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Little fish, big consequences: How six government decisions impact the future of forage fish

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TOPICS: [REBUILD OCEAN ABUNDANCE](#)

A school of Mackerel swirl near a wharf.

Forage fish are essential to the marine ecosystem

Forage fish, such as herring, mackerel and capelin, are fast-growing schooling fish that are essential to healthy marine ecosystems. Forage fish play the unique role of transferring energy from the plankton they eat to the larger species that prey on them including cod, puffins and humpback whales.

Since these small fish play such an important role in supporting entire ocean ecosystems, it's equally important that managing their fisheries is done differently than traditional approaches that focus on one targeted population. Their unique life cycle and schooling behaviour make them vulnerable to overfishing, which means management measures must include requirements that prevent this. Knowing the total population size

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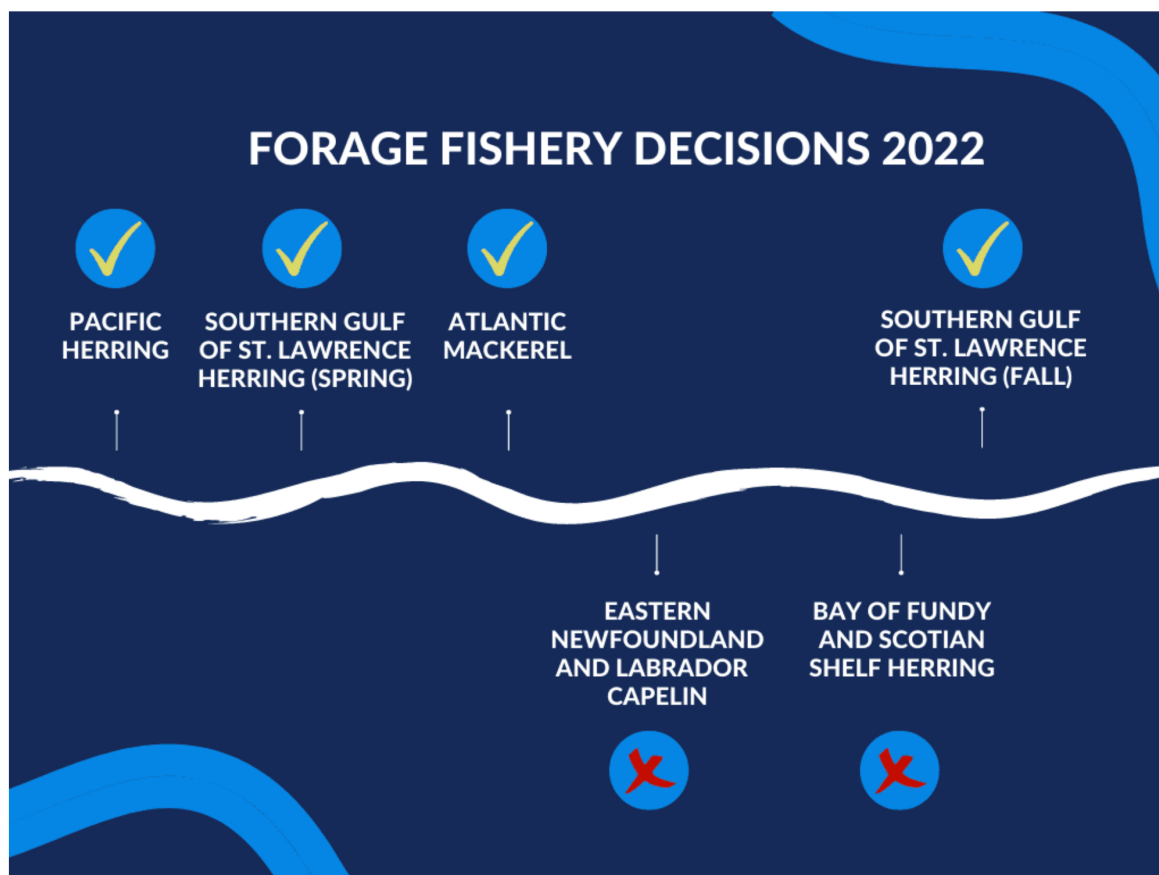
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Since these small fish play such an important role in supporting entire ocean ecosystems, it's equally important that managing their fisheries is done differently than traditional approaches that focus on one targeted population. Their unique life cycle and schooling behaviour make them vulnerable to overfishing, which means management measures must include requirements that prevent this. Knowing the total population size and identifying a maximum harvest threshold to keep the population healthy are two measures that can lead to more resilient populations. In the

face of threats such as the climate crisis, we think considering these things when managing a fishery is essential (and, it's just good science).

Unfortunately, many forage fish stocks in Canada are managed without considering their larger role in the ecosystem, and not all forage fish are listed under the [Fisheries Act rebuilding regulations](#) that would make rebuilding critically depleted populations the law.

Decisions made about these important fish are currently at the discretion of the Fisheries Minister. This past year was a mixed one for forage fish management in Canada that saw the closure of some fisheries to prioritize conservation, while other stocks were not adequately protected. Although this year's decisions marked an improvement on previous years, it is important to recognize that years of mismanagement unfortunately led to the need for some drastic conservation measures this year.



Let's dive into six consequential management decisions for forage fish this past year:

Pacific herring, *Multiple stocks* – FOLLOWED SCIENCE ADVICE

Pacific herring are small but crucially important fish to the ecology and culture of the West Coast of Canada. 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 a total allowable catch (TAC) of 7,850 tonnes. Food, Social and Ceremonial (FSC) fisheries, which use selective spawn on kelp and spawn on bough methods, remained open due to their prioritization in fisheries planning. Oceana Canada was [encouraged](#) by this decision which signaled the prioritization of fisheries rebuilding and the consideration of the role of forage fish in the ecosystem.

Atlantic herring, *4T Spring* – FOLLOWED SCIENCE ADVICE

Like Pacific herring, Atlantic herring are an integral part of the marine ecosystem and are preyed on by a variety of predators including whales in the productive Gulf of St. Lawrence. The commercial and bait fisheries for the southern Gulf spring herring was closed for the 2022 season. FSC fisheries remained open. Oceana Canada [commended](#) the Minister's difficult but necessary decision as being in line with the [Precautionary Approach Framework](#) which balances socioeconomic and conservation objectives and viewed this decision as a precedent-setting action on forage fish in Canada.

Atlantic mackerel – FOLLOWED SCIENCE ADVICE

Mackerel is an important recreational and commercial fishery in Atlantic Canada and has been fished by Indigenous Peoples for hundreds, if not thousands, of years. The commercial and bait fisheries for the Atlantic mackerel were closed for the 2022 season. FSC fisheries remained open, as well as the recreational fishery managed through a daily catch limit. This decision comes on the heels of a decade of mismanagement where previous quotas were set 10 times the science advice (e.g., [2014-2015 quota decisions](#)). In June of this year the Minister issued an exemption for bluefin tuna operators who are allowed to catch the daily recreational limit for bait.

Oceana Canada [commended](#) the Minister's decision which came on the same day as the announcement of the closure of the southern Gulf spring herring fishery. Regarding the Minister's exemption for bluefin tuna operators, Oceana Canada said that the decision highlighted the issue of sustainable sourcing of bait and the need to monitor all sources of fishing mortality.

Capelin, *21:3K1* – NOT PRECAUTIONARY

Capelin are an iconic forage fish off the coast of Newfoundland and Labrador that are known for 'capelin rolling' which is used to describe their spawning methods on and near beaches. In 2022, the TAC for the capelin fishery off the east coast of Newfoundland and Labrador was [maintained](#) at 14,533 tonnes, a rollover from the previous year when the quota was reduced by 25 per cent.

Oceana Canada called for a reversal of this decision to protect a stock which has been critically depleted and overfished for more than 30 years as shown in our recent report, [Capelin in Crisis: Urgent Action Needed to Rebuild Abundance](#). This action failed to follow precedent set in the Atlantic mackerel and southern Gulf of St. Lawrence spring herring decisions.

Atlantic herring, 4VWX – NOT PRECAUTIONARY

The Atlantic herring fishery on the Scotian Shelf and in the Bay of Fundy, which has existed since the 1700s, supports coastal communities in both Nova Scotia and New Brunswick. The TAC for the 2022 season was 23,450 tonnes, representing a [33 per cent decrease](#) from the previous year.

Oceana Canada, and several other environmental NGOs, were disappointed with this decision which was not in line with the Precautionary Approach Framework and went against the result of the government's own management strategy evaluation which proposed a quota reduction of 63 per cent. Further, removals of bait are not accounted for and are largely uncertain. The stock has been in the critical zone since 2017 and continues to see low recruitment, which refers to the process of young fish transitioning to a later life stage.

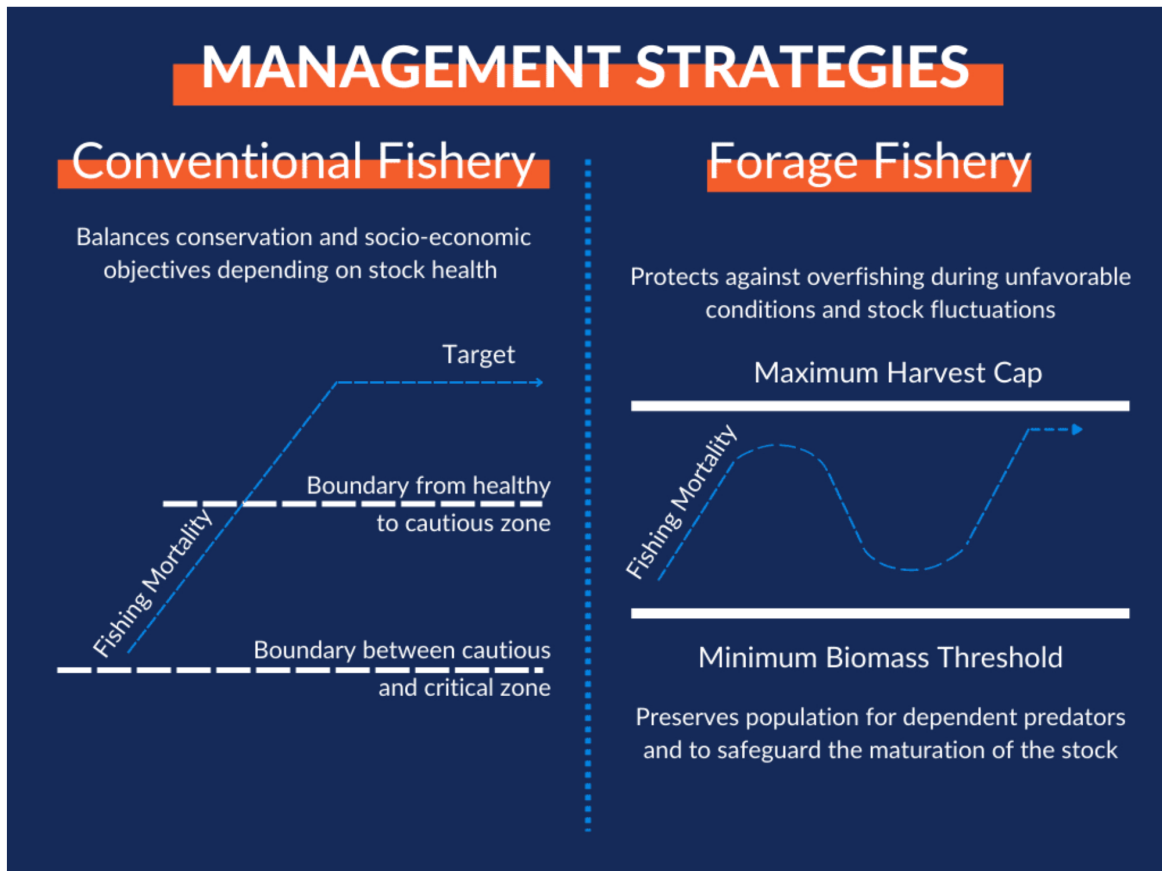
Atlantic herring, 4T Fall – FOLLOWED SCIENCE ADVICE

The TAC for the southern Gulf of St. Lawrence fall herring (a separate spawning population than the spring herring mentioned earlier) 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. FSC fisheries are not impacted by this decision ([DFO 2022](#)).

Oceana Canada supported the Minister's decision to cut the quota and advance steps to develop a rebuilding plan. Although Oceana Canada had called for the quota to be cut to 8,000 tonnes to help prevent the stock from reaching critically low levels ([Oceana 2022](#)), the 17 per cent reduction is a step in the right direction and points to the larger need for the stock to be listed under the *Fisheries Act* rebuilding regulations.

Forage fish require precautionary management measures

Although forage fish in Canada experienced some good news this year with management decisions that were precautionary in nature, the government still lacks a clear strategy for forage fisheries management and the decisions were inconsistent at best. Because forage fish are so unique, they require more precautionary management compared to other major fish stocks, including by safeguarding their recruitment potential and protecting their populations against major fluctuations.



The crisis management approach the government has taken leads to uncertainty for fish harvesters and leaves the fate of these vitally important fisheries up to political whims rather than scientifically sound management protocols. For forage fish to recover and remain healthy for the long-term, clear guidelines are needed. All forage fish stocks must be listed in the *Fisheries Act* rebuilding regulations, and all future decisions must be

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LAND ACKNOWLEDGEMENT

Oceana Canada operates in many regions across Canada. From coast to coast to coast, we acknowledge the ancestral and unceded territory of all the Inuit, Métis, and First Nations communities that call this land home, and we strive for our work to be done in a spirit of collaboration and reconciliation.

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