

To:

The Honourable Joanne Thompson,
Minister of Fisheries and Oceans and the Coast Guard.
MP Patrick Weiler, Chair, Standing Committee on Fisheries and Oceans
MP Ernie Klassen, Parliamentary Secretary to the Minister of Fisheries and Oceans

From:

The Herring Conservation and Restoration Society,
185-911 Yates Street
Victoria, BC, V8V 4Y9.
British Columbia.

September 25, 2025

Dear Minister Thompson,

We are a BC society, comprised of herring advocates from First Nations, academia, community and conservation groups, writing to ask you to pause the Pacific herring fisheries until stocks recover to pre-industrial fishing abundance, and to utilize recent fisheries research to guide DFO's management of the herring fishery.

On our coast, only one of the five DFO-defined populations is still marginally viable for a commercial fishery. The four other DFO-defined stocks have collapsed, and have yet to recover after many years. The once abundant herring populations which were spread across the Strait of Georgia, have been reduced to a fraction of their original spawning grounds, and to a shorter spawning period. The herring themselves are smaller at maturity. These facts do not indicate a healthy thriving population; rather they parallel the deterioration of other stocks as they collapsed, such as cod on the east coast.

The absence of those trillions of herring has meant a loss of food, income and health for communities over the length of our coast and has had profound negative effects on our marine ecosystem. Species like chinook salmon, which depend on herring, and Southern Resident Killer Whales, which depend on chinook salmon, are in crisis for lack of herring, putting at risk the lucrative recreational fishing and ecotourism industries which they support.

Currently, DFO's Integrated Fisheries Management Plan (IFMP), an antiquated model, makes two fundamental management assumptions which are inaccurate and exclude data which could make their decisions more realistic and appropriate.

- 1) The model treats each major stock as a single genetically homogenous group, a single management unit, which ignores the spatial and temporal diversity and complexity of herring substocks with seasonal resident and migratory patterns. Recent research shows that there are significant substocks, confirming Traditional Ecological Knowledge and past DFO scientific articles. Herring risk extirpation when harvested as part of an aggregate stock, within an aggregate Total Allowable Catch (TAC).

- 2) Although this is a terminal fishery and the herring segregate themselves into age classes—oldest first when they return to spawn—the IFMP finalizes TAC based on total biomass. Consequently, when harvested, older fish, which hold the memory of the spawning ground's location, are removed first, causing what is called “fishery induced memory loss”.

Though recent research has demonstrated the existence of genetically-diverse sub stocks and that older fish are essential to the species' survival by guiding younger fish to spawning grounds, DFO's management approach ignores these complex realities in favour of a simplified antiquated model that makes it easier to harvest and to supervise.

Many substocks have been fished out completely when they spawn because they're treated as a portion of the major stock's TAC. The disappearance of the herring sub stock at Powell River in 1986 is an example of this. This population has yet to recover 40 years later. The collapse of the substocks within the Haida Gwaii stock area started in the late nineties, was official by 2003, and have yet to recover.

In research comparison models, the 'Go with the Older Fish' model most accurately reproduced the extirpation of all the herring spawns in the southern Strait of Georgia. DFO herring scientist Jaclyn Cleary was a part of this international research. Traditional knowledge of coastal First Nations and research on herring in the Atlantic and the North Sea share this same information about the species behaviour: older herring lead younger herring to their spawning grounds, and when they are not present in sufficient numbers, the younger herring follow other older fish and abandon their original spawning sites. This is almost certainly why recovering herring stocks collapse again once fishing has been restarted, because once again they lose sufficient older fish to lead. The younger fish don't know where to spawn, or where to find their feeding grounds. This is also why it is so difficult to repopulate a spawning ground; the memory of the spawning grounds is gone and the remnant of the substock has entrained behind another stock's older fish.

The combination of fishing out substocks and inducing memory loss by removing large portions of the older fish results in loss of genetically unique herring populations and in abandoned spawning grounds. The IFMP management regime is better suited to an interception fishery than a terminal one, where the fish have already separated themselves into their particular genetic groupings and age classes following the older fish.

Recovery is what we're advocating. We ask you to:

- 1) **Pause the TAC until** herring sub-stocks have returned to pre-industrial harvesting abundance and diversity. After one herring generation (6-7 years) populations should be assessed to understand the implications of fishing, niche competition, fish farm impacts, rebounding predators, and ocean warming. According to DFO herring scientists, when a herring population approaches the carrying capacity of their area, younger herring “stray” to adjacent areas and become the basis of new populations. There are so many empty spawning grounds which could be reoccupied; for starters, Powell River and all spawning grounds south of Nanaimo in the

Strait of Georgia. See also #5 regarding the legal liabilities created when DFO manages this fishery to the detriment of First Nations' rights.

2) **Allow older fish to spawn**, rather than be the first to be harvested. This especially includes older fish in smaller recovering spawns. They are essential for retaining the memory of that location. Also, they are more reproductively prolific and resilient from an evolutionary sense.

3) **Recognize sub stock diversity and populations**. Diverse populations in various locations are much more sustainable than a single stock in a single location.

4) **Establish accurate pre-commercial harvesting baselines for herring biomass**. Rather than use the 1950s baseline, which shows a biomass reduced after almost a century of industrial fishing, and distorts all calculations of population norms, pre-commercial harvesting baselines for all the substocks should be established. (See Unsettling the record: modelling the devastating cumulative effects of selected environmental stressors and loss of human life caused by colonization in Burrard Inlet, Canada. M Efford, 2025)

5) **Include the voices of First Nations and communities whose herring spawns have collapsed**. DFO privileges those who still have access to the fishery, who are the investors. Many rights holders have lost any meaningful ability to practice their harvesting rights and traditional lifeways, and lack the food sovereignty essential to their communities' health and well being. This cumulative impact, due to mismanagement of this fishery, has become an infringement on the constitutionally-protected rights of Indigenous Peoples in Canada.

6) **Build plans for recovery of local sub stocks** similar to the stock rebuilding plan for Haida Gwaii. Coastal First Nations know about the loss of their herring, how it happened, and what changes are needed. Like the Haida Nation, their co-management plans for recovery are key to developing a fair, informed and sustainable herring fishery.

In summary, we're asking that the Honourable Minister instruct DFO management staff to pause the fishery and build plans that properly reflect herring's genetic and behavioural complexity and its precarious situation. Herring are trapped in a management-induced population crash on our coast, what the Tseil-Waututh call "a transition from a sustainable harvest to devastating collapse in biomass to a long-term suppression of the population." Now that we're down to one last stock, we ask the Honorable Minister to recognize the irreparable consequences of DFO's business-as-usual approach and take bold steps to save the Pacific herring.

Sincerely,

A handwritten signature in cursive script that reads "Dorrance Woodward". The ink is dark and the signature is fluid, with a long, sweeping tail on the last word.

Dorrance Woodward

For Herring Conservation and Restoration Society

<https://savetheherring.org/>

For further information contact:

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References for Herring Conservation and Restoration Society's letter to the Honourable Joanne Thompson, Minister of Fisheries and Oceans and the Coast Guard:

- 1) A heuristic model of socially learned migration behaviour exhibits distinctive spatial and reproductive dynamics. Alex D McCall et al 2018 <https://repository.library.noaa.gov/view/noaa/43821>
- 2) Herring spawned poleward following fishery induced collective memory loss. A Slotte 2025 https://www.researchgate.net/publication/391530875_Herring_spawned_poleward_following_fishery-induced_collective_memory_loss
- 3) Herring Population Loses Migration Memory After Heavy Fishing' describing Dr. Aril Slotte's work in Nature, 2025. <https://www.youtube.com/watch?v=LjLZ9IZQnPo>
- 4) Collapse, Tipping Points, and Spatial Demographic Structure Arising from the Adopted Migrant Life History. Luke A Rogers 2018 <https://pubmed.ncbi.nlm.nih.gov/29897803/>
- 5) Stock collapses and their recovery: mechanisms that establish and maintain life-cycle closure in space and time. Pierre Petitgas et al 2018 <https://pubmed.ncbi.nlm.nih.gov/29897803/>
- 6) Including Older Fish in Fisheries Management: A new age- based indicator and reference point for exploited fish stocks. C. Griffiths et al 2023 https://www.researchgate.net/publication/373797106_Including_older_fish_in_fisheries_management_A_new_agebased_indicator_and_reference_point_for_exploited_fish_stocks
- 7) Functional genetic diversity in an exploited marine species and its relevance to fisheries management Eleni Petrou et al 2021 <https://pubmed.ncbi.nlm.nih.gov/33622133/>
- 8) Straying Rates and Stock Structure of British Columbia Herring. DM Ware et al 2000 https://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2000/2000_006-eng.htm
- 9) Haida Gwaii 'iináang | iinang Pacific Herring Rebuilding Plan: An Ecosystem Approach <https://waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/41284161.pdf>
- 10) Unsettling the record: modelling the devastating cumulative effects of selected environmental stressors and loss of human life caused by colonization in Burrard Inlet, Canada. M Efford, 2025 <https://twnation.ca/wp-content/uploads/2025/07/efford-et-al-unsettling-the-record-modelling-the-devastating-cumulative-effects-of-selected-environmental-stressors-and-1.pdf>