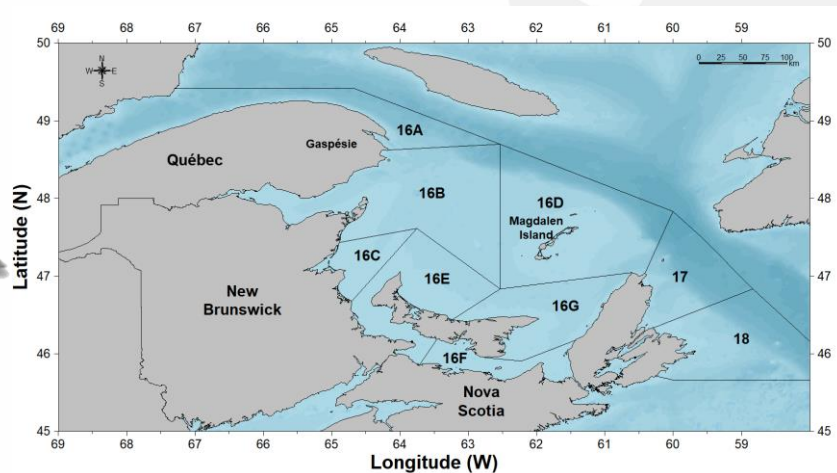




Bait removals in the southern Gulf of St. Lawrence (sGSL)



Jenni McDermid
November 23, 2023

Problem

- Removals of sGSL herring are focused on the commercial fishery.
- Do not include herring landed by the bait fishery as reporting is generally unreliable or absent altogether.
- The bait fishery is expected to be lower than the commercial landings.
- Estimates of total reported removals are underestimated by an unknown amount.



Bait fishery licence conditions

- Three gillnets for a maximum total length of 50 fathoms.
- Mesh size
 - 2 1/4" from April 1 to June 30 (i.e., spring season)
 - 2 5/8" (2 1/2" in 16A) from July 1 to December 31 (i.e., fall season)
- Bait licences cannot be fished on the same day as a commercial licence for herring/mackerel/gaspereau.
- Strictly forbidden to sell any species of fish caught under the authority of a bait licence.
- Gulf Region harvesters have mandatory bait fishery logbooks.
- Quebec Region harvesters must use the electronic logbook.

Changes to conditions in 2020

- Mandatory hail-in catch estimates for the Gulf Region.
- All bait licence holders will be required to:
 - **MAINTAIN** and **SEND** a Bait Fishery Monitoring Document (Gulf Region) or e-log (Quebec Region).
 - **HAIL-IN** the catch estimates to a dockside monitoring company (Gulf Region).
- Maximum quantity of herring and/or mackerel permitted to catch and retain at any time is 907 kg in total.

Further changes in 2023

- Maintain 3 gillnets with a maximum total length of 50 fathoms.
- Increased mesh size to 2 $\frac{5}{8}$ ".



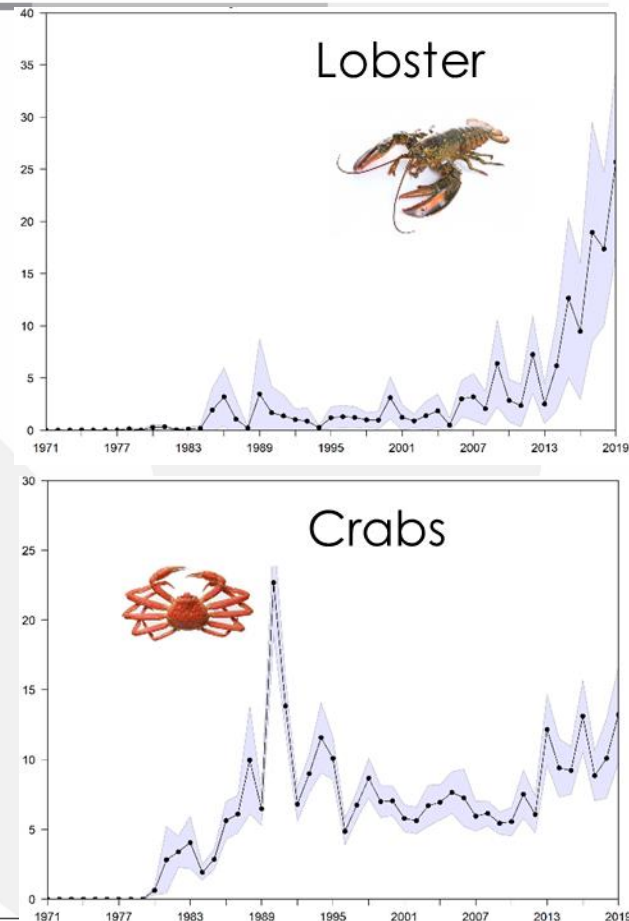
Scale of the issue?

- Bait licences are issued to all commercial fish harvesters who hold a licence for species and fishing gear requiring bait.
 - American lobster
 - Snow crab
 - Bluefin tuna
 - Atlantic halibut
- There are approximately 4,475 (80% NB/NS/PE & 20% QC) fish harvesters licensed to fish gillnets for bait.
- Not all licences are active in a given year.

How bait needs are changing?

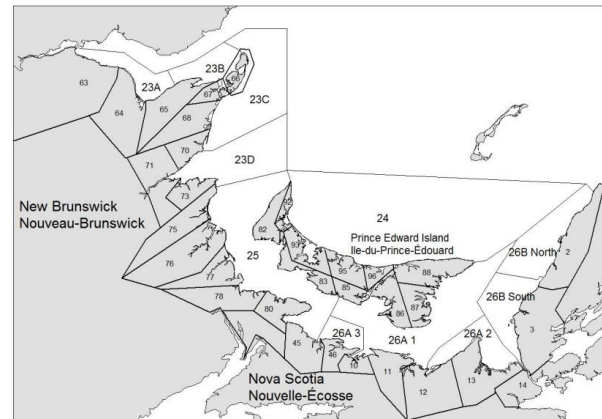
- Lobster landings and stock biomass has increased significantly since 1995.
 - Landings of 97,381 t in 2018
- Snow crab biomass has increased slightly while the landings have been relatively constant
 - Landings of 72,297 t in 2018

[DFO. 2020. Seafisheries landed quantity by region, 2018.](#)



Bait in the lobster fishery

- Approximately 3,000 lobster fish harvesters in sGSL (excluding Quebec Region fisheries).
- Lobster phone survey:
 - 73% of respondents did not fish for their own bait.
 - 11% fished for more than 50% of their bait
 - 17% for less than 50%
- Average amount of bait used by harvester was 5,658 kg (range 1,361-20,412) in 2016, fairly consistent through time.
- Preferred bait was mackerel and herring.
- ~17,000 t of bait.



[Boudreau and Giard.](#)
[2022. Tech Report](#)

Sources of information

- Fish harvesters have been required to record bait catches in logbooks since 1996.
- Gulf Region has notoriously poor logbook returns.
- Only a small fraction of Gulf Region logbooks are returned to DFO.
- Significant information is typically missing.
- Compiled data from bait fishery logbooks, hail-ins, and Dockside Monitoring Program (DMP) reports.

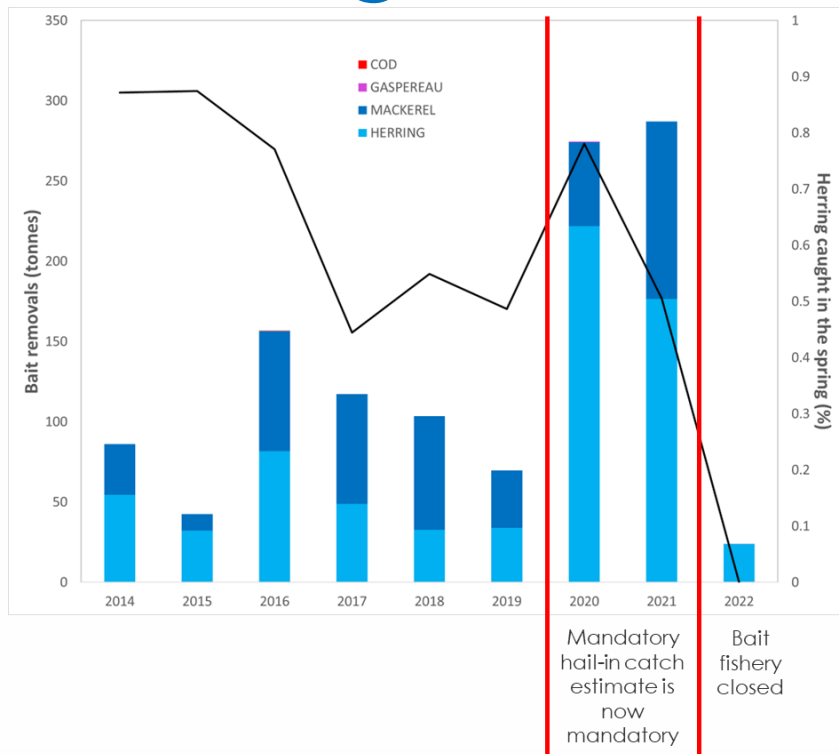


Gulf Region bait information

- DMP Reports were the source of data
- Hail-ins catch estimates and bait logbooks are entered into DMP Reports

The screenshot displays the Fisheries and Oceans Canada website, specifically the DMP Reports section. The header includes the Canadian flag, the organization's name in English and French, and the website URL (www.dfo-mpo.gc.ca). Navigation links for Français, Home, Contact Us, Help, Your Profile, and Gulf Internet are present. A map of the Gulf Region is shown on the left, with a sidebar containing links to DMP Reports, Home, General Reports, Live Reports, Archives Reports, Custom Report, Tuna Report, and Contacts. The main content area is titled 'Archives Reports' and features a 'Custom Report' form. This form includes fields for Year (2020), Sorted By (DMP, Fisher), DMC (ATLANTIC CATCH DATA LTD., CHETICAMP MONITORING, DFO/MPO, FISHERMAN'S MONITORING COMPANY), Fisher Province, Port, Area, Species, Trip ID, Hail In Conf. #, Hail Out Conf. #, FIN, Licence #, Licence Type (Commercial), Doc. (Commercial), Buyer, Gear Type (ALL), VRN, Date Landed (From/To), Date Entered (From/To), and Unit (Lbs). There are checkboxes for 'Print Offload Times' and 'Convert values for landings' (with a warning note). A search button is located at the bottom of the form.

Gulf Region bait catches



- Mandatory hail-in highlights significant issues with underreporting.

Herring

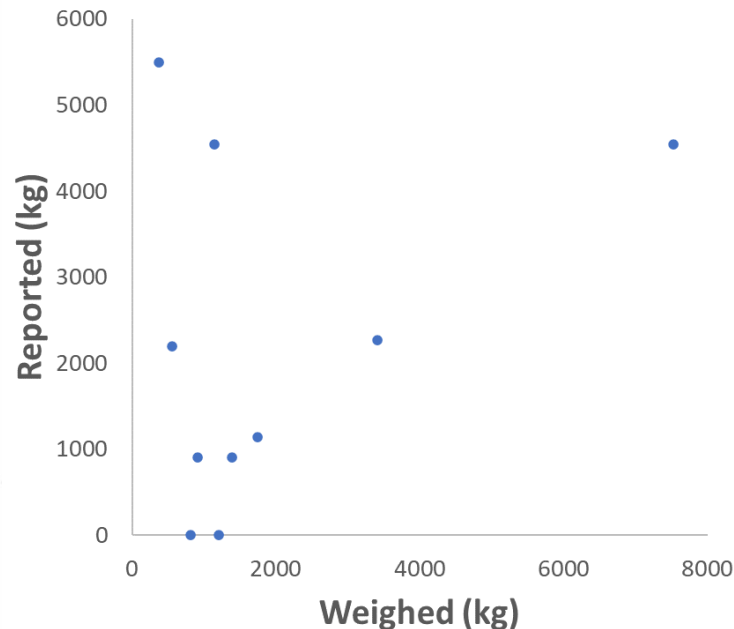
- Herring bait catches were over 4-fold higher than previously estimated.
- Herring estimates were predominately from the spring season.

Mackerel

- Mackerel were less than 2-fold underreported.
- June was one of the dominate months for mackerel catches throughout the time series except in 2019.

Issues with hail-in catch estimates

- Small amount of actual weighed bait landing to compare with hail-in catch estimates.
- Hail-in catch often underestimated the landings though not always.



Number of active fishers

- Approximately 1.8% of licences active.
- Over 50% of licences were only active in a single year.
- Tremendous latent potential.

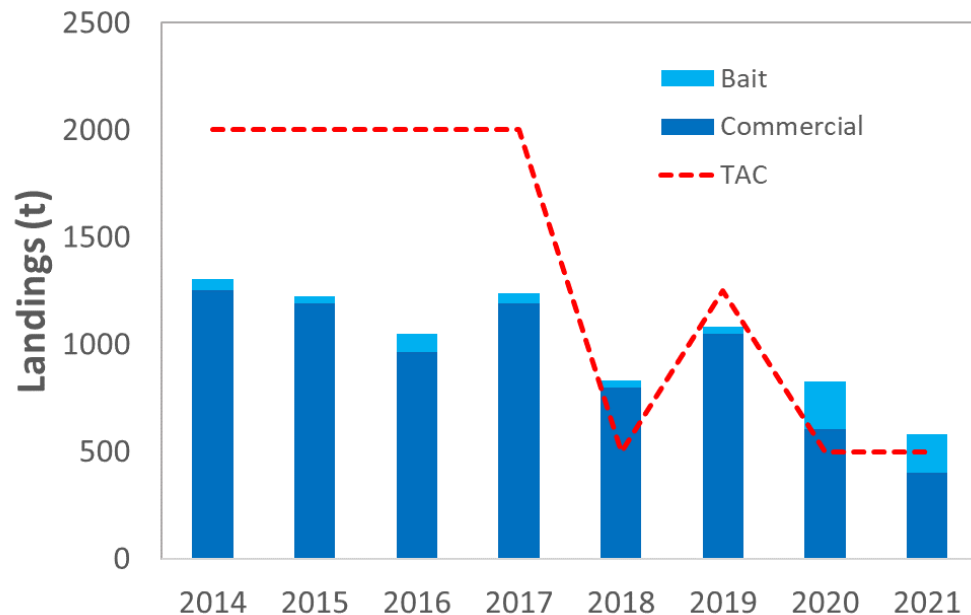
Year	Active fishers	Total licences
2015	64	3,492
2016	142	3,506
2017	123	3,511
2018	108	3,524
2019	93	3,549
2020	200	3,558
2021	268	3,579
2022	31	0

Compliance issues

- The price of bait has increased recently making it expensive to obtain.
- The bait fishery offers a potential yearly savings that can exceed \$20,000.
- Documented issues in the bait fishery include:
 - Fishing unauthorized nets and/or more nets than allocated
 - Failure to complete bait logs
 - Fishing undersized mesh
 - Untagged or even buoyless gear thus unidentifiable
 - Excess nets
 - Nets left at sea
- One of the biggest challenges for enforcement, is the large number of potential harvesters and large geographical area.
- Enforcement blitz in recent years focused on 33km out of 1,025 km of coastline with approximately 550 bait licence holders.
 - Unauthorized nets has increased tenfold.
 - ~ 80 illegal bait nets per year were collected during enforcement activities (around 3,000 m).
 - Majority of nets collected had undersized mesh.

Scale of the issue

- Withdrawals of herring from the bait fishery occur overwhelmingly in the spring season.
- Including bait records gives us a lower bound for how much removals of spring spawning herring may be underestimated.
- Total removals are likely underestimated by roughly 30%.



Quebec bait information

- Accessed data for harvesters in 4T
- Access to elogs?

Year	Active fishers	Landings (kg)
2014	13	224
2015	7	1,601
2016	7	5,925
2017	8	1,677
2018	18	428
2019	4	30

APM025 - Pêche non commerciale - Journal des appels de mer

Appât, filets mailants, moins de 3 filets - région du QC au 28-11-2017.xlsx

PROTÉGÉ PRÉLIMINAIRE

Région du Québec

DATE DÉBARQUEMENT	NO. FORMULAIRE	CODE COMM. DÉBARQUEMENT	COMMUNAUTÉ DÉBARQUEMENT	ZONE PÊCHE GESTION (PEC)	NB. ENGIN	QUANTITÉ	NO. FORMULAIRE ENTREPRISE	REMARQUE
2017-04-28	AP210221	42807	POINTE-BASSE		2	1.00		
2017-04-12	AP209781	42803	L'ÉTANG-OU-NORD		2	1.00		
2017-05-13	AP209782	42803	L'ÉTANG-OU-NORD		2	1.00		
2017-04-05	AP206002	42701	HAIRÉ-ALBERT		3	1.00		
2017-04-06	AP206003	42701	HAIRÉ-ALBERT		3	1.00		
2017-04-08	AP206004	42701	HAIRÉ-ALBERT		3	1.00		
2017-04-10	AP206005	42701	HAIRÉ-ALBERT		3	1.00		
2017-04-15	AP202013	42803	L'ÉTANG-OU-NORD		3	1.00		
2017-04-18	AP202014	42803	L'ÉTANG-OU-NORD		3	1.00		
2017-09-23	AP000004	42404	LOURDES-DE-BLANC-SABLON		1	42.50		
2017-09-25	AP000005	42404	LOURDES-DE-BLANC-SABLON		1	22.68		
2017-09-27	AP000006	42404	LOURDES-DE-BLANC-SABLON		1	34.02		
2017-09-16	YAP400633	42404	LOURDES-DE-BLANC-SABLON		1	400.00		
2017-09-25	YAP400634	42404	LOURDES-DE-BLANC-SABLON		1	350.00		
2017-09-06	YAP400635	42404	LOURDES-DE-BLANC-SABLON		1	350.00		
2017-09-18	YAP400636	42404	LOURDES-DE-BLANC-SABLON		2	454.00		
2017-04-10	YAP600241	42602	GRANDE-ENTRÉE		3	5.00		
2017-04-11	YAP600242	42602	GRANDE-ENTRÉE		3	1.00		
2017-04-21	YAP600243	42602	GRANDE-ENTRÉE		3	1.00		
2017-04-22	YAP600244	42602	GRANDE-ENTRÉE		3	1.00		
2017-04-15	AP210221	42803	L'ÉTANG-OU-NORD		3	1.00		
2017-04-18	AP210222	42803	L'ÉTANG-OU-NORD		3	1.00		
2017-05-01	AP210223	42803	L'ÉTANG-OU-NORD		3	1.00		
2017-05-13	AP210224	42803	L'ÉTANG-OU-NORD		3	1.00		

Total pour l'intervenant : 402045800

Total pour l'intervenant : 403086200

Total pour l'intervenant : 405096100

Total pour l'intervenant : 406067200

Total pour l'intervenant : 4180736000

Total pour l'intervenant : 419085800

Total pour l'intervenant : 426039300

Total pour l'intervenant : 426097900



Maritimes bait info

- Bait fishery in Maritimes allows for the use of 60 fathoms of gill net.

Year	Total licences
2014	829
2015	830
2016	916
2017	948

Renewal	Community Name	Licence	Species Description	Licence Type Description	Gear Description	Gear Amount	Licence Area Description
2017	SHELBURNE	337936	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	326556	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	CLARKS HARBOUR	326553	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	ESKASONI	525729	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	ST. PETERS	302735	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	523277	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SYDNEY	306037	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SYDNEY	309249	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	DESCOUSSE	514241	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	HAINTSPORT	303902	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	HAINTSPORT	303232	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	ANNAPOLIS ROYAL	303806	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142563	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142564	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142565	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142566	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142567	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142568	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142569	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142570	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	SHEET HARBOUR	142571	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	NORTH HEAD	305712	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	NORTH HEAD	305713	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	ST. ANDREWS	142796	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	PARRISBORO	144070	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142621	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142622	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142644	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142646	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142647	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142716	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	142727	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	144125	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	144126	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	YARMOUTH	144127	HERRING/MAACKEREL	CC BAIT	GILL NET (SET OR FIXED)	60	
2017	PETITE RIVIERE	308246	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	BRAS D'OR	317973	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	MCGRATHS COVE	342111	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	
2017	LISCOMB	529218	HERRING/MAACKEREL	BAIT	GILL NET (SET OR FIXED)	60	



Questions?

