

**From:** David Denning [REDACTED]  
**Sent:** Wednesday, November 13, 2024 3:55 PM  
**To:** SSInfo  
**Subject:** November 13 - Nature Salt Spring's Response to the proposed Baker Beach Shoreline Modification initiative  
**Attachments:** Response to proposed Baker Beach Shoreline Modification initiative.docx  
  
**Follow Up Flag:** Follow up  
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On behalf of the Steering Committee for Nature Salt Spring, I submit the following Response to the Proposed Baker Beach Shoreline Modification Project

Please add this document to the list of concerned responses to this development

**Response to proposed Baker Beach Shoreline Modification initiative**  
[Crown Land Tenure Application (Tracking Number 100439391)  
Land / Foreshore Use Application: Shoreline Erosion Mitigation  
and DFO Request For Review: *Baker Beach Green Shore Mitigation For Backshore  
And Foreshore, Salt Spring Island*]

**Submitted by the Nature Salt Spring Steering Committee**  
David Denning, Kathleen Maser, Peter McAllister, Jean Wilkinson, Giselle Paquet,  
Pat Miller, Gail Bryn Jones

Nature Salt Spring is a grassroots organization on Salt Spring Island dedicated to nature education, conservation and restoration of natural ecosystems on Salt Spring and the Gulf Islands. We have examined the proposal for foreshore modification at Baker Beach (Tracking Number 100439391) as well as the DFO Request for Review Document, and we strongly object to any alterations involving intertidal areas of Baker Beach.

**We agree with land-based remediation, but strongly oppose the proposed intertidal modifications:**

We believe it is inappropriate to consider major industrial-scale modifications of the intertidal areas at Baker Beach described in these project proposals. Instead, we support a staged approach that would only allow consideration of significant beach modifications several years after all land-based remediation work has been implemented and thoroughly assessed.

We have concerns that the intertidal industrial-scale modifications proposed by this project will damage the integrity of the intertidal beach ecosystems and extensive near-shore eel grass bed ecosystems, both as a consequence of moving and placing materials on the beach and the long term effects of materials redistributing out across the intertidal areas. We feel that the recreational, educational, and nature-watching values of this beach are not available on any other beaches/shorelines of Salt Spring Island, and they should be preserved in their natural form. Our view is that the proposed intertidal modifications have a high likelihood of damaging a fish-nesting habitat as significant as any forage-fish habitat.

On the other hand, we enthusiastically support the approach of above-shoreline remediation efforts, and would be happy to work with the Transition Salt Spring Native Plant Stewardship Working Group and other organizations to help in promoting these above-shore remediation efforts.

**Baker Beach is a Spectacular and Unique (to Salt Spring) Wildlife–Fish Interaction Hot Spot**

Baker Beach is popular spot to visit at low tide, particularly for families that appreciate exploring intertidal life, and for bird watchers and other nature enthusiasts who appreciate our large avian species such as Bald Eagles and Great

Blue Herons. During the months of May–July this section of Baker Beach is a hot bed of Bald Eagle and Great Blue Heron activity.

We are especially concerned about the potential for altering or destroying this spectacular wildlife display that is dependant on a nesting fish – the Plain-fin Midshipman, (*Porichthys notatus*) hereafter referred to as Midshipman or PFM. To briefly summarize the remarkable aspects of PFM life history, as they relate to the rocky intertidal shoreline of this proposed development:

- PFM males swim up from the depths of Sansum Narrows in April/May to establish nests under intertidal rocks. Males will occupy these nests and guard eggs for 2-3 months.
- Nesting sites require specific conditions – suitably-sized, and suitably-shaped rocks sitting on a suitable substrate allowing the fish to hollow out and maintain a pocket nest under the rock.
- In the western Salish Sea region, there are probably less than 10 ‘hot spots’ of PFM nesting with nest densities >100 nests/km. <sup>1</sup>.
- Baker Beach is a ‘PFM nesting hot spot’. Surveys in 2019 and 2022 revealed 113±20 PFM nests in one kilometer of shoreline that includes the 800 meter proposed shoreline development.
- As part of an extensive study of Sea Star Wasting Disease on Salt Spring Island, we also surveyed most of the beaches on SSI that appear to have suitable PFM nesting habitat. While a few scattered PFM nests were found elsewhere, the evidence at this point suggests that Baker Beach is the only PFM nesting ‘hot spot’ on SSI.
- One significance of a PFM hot spot is that both adult male and female Midshipmen are frequently moving to and from nests along the shore where they are vulnerable to predation by Bald Eagles, Great Blue Herons, Northern Crows Glaucus-Wing Gulls and other birds. Studies have shown that PFM are the primary provisioning food for nesting eagles and Great Blue Herons in many Salish Sea regions. One study estimated that over 22,000 PFM were consumed by nesting eagles in the Crescent Beach, White Rock, Delta, Surrey area in one single May-July breeding season. <sup>2</sup>
- Studies show that PFM nests contain, on average, 400-500 yolky eggs glued to the ceiling of the nest cavity where they develop into swimming juveniles. This indicates that as many as 40,000-50,000 new PFM juveniles may escape as hatchlings from Baker Beach each year.
- We also note that despite the seeming resilience of a fish that nests in the intertidal, these fish can be extremely vulnerable. We carried out a short survey in July 2021 about 2 weeks after a severe ‘heat dome’ in which air temperatures exceeding 40° C during the lowest tides of the year. The survey of 11 nests revealed that egg masses in all nests had been destroyed by the heat. The survey suggested that an entire cohort of PFM offspring was wiped out by the 2021 June heat dome. We are extremely concerned that movement of “nutrient” particulate materials placed at the top of the beach will lead to

diminished nesting habitat for PFM, and loss of this valuable food cycle for aerial wildlife and other ocean life.

### **Above-shoreline approaches to remediation**

We believe that thorough implementation of nature-based mitigation solutions directly on the slopes of greatest concern above Baker Beach **should be carried out before any modifications at the beach level would even be considered, NOT CONCURRENTLY. As noted in the DFO Request Document** (Request for Review: *Baker Beach Green Shore Mitigation For Backshore And Foreshore, Salt Spring Island* ) **these would include:**

- Bioengineering and Re-vegetation
- Remove invasive species along the backshore and re-plant with native species at a high density. Irrigate until established.
- Enhancement of backshore vegetation through planting of native species, particularly overhanging species such as Oceanspray. This is included in the detailed design plan with specific plant species, locations, spacing, methods of planting and maintenance.
- Maintain the current natural beach slope to the extent possible.

We strongly support these remediation approaches, although with the following caveats:

- Timing, extent, and species selection for invasive species removal should be approached with great caution. To the extent that invasives are helping with soil retention at the current time, they should be replaced according to best invasives control practices.
- Native vegetation options for slope remediation control include a large number of species in addition to Ocean Spray. In particular, Snowberry, Red Osier Dogwood, Saskatoon Berry, June Plum, Red Flowering Current, Nootka Rose and other native roses are ideal due to their relatively sizeable root development but reduced water demands compared to trees such as Douglasfir and Arbutus.
- We enthusiastically support the idea of hiring locals to carry out this remediation work, in order to establish a larger pool of natural vegetation remediation businesses and workers on the Island

A second major issue, and one that again requires study and possible implementation **before considering any modification** of Baker Beach, is the indication that water retention in the slopes leading down to the beach has been modified by the construction of houses on the slopes/benches above the beach. We feel that a thorough study of the relationship between water retention and slope movement may suggest alternatives such as water flow control. This would help in

guiding native species remediation and would significantly affect decisions about whether to continue with requests for beach modification.

Notes:

- 1) Personal communication with Rick Harbo, BC Marine Guide Author, retired DFO Mollusk Fisheries Specialist, specialist in marine invasive/introduced species.
- 2) Elliott, K. H., C. Struik and J. E. Elliott. 2004. Bald Eagles, *Haliaeetus leucocephalus*, Feeding on Spawning Plainfin Midshipman, *Porichthys notatus*, at Crescent Beach, British Columbia. *Canadian Field Naturalist* 117: 601-604.
- 3) Ripple, W.J. et.al. (12 authors) October 2024. The 2024 state of the climate report: Perilous times on planet Earth. *BioScience*
- 4) Soil Bio-Engineering for Erosion Control. Website: <https://hatchetnseed.ca/soil-bio-engineering-for-erosion-control/> Published by Hatchet and Seed.
- 5) Shoreline slope restoration project near Witty's Lagoon, British Columbia - YouTube - <https://www.youtube.com/watch?v=a6kj4SEpBNI>