

SHORE STEWARDS NEWS

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This issue of Shore Stewards News was prepared by Scott Chase, Shore Stewards Coordinator, Island County.

Japanese Eelgrass: Beneficial to Habitat or Noxious Weed?

For several years, the Shore Stewards program has stressed the importance of eelgrass to our shorelines and associated habitat. It softens the impact of waves and current, stabilizing the shoreline. It provides a diverse habitat for many species, as well as protection from predators for salmon and other juvenile fish. It shelters small animals and plants from extreme temperatures during low tides. Herring lay their eggs on the blades, and Dungeness crabs use it for protection during spring when they are molting. And it decomposes into an important part of the food web for the coastal marine ecosystem. However, "eelgrass" does not refer to one specific seagrass species. There are two dominant species of eelgrass that inhabit Puget Sound and the coastal areas of the Northwest coast: *Zostera marina*, a native species, and *Zostera japonica*, a non-native species that was first observed in our waters in the past century. (Other species, such as *Ruppia maritima*, will not be covered in this newsletter.) *Zostera japonica*, or Japanese eelgrass, is also referred to as Asian eelgrass, dwarf eelgrass, duck grass, narrow-bladed eelgrass, or just eelgrass. It is this species of eelgrass that is receiving much attention recently, due to its importance to habitat as well as its potential negative impact upon commercial shellfish beds.

Thought to possibly have been introduced into our waters as discarded packing material for oysters shipped from Japan, the first *Zostera japonica* specimen was found on September 9, 1957 in Willapa Bay, a location that produces more shellfish than any other inlet on the West Coast. Since then, this species has multiplied throughout many of our small bays, coastal estuaries and fringing coastlines from Northern California to Southern British Columbia. This species inhabits the sandy or muddy substrates of the upper intertidal area of the beach, usually above the area inhabited by the native *Zostera marina*, but in some instances the species have been found to grow in the same zone.

Photos below, courtesy of Mary Jo Adams: Zostera japonica in left and middle photos. Note the narrow blades as compared with the native Zostera marina, shown in photo on right.



The Problem with Japanese Eelgrass

Though Japanese eelgrass has many supporters, there are also those who would like to have it declared a Class C Noxious Weed, recognized as being widespread in Washington, and not targeted for aggressive eradication. In locations such as Willapa Bay, the areas of the beach that grow the best clams are also the same flat, sandy locations that Japanese eelgrass has been colonizing. Brian Sheldon, owner of Northern Oyster Company in Willapa Bay, described the problem in a recent NPR interview:

"It just takes a little bit of heat and little bit of good light and this stuff starts to go. And, oh boy!"

"In the summer, this piece of ground here will be completely covered with grass," Sheldon said. "It kinds of sits in there and holds the heat in there in the bed and it makes the clams watery and weaker."

Sheldon says the "infestation" has reached "devastating" proportions. Several neighboring companies have simply abandoned some clam beds. "Our yields are down 40 to 50 percent, you know."

In September of 2010, a two day workshop was held by Washington Sea Grant at the U.W.'s Friday Harbor Laboratories to address the state of science of *Zostera japonica*. Organized by Jeff Adams of Washington Sea Grant and coordinated by Sandy Wyllie-Echeverria, Ph.D., University of Washington, and Jennifer Rhode Ward, Ph.D., University of North Carolina, the workshop's priorities were: to identify what is known about *Z. japonica* populations in North America; to recommend priorities for future research; to produce a white paper based on workshop discussion; and to disseminate workshop information via Web sites. Information from that workshop and the discussions by the experts can be linked to on the Resources page of this newsletter.

The Controversy in Declaring Japanese Eelgrass a Noxious Weed

Eelgrass is listed as a protected species throughout Washington State laws, regulations and rules. These include *Hydraulic Code Rules WAC 220-110-250: Saltwater habitats of special concern*, the *Shoreline Management Act*, and the *Growth Management Act and Fish and Wildlife Habitat Conservation Areas*. Other protective measures regarding *Zostera japonica* are addressed by the Army Corps of Engineers; in the Critical Area Ordinance of the Fish and Wildlife habitat conservation areas; in the Pacific Coast Groundfish Fishery Management Plan; and in Washington Department of Fish and Wildlife's Priority Habitats "Puget Sound Nearshore". With Japanese eelgrass being listed as a protected species in so many places, it is difficult to also have it listed as a noxious weed, even if just applied to locations where there are commercial shellfish beds, making it subject to possible control measures. The problem was best stated in an email recently sent out by Alison Halpern of the Washington State Noxious Weeds Control Board:

"Last year, the Noxious Weed Committee (and ultimately the State Weed Board) did not recommend moving the proposal to list Japanese eelgrass for 2011 for two primary reasons. First, there was concern about conflicting state rules, with WDFW's Priority Habitats and Species (PHS) mandating the protection of all eelgrass species, which included Japanese. And second, there was a lack of

consensus between eelgrass experts as to whether the negative impacts of Japanese eelgrass outweighed its benefits in the intertidal ecosystem.

“This year, WDFW modified the PHS and specifically exempted Japanese eelgrass, thereby allowing control of that species, which meant that one of the two concerns was mitigated. However, there is still that lack of agreement as to whether Japanese eelgrass has more positive or negative impacts, but there is agreement that a better understanding of the seemingly myriad interactions in the intertidal zone is needed.

“A suggestion was recently suggested, which was to consider the option of recommending a Class C listing but limiting the noxious weed status to “*commercially managed shellfish beds **only***”. If this language were adopted into WAC 16-750, then it would allow the state weed board to 1) recognize that Japanese eelgrass has known economic impacts to the shellfish growers and 2) would also be acknowledging that the eelgrass experts have not deemed Japanese eelgrass problematic in natural areas. Indeed, this species still appears to display a combination of positive, negative, neutral, and unknown impacts in the tidal ecosystem, along with complex interactions with many other species that are currently not fully understood. This suggested listing language – if adopted for 2012 – would allow us to educate the public about the complexity of this species and how it can be both detrimental and beneficial, depending on the area. Actually, this species gives us an opportunity to do some outreach about the fact that no noxious weed species is inherently evil, and that sometimes there is no simple one-size-fits-all solution. Please keep in mind that this proposed language is *only* a suggestion and nothing has been formally decided upon. It will still be up to the Noxious Weed Committee to deliberate options and the State Weed Board to ultimately vote on what they think is best for the weed list in November, following the public hearing.”



Above, right: Japanese eelgrass smothered Willapa Bay clam beds in Sept. 2010. Photo by Dr. Kim Patten, WSU Extension, as reported in NPR article by Tom Banse of KPLU, June 16, 2011.

This is one of those situations where something that is beneficial to some species or the health of Puget Sound can be detrimental to others. Studies continue as to what the impact of Japanese eelgrass is on the native seagrass *Zostera marina*, for example, in locations such as the Padilla Bay National Estuarine Research Reserve in Skagit County. We will update you when more information about Japanese eelgrass in Washington State is made public.

Resources and Links

Invasive eelgrass doesn't follow the usual invader's script, by Tom Banse, KPLU Radio (National Public Radio) June 16, 2011. <http://www.npr.org/templates/story/story.php?storyId=137210930>

Zostera japonica Workshop, September 23-24, 2010.
<http://www.wsg.washington.edu/mas/ecohealth/eelgrass-workshop.html> (Also links to White Paper on the workshop discussions.)

Puget Sound Marine Invasive Species Identification Guide, April 2008. Nahkeeta Northwest Wildlife Services and Washington Department of Fish and Wildlife.
http://vmp.bioe.orst.edu/Documents/mism_ID_Cards5print.pdf

Events

Port Susan Marine Stewardship Area: Please come learn more about the proposed Port Susan Bay MSA, and share your thoughts on one of two evenings; Monday July 11th at Kayak Point Park from 5:30-7:30 p.m. or Tuesday July 12th at the Camano Senior and Community Center, 606 Arrowhead Road, from 5:30-7:30 p.m. Pizza and refreshments will be provided. Parking fees at Kayak Point will be waived for attendees. Public Input Sought on Strategies. Home to Chinook salmon, gray whales, shellfish beds, diverse cultures, and a thriving agricultural economy, Port Susan is a dynamic area with regionally significant biodiversity. Those who live and work in Port Susan witness its value daily; but what does the future hold for this beloved place? Urban, rural, Tribal, and residential communities alike have a stake in the prospects of this region, while a variety of threats challenge the future of this special place. To learn more and have your opinions heard, come to our next public workshop. We will be presenting a set of draft conservation strategies for Port Susan Part of the project includes an effort to create a voluntary Port Susan Marine Stewardship Area (MSA). Snohomish and Island County Marine Resource Committees, Tulalip and Stillaguamish Tribes, The Nature Conservancy, WSU Extension, and many other groups have come together to help ensure that the health of the resources of Port Susan Bay continue into the future. The MSA offers the ability for many agencies to coordinate their existing work in a unique way. An important step in this process is gathering input from those who live and work in Port Susan. The upcoming workshops provide a forum for the public to contribute to the conservation of Port Susan by providing comment on strategies developed for conservation action. Participation is encouraged to help planners build a MSA that meets the needs of everyone in the region. Please contact Kathleen Herrmann, 425-388-6414, or Kathleen.herrmann@snoco.org for more information. These workshops are brought to you by the Port Susan Bay Marine Stewardship Area Initiative.



This product is funded by the Island County Marine Resources Committee and the Northwest Straits Commission. You can view the Marine Resources Committee website at www.islandcountymrc.org

The website for the Northwest Straits Commission can be seen at <http://www.nwstraits.org/>



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