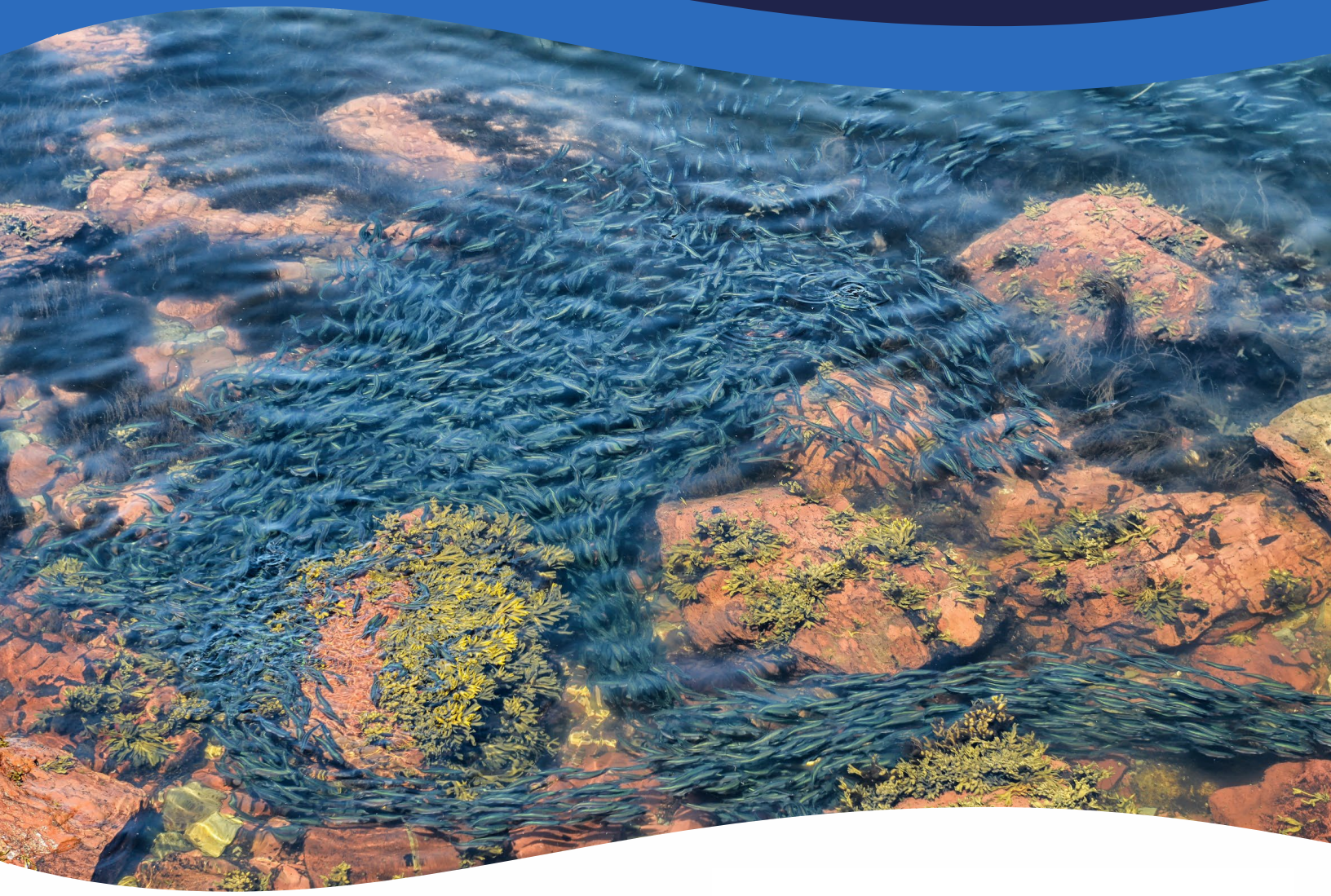
March 8, 2023

OCEANA CANADA'S RECOMMENDATIONS FOR FORAGE FISH MANAGEMENT



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The Honourable Joyce Murray, P.C., M.P.
Minister of Fisheries, Oceans and the Canadian Coast Guard
Fisheries and Oceans Canada/Government of Canada
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March 8, 2023

Dear Minister Murray,

On behalf of Oceana Canada, thank you again for your comments at Oceana Canada's *Rebuilding Abundance Symposium* last October where you reaffirmed the department's commitment to meet statutory deadlines to create and implement effective fisheries rebuilding plans. We commend as well the bold conservation leadership you demonstrated in 2022 by making several strong and necessary decisions to restrict fishing for depleted forage fish stocks. In the upcoming months your leadership is once again needed to ensure depleted forage fish stocks are rebuilt to abundant levels. We encourage you to make quota decisions this year that are consistent with scientific advice and last year's direction for the benefit of these fish populations, the ecosystems they support, and the people who rely on them. Specifically, Oceana Canada makes the following recommendations:

Continue the closure of Atlantic mackerel

Last year Oceana Canada applauded the difficult but necessary decisions to conserve Atlantic mackerel.[1] This was a critical step to rebuilding this important stock. This year we ask you to continue the closure of the Atlantic mackerel commercial and bait fishery to enable the highest likelihood of accelerated rebuilding and to minimize long-term socioeconomic costs.[2]

Atlantic mackerel is the exact type of fishery to which the Fish Stock Provisions (FSP) of the modernized *Fisheries Act* should apply. The stock has been in the critical zone since 2011, will be undergoing a revision to its rebuilding plan, and can rebuild in 6-7 years absent fishing mortality as shown at the recent stock assessment. Further, as the stock's rebuilding plan undergoes revision, Section 70 (5) of the FSP states that: "If fishing of the major fish stock while the plan is being developed is permitted by the Minister, the Minister shall ensure that the level of fishing of the stock during that time is consistent with the

[1] DFO. 2022. Rebuilding key forage fish stocks for healthier East Coast fisheries. https://www.canada.ca/en/fisheries-oceans/news/2022/03/rebuilding-key-forage-fish-stocks-for-healthier-east-coast-fisheries.html
[2] Schijns, R. 2023, March 6. Oceana Canada Atlantic mackerel quota recommendation 2023.

rebuilding of the stock above the limit reference point."[3] By continuing to rebuild mackerel you can ensure a healthy stock, a healthier ecosystem, and greater economic value for future generations.

Capelin and herring need your help

As you noted in your first major forage fish quota decision of 2023, forage fish play a critical role in the ocean's ecosystem that must be protected for the fish, wildlife and harvesters that depend on them.[4] This year, precautionary quota decisions that follow science and policy advice for forage fish can set a strong foundation for rebuilt abundance of these stocks and all other fisheries that rely on them for years to come.

For example, capelin off the coast of Newfoundland and Labrador and herring in southwest Nova Scotia and the Bay of Fundy desperately require protection this year even if quota decisions last year did not reflect their unhealthy state (see Table A1). Now that all major forage fish stocks have been prescribed, or proposed to be added, to the Fish Stock Provisions, there is or will soon be a statutory requirement to rebuild and keep, these stocks well above their limit reference points (LRP) as outlined by Section 70 (5). This year can mark a turning point in rebuilding abundance of these stocks in Canada by following the best available scientific advice for these fisheries.

Implement a framework for good decisions

While forage fish have large population booms and busts, their population dynamics are influenced by fishing pressure which, on top of unfavourable environmental conditions, can be additive and contribute to population declines.[5] To this end, the management of forage fish in 2023 must account for the biological and ecological characteristics that make these stocks vulnerable to overfishing.

Oceana Canada is calling for the department to make quota decisions that:

a. Maintain a minimum stock biomass that accounts for the role of forage fish in marine food webs, below which commercial harvesting is prohibited, and;
b. Set a maximum harvest cap, regardless of periodic spikes in fish biomass, to reduce the probability of overfishing the stock in years when environmental conditions are poor (see Figure A1 below outlining this approach).

Maintaining a minimum stock biomass and implementing a maximum harvest cap for forage fish stocks will adhere to applicable DFO policy including the Precautionary Approach

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[3] Public Works and Government Services Canada. 2022. Regulations Amending the Fishery (General) Regulations: SOR/2022-73. Canada Gazette, Part 2, Volume 156, Number 8. Government of Canada, Public Works and Government Services Canada, Integrated Services Branch. https://www.canadagazette.gc.ca/rp-pr/p2/2022/2022-04-13/html/sor-dors73- eng.html

[4] DFO. 2023. Fisheries and Oceans Canada continues to take cautious approach to herring fishery. https://www.canada.ca/en/fisheries-oceans/news/2023/02/fisheries-and-oceans-canada-continues-to-take-cautious-approach-to-herring-fishery.html

[5] Guénette, S., Melvin, G., and Bundy, A. 2014. A review of the ecological role of forage fish and management strategies. Can. Tech. Rep. Fish. Aquat. Sci. 3065

Framework[6] and be consistent with other jurisdictions that have adopted these best practices for forage fishery management. One such example is in the Barents Sea where cod predation is accounted for in the assessment of capelin, and only when the biomass of capelin after predation is estimated to exceed the reference point is a fishery allowed.[7] This is relevant to Canada where capelin abundance has been identified as a limiting factor in the recovery of the iconic Northern cod stock off Newfoundland and Labrador.[8]

Applying a similar approach to all forage fish quota decisions will lead to consistent and scientifically-sound management and set the stage for predictable quota decisions which fish harvesters and civil society groups can agree is needed for well-functioning fisheries.

Rebuilding abundance together

Given the uncertainty facing the Canadian fishing industry, we understand there may be immense pressure to reverse the scientifically sound conservation decisions from last year. From bait sourcing issues, labour and supply-chain pressures stemming from the COVID-19 pandemic, and a changing ocean environment, Canadian fisheries are facing challenges not seen in decades. We understand the hardships facing the fishing industry, and support finding solutions to help communities survive and thrive while stocks recover. Conserving and rebuilding forage fish populations must be seen as a fundamental part of the long-term solution.

Your decisions this year can support the long-term health of communities and commercial fisheries that rely on abundant oceans and break the cyclical trend of crisis management in which, too often, the department finds itself each year. We appreciate your consideration of our recommendations, and we would be happy to meet and discuss the importance of rebuilding forage fish together.

Yours sincerely,

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[6] DFO. 2009. A Fishery decision-making framework incorporating the precautionary approach.https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.html
[7] Gjøsæter H, Bogstad B, Tjelmeland S, Subbey S. 2015 . A retrospective evaluation of the Barents Sea capelin management advice. *Marine Biology Research*, 11(2): 135-143. doi: https://doi.org/10.1080/17451000.2014.928414.
[8] DFO. 2020. Rebuilding plan for Atlantic cod – NAFO divisions 2J3KL. https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/cod-morue/2020/cod-atl-morue-2020-eng.html.

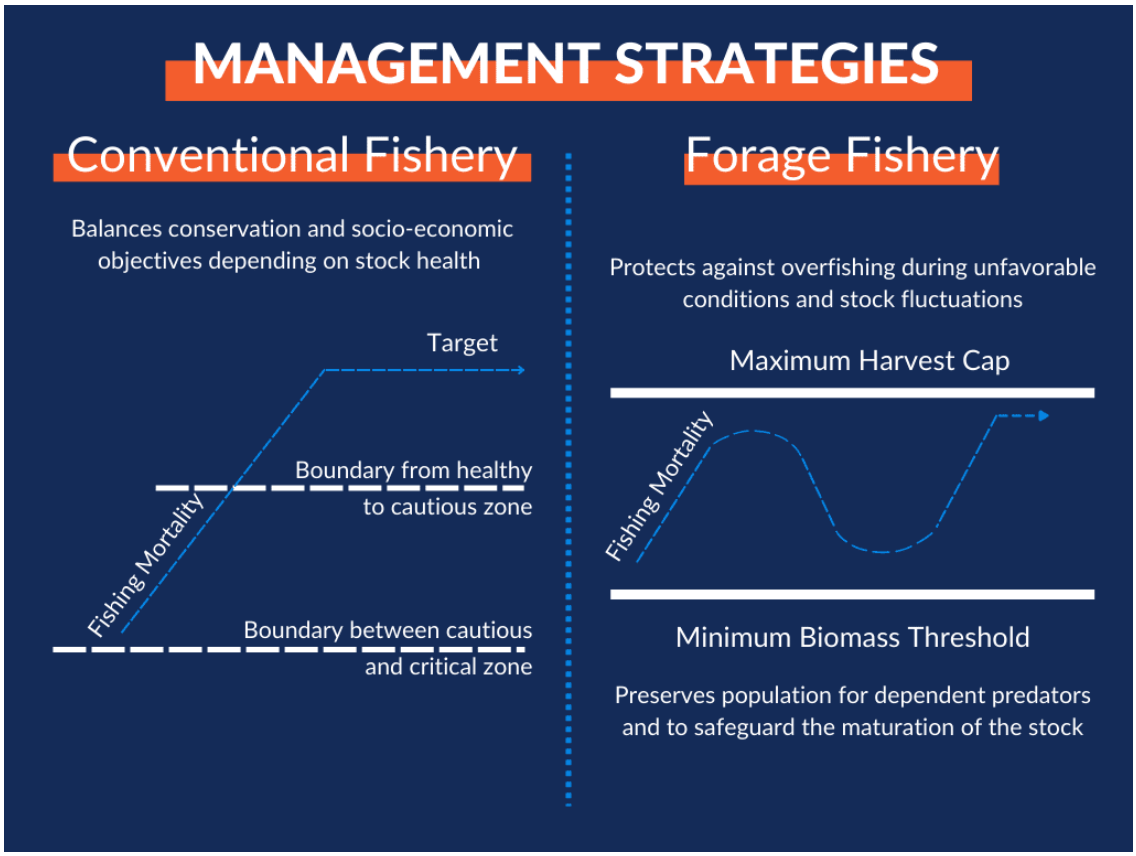
Appendix

Table A1. Table of 2022 forage fishery decisions in Canada. Rebuilding regulation batching refers to the Fish Stock Provisions of the *Fisheries Act* with those in Batch 2 currently proposed to be added.

Stock	Regulation Batching	Stock Status Relative to LRP	2022 Quota Decisions	Decision description
Capelin – NAFO 2J3KL	2	No LRP	**Not precautionary**	DFO's decision to maintain the harvest quota for northeast Newfoundland capelin from last year at 14,533t ignored the best available science that shows the population is critically depleted and has been overfished for 30 years.
Herring – NAFO 4X5Y (Southwest Nova Scotia/Bay of Fundy Spawning Components)	2	At or below LRP	**Not precautionary**	The Scotia Fundy herring TAC was reduced by 33 per cent which went against the department's own management strategy evaluation which proposed a quota reduction of 63 per cent. Further, removals of bait are not accounted for and largely uncertain. The stock has been in the critical zone since 2017.
Atlantic herring, NAFO 4T (Spring Spawner)	1	Below	**Followed science advice**	The commercial and bait fisheries for southern gulf spring herring and Atlantic mackerel were closed for the 2022 season. Southern gulf spring herring has been in a critical state for 20 years and Atlantic mackerel has been in or near the critical zone for over 10 years.
Atlantic mackerel	1	Below	**Followed science advice**	The commercial and bait fisheries for southern gulf spring herring and Atlantic mackerel were closed for the 2022 season. Southern gulf spring herring has been in a critical state for 20 years and Atlantic mackerel has been in or near the critical zone for over 10 years. The TAC for the southern gulf fall herring was reduced to 10,000 tonnes due to the stock being in the cautious zone, representing a 17 per cent decrease from last year. This stock is declining, and the recent recruitment was the lowest ever observed. Food, Social and Ceremonial (FSC) fisheries were not impacted by this decision.
Herring – NAFO 4T (Fall Spawner)	2	Above LRP	**Followed science advice**	
Pacific herring, Haida Gwaii	1	Below	**Followed science advice**	Most commercial fisheries for Pacific herring were closed for the 2022 season. The commercial harvest in the Strait of Georgia was reduced by 50 per cent to 7,850 tonnes. FSC fisheries, which use selective spawn on kelp and spawn on bough methods, remained open.
Pacific Herring – Central Coast	2	Above LRP	**Followed science advice**	Most commercial fisheries for Pacific herring were closed for the 2022 season.

Pacific Herring – Prince Rupert District	2	Above LRP	**Followed science advice**	The commercial harvest in the Strait of Georgia was reduced by 50 per cent to 7,850 tonnes. FSC fisheries, which use selective spawn on kelp and spawn on bough methods, remained open.
Pacific Herring – Strait of Georgia	2	Above LRP	**Followed science advice**	
Pacific Herring - WCVI	2	Above LRP	**Followed science advice**	

Figure A1. The management of forage fish requires a more precautionary approach relative to conventional fisheries. As shown in the schematic below, a minimum biomass must be left in the water for a functioning ecosystem and to safeguard their recruitment potential, and a maximum harvest rule must be in place to protect their populations against major fluctuations.[9]



[9] Daly, J. 2022, Sept. 9. "Little fish, big consequences: How six government decisions impact the future of forage fish" Oceana Canada Blog. https://oceana.ca/en/blog/forage-fish-are-essential-to-the-marine-ecosystem/