square

Fishery/Gear	NAFO Division	Bycatch Limit
Any fishery	2 +3KLNO and sub-division 3Ps	<p>Unless otherwise authorized, on a per trip basis, incidental catch shall not exceed 2500 kg or 10%, whichever is the greater, for each unregulated species.</p> <p>Unless otherwise authorized, where a ban on fishing is in force (moratoria), the by-catch of the species concerned may not exceed 1250 kg or 5%, on a per trip basis whichever is greater.</p> <p>Percentages by weight are to be calculated as noted above for respective areas.</p>

Any fishery not otherwise mentioned	3Ps	For White Hake: 20% per trip when using mobile gear and no limit when using fixed gear. For Cusk: 10% per trip when fishing with fixed gear.
Any fishery not otherwise mentioned	3NOPs4VWX5	No more than 10% Atlantic Halibut as a bycatch when fishing with mobile gear.
Any fishery not otherwise mentioned	All areas	5% per trip of any species under moratorium
By-catch of all quota species will be counted against enterprise allocations or competitive quotas. If the license holder does not have an EA or access to a bycatch or competitive quota, the license holder is required to arrange for temporary transfers to cover bycatch		

REPORTING

1. Any lost fishing gear must be reported to Fisheries and Oceans as outlined in license conditions.
2. Any retrieval of previously reported lost gear of the vessel operator/licence holder must be reported to Fisheries and Oceans Canada as outlined in license conditions.
3. Hail out: License holders must notify the observer company prior to each planned departure. Except for licence holders based in the Maritimes region, who must obtain a hail-out reference number from the Just Talk hail out system.
4. Hail in are required as outlined in license conditions
5. Daily catch hails are required as outlined in license conditions. Only the DFO approved form is to be used and must be submitted on a daily basis no later than noon (local time).
6. Mandatory reporting of any and all marine mammal interactions seen or encountered during fishing trips as outlined in licence conditions.
7. If a vessel operator intends to land in Greenland, DFO must be notified by email at least 72 hours in advance. All landing/offloading in Greenland must be monitored and related documents outlined in license conditions must be completed and sent to DFO by email within 21 days of offloading.
8. The mobile gear offshore fleets will be optionally implementing electronic logbooks (e-logs) for 2019/20 in preparation for the introduction of mandatory e-logs. All vessel operators must ensure that an electronic logbook is obtained from a DFO authorized provider. Either an e-log or paper logbook must be used for an entire trip; and vessel operators must use the most recent DFO approved version available.

9. The licence holder or vessel operator must complete the SARA section in the fishing/SARA logbook to provide information regarding interactions with species at risk while conducting fishing operations; the licence holder must report, in the fishing/SARA logbook for the fleet sector, any interaction with:

- Northern Wolffish,
- Spotted Wolffish,
- Leatherback Turtle or,
- White Sharks.

CATCH MONITORING, TEST FISHING & INDEX FISHING/SURVEY ACTIVITIES:

1. A 100% industry funded Dockside Monitoring Program is required.
2. Small fish and by-catch closures will be a minimum duration of 10 days.
3. Test fisheries may be conducted after 10 days with all costs borne by industry.
4. Tests will be conducted in a closed area for a one day period, or until an adequate sample is taken.
5. Mandatory release of all Atlantic Halibut <81 cm except in 4RST which is 85cm.
6. Mandatory release of the following species: sturgeon; White Sharks; striped bass; skates (as specified in licence conditions), spotted and northern wolffish. These species must be released immediately and where alive in a manner that causes the least harm.
7. Licence conditions prohibit the landing of thorny skates in 4X5 and all skates except barndoor skates in 4VW. Any skates that are authorized to be caught in 4VWX5 (i.e. the barndoor skates in 4VW and all skates except thorny skate in 4X5) must be landed with pectoral fins attached and separated and recorded by species.
8. Skate, sculpin and dogfish may be returned to the water. Atlantic wolffish (striped wolffish) and lumpfish may be returned to the water except in 4VWX+5).
9. Industry-funded at sea observer coverage will target an average of approximately 10%.

Mobile Gear Fishing Locations

In its FIP action related to fishing habitat impacts (MSC PIs 2.4.3), AGC presented information relative to fishing effort locations for the mobile gear fleet of vessels <65' to >100' aggregated. Figure 6 below shows the mobile gear sector consistently fishes in the same core locations in 3Psh, with some additional activity in 3Psf, g. This is further supported by the landings profile in Figure 2. On average, the mobile gear sectors receive approximately 19% of the overall Canadian Quota.

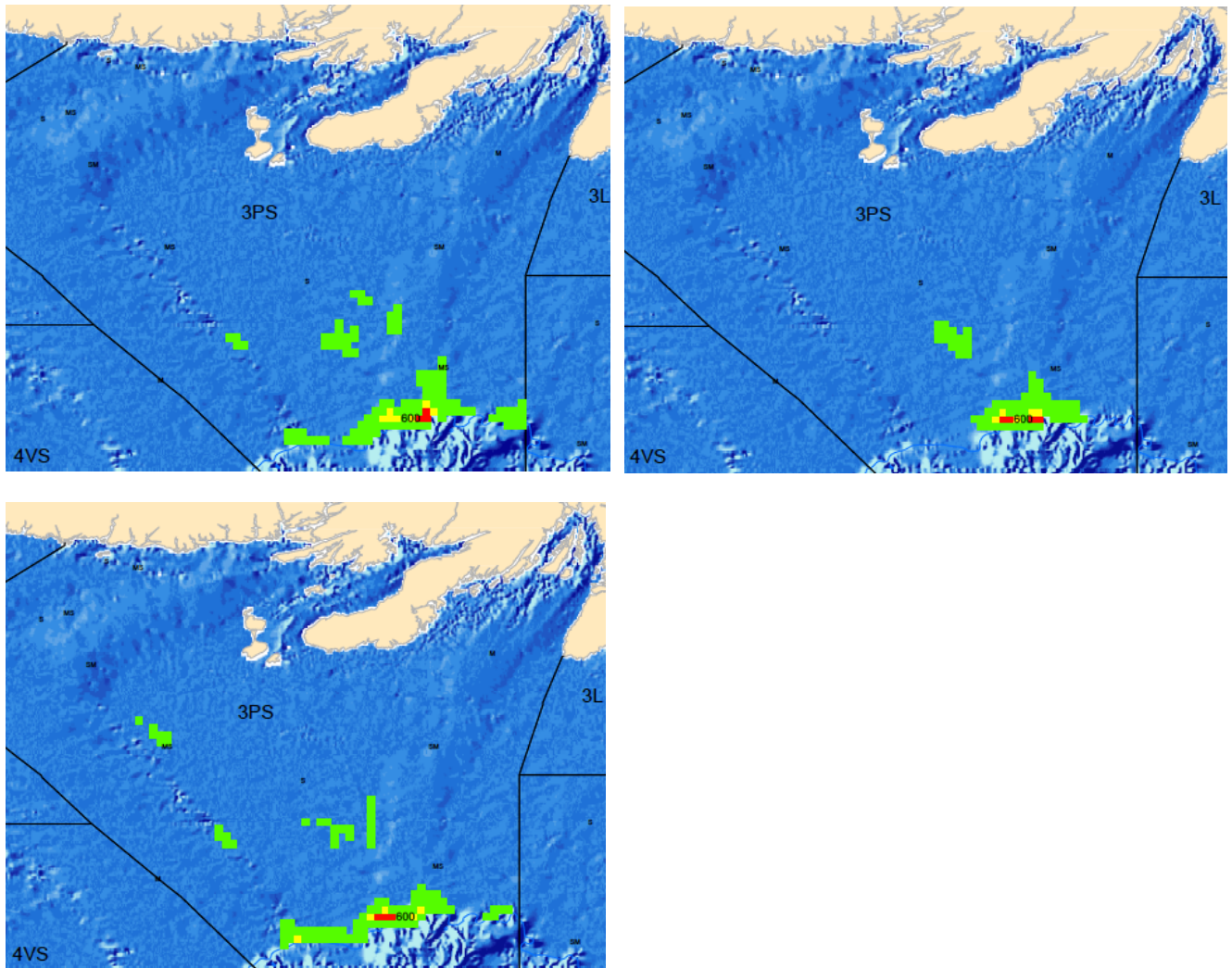


Figure 6: Otter trawl fishing effort 2014-15 (upper left), 2015-16 (upper right), and 2016-17 (lower left).

Given the consistent timing (December through March) and centralized location of the fishery, it's fair to assume that the catch profile, including ETP species would be similar year over year. This is further supported by the landings and ASO data presented below.

Mobile Gear Reported Landings

AGC requested landings data for the mobile gear sector for the same period (2016-2019) as fixed gear. Unfortunately, due to Privacy Act restrictions, DFO did not provide data for 2016 but were able to provide for the remaining three years. Also of note, the most recent two years are still considered preliminary data, see Table 5 below. Similar to the fixed gear landings data, numerous individual species which did not meet the 'Rule of 5' requirements and were thus aggregated as well and reported as 'Other Species'. Most notably, the 2017 'Other Species' data obviously includes the Atlantic cod catch.

The species mix in the three years of available data show a consistent species mix, with cod, haddock and pollock making up the most significant portion of the catch.

Table 5: Mobile Gear Directed Cod Fishery landings in kilograms, 2016 – 2019.

3Ps Directed Cod Fishery Landings, Mobile Gear (Bottom Otter Trawl)				
2016: cannot release data due to privacy				
2017				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
Dogfish	0	9,765	0	0
Greysole/witch	82,130	0	0	0
Lumpfish	0	70	0	0
Monkfish (Am angler)	4,810	0	0	0
Shark, mako	0	60	0	0
Skate	0	15,219	0	0
Yellowtail flounder	64	0	0	0
Other Species (comprised of other groundfish; no SARA species and no marine mammals)	1,880,473	2,069	0	0
Total	1,967,477	27,183	0	0
2018				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
Cod, Atlantic	478,379	0	0	0
Greysole/witch	16,452	5	0	0
Haddock	87,521	0	0	0
Hake, white	5,159	0	0	0
Halibut	33,581	4,373	0	0
Monkfish (Am angler)	4,775	0	0	0
Pollock	125,518	0	0	0
Redfish	7,336	0	0	0
Shark, mako	0	625	0	700
Skate	0	21,660	0	0
Yellowtail flounder	17,492	0	0	0
Other Species (cannot be identified, but did not include SARA species or marine mammals)	40,104	0	0	0
Total	816,316	26,663	0	700

3Ps Directed Cod Fishery Landings, Mobile Gear (Bottom Otter Trawl)				
2019				
Species	Landed Round Weight (kg)	Discarded Dead (kg)	Dumped Round (kg)	Discarded Alive (kg)
American plaice	31,977	5	0	0
Cod, Atlantic	519,194	28	0	0
Dogfish	0	227	0	0
Greysole/witch	49,920	0	0	0
Haddock	102,249	0	0	0
Hake, silver	0	20	0	0
Hake, white	29,176	204	0	0
Halibut	68,962	92	0	0
Monkfish (Am angler)	6,483	3	0	0
Pollock	34,607	0	0	0
Redfish	95,607	3	0	0
Shark, porbeagle/mackerel	0	0	0	755
Shark, unspecified	0	65	0	0
Skate	0	13,240	0	0
Total	938,175	13,887	0	755

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Mobile Gear At-Sea Observer Coverage

Mobile gear fishery at-sea observer (ASO) coverage rates are presented below in Table 6. DFO's target for ASO coverage in the 3Ps fishery is 10%. The ASO coverage noted below is from all mobile gear sectors. ASO coverage has ranged from ~50 to 81% of fishing effort and 6 – 8% of reported landings (noting that cod landings for 2016 and 2017 were not provided).

Table 6: Fixed gear Fishing Effort and Observer Coverage (hours and % of landings) in the 3Ps Cod Fishery (2016 - 2019).

Year	Total Hours Fished	Total Hrs ASO** Observed	% ASO hrs of total Fishing Hours	Total Landings Atlantic Cod (mt)	Observed Weight Atlantic Cod (mt)	% of Landings observed
2016	1442	715	49.6%	NA	422.308	NA
2017	1422	1151	80.9%	NA	84180	NA
2018	890	683.6	76.8%	487.379	37.306	7.7%
2019	987	567.6	57.5%	519.194	31.923	6.1%

* - Data provided by DFO NL Region, August 2020.

** - ASO = At-sea Observer

As a result of Rule of 5 Privacy issues, DFO were only able ASO data for AGC member companies who have provided expressed permission for sharing of their data with AGC. Again, what is remarkable is the comparable species mix appearing in the landings and ASO data, indicating that harvesters are landing similar commercial species as seen in the ASO catches. Three wolffish species including broadhead (northern), striped (Atlantic) and spotted are observed in very low weights, Atlantic each year and the species once each in four years.

Table 7: At-sea Observer data from otter trawl catches (OCI and Icewater Seafoods only) collected during 2016 to 2019.

Year	Species	Weight Kept (kg)	Weight discarded (kg)	Hours Fished
2016	Dogfish/Sharks	0	15	
2016	Skates	1588	1489	
2016	Argentines	0	15	
2016	Atlantic Cod	422308	1390	715.6
2016	Haddock	43008	95	
2016	Pollock	3877	80	
2016	White Hake	312	205	
2016	Silver Hake	0	70	
2016	Cusk	25	10	
2016	Atlantic/Striped Wolffish	0	78	
2016	Redfish	23987	150	
2016	Sculpins	0	10	
2016	Sea Raven	0	8	
2016	American Palice	11502	35	
2016	Whitch Flounder/Greyscale	24655	130	
2016	Greenland Halibut/Turbot	29	0	
2016	Atlantic Halibut	23114	207	
2016	Monkfish	0	32	
2017	Dogfish/Sharks	0	46	
2017	Skates	0	4514	
2017	Atlantic Cod	84180	798	1151
2017	Haddock	23357	0	
2017	Pollock	34003	45	
2017	White Hake	771	0	
2017	Silver Hake	11	0	
2017	Cusk	11	0	
2017	Atlantic/Striped Wolffish	0	7	
2017	Spotted Wolffish	0	5	
2017	Redfish	2812	91	
2017	Sculpins	10	0	
2017	Lumpfish	0	168	
2017	American Plaice	12654	0	
2017	Whitch Flounder/Greyscale	8778	0	
2017	Yellowtail Flounder	300	0	
2017	Atlantic Halibut	5230	578	
2017	Monkfish	14	5	

2018	Dogfish/Sharks	0	91	
2018	Skates	60	4626	
2018	Atlantic Cod	37306	0	683.6
2018	Haddock	5429	0	
2018	Pollock	22901	0	
2018	White Hake	1557	0	
2018	Broadhead Wolffish	0	5	
2018	Atlantic/Striped Wolffish	0	47	
2018	redfish	1183	0	
2018	American Plaice	17680	0	
2018	Whitch Flounder/Greysole	2458	0	
2018	Atlantic Halibut	6253	660	
2018	Monkfish	500	0	
2019	Dogfish/Sharks	0	533	
2019	Skates	0	820	
2019	Atlantic Cod	31923	30	567.6
2019	Haddock	11935	0	
2019	Pollock	1164	0	
2019	White Hake	95	0	
2019	Atlantic/Striped Wolffish	0	15	
2019	redfish	1952	586	
2019	American Plaice	115	29	
2019	Whitch Flounder/Greysole	588	76	
2019	Atlantic Halibut	2746	176	
2019	Monkfish	128	0	

AGC concludes that the level of information collected in the mobile gear fishery including, fishing location information, similarity in catch landings and ASO data species as well as high ASO coverage for fishing effort is more than sufficient to identify the ETP species composition, temporal and spatial coverage of the fishery and to fully support a management strategy for ETP species.

Conclusion

Given the detailed information available on the 3Ps fishery, AGC opines that the information collection system to support bycatch and ETP species management is sufficient including both fishery dependent and independent data. The monitoring strategy continues for the fishery as defined annually in the CHPs and Conditions of License for harvesters.

AGC concludes that the FIP action requirements for MSC Performance Indicators 2.2.3 and 2.3.3 have been completed.