

**From:** [Daniel E Penttila](#)  
**To:** [Hamel, Kathy \(ECY\)](#)  
**Cc:** [Laura Hendricks](#); [anne shaffer](#); [Stephanie Buffum](#)  
**Subject:** Japanese eelgrass as herring spawning substrate  
**Date:** Monday, March 05, 2012 10:32:54 AM

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Kathy Hamel, WDOE:

SUBJECT: *Zostera japonica* as documented herring spawning habitat in Grays Harbor and Willapa Bay

I wish to comment from my personal observations of the usage of "japanese eelgrass" as herring spawning substrate in Washington's coastal estuaries. I am a recently retired WDFW forage fish biologist, having spent 39 years involved in investigations of herring, surf smelt, and Pacific sand lance biology, spawning ecology and critical spawning habitat mapping throughout the state of Washington. By way of record of my professional knowledge and experience, see: Penttila, D.E., 2007. The marine forage fishes of Puget Sound. PSNERP Tech Report 2007-03, at [www.pugetsoundnearshore.org](http://www.pugetsoundnearshore.org) .

I have personally observed the usage of middle intertidal beds of *Zostera japonica* as egg-deposition substrate by Grays Harbor and Willapa Bay stocks of Pacific herring during their February-March spawning seasons. These records of my observations would be housed within the files and photo notebooks of the WDFW Marine Resources Division at their LaConner, WA office, if more specific details were needed. These records are considered public information, and I presume I would still have personal access to them, if requested. The degree to which extensive beds of *Zostera japonica* also serve as herring spawning habitat in the Salish Sea region, where herring spawning on adjacent beds of *Z. marina* overlaps with extensive aquaculture operations, such as Drayton Harbor (Whatcom Co.) and Samish Bay (Skagit Co.), should also be investigated before any industrial-scale applications of herbicides are allowed.

In southern Grays Harbor, I photographed as well as sampled herring eggs on *Zostera japonica* beds in the vicinity of the Bay City bridge over the Elk River estuary. In Willapa Bay, I recall herring eggs being found on *Zostera japonica* beds just inshore of the native *Z. marina* beds in the area north of Oysterville. In both areas, the herring spawning sites in question were within short distances of active shellfish aquaculture plots, and thus would be damaged or destroyed by the application of pest-control herbicides.

In my opinion, the herring spawning habitats of Grays Harbor and Willapa Bay already suffer enough damage from uncontrolled (ie. "voluntary codes of practice") aquaculture activities annually, through the dredging of ground-cultured oysters during the spawning season, stomping and shading. They should not be further impacted by yet another ill-considered act for the benefit of the commercial aquaculture industry's bottom line.

In these coastal estuaries, any attempted chemical control of *Z. japonica* beds immediately inshore and possibly intermingled with the inshore portions of *Z. marina* beds would cause damage to the native *Z. marina* beds and their herring spawning habitat function. It is a poorly kept secret that the aquaculture industry has for generations considered eelgrass to be a "pest" and has routinely pursued measures to eradicate the species from their culture plots, despite the species' clear ecological value.\* Such damage to herring spawning habitats should be considered a violation of the WA State GMA, WA State SMA, the WAC Hydraulic Code Rules and federal Essential Fish Habitat rules for the conservation of ESA-listed salmonids in this region, all of which advocate no-net-loss protections for documented herring spawning grounds.

\* Simenstad, C.A., and K.I. Fresh, 1995. Influence of intertidal aquaculture on benthic communities in Pacific Northwest estuaries: scales of disturbance. *Estuaries*, Vol 18, No. 1A, p. 43-70.

Thank you for this opportunity for input.

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