

From: [Garth Griffin - NOAA Federal](#)
To: [Lubliner, Nathan \(ECY\)](#)
Cc: [Ken Phippen - NOAA Federal](#); [Matthew Longenbaugh - NOAA Federal](#); [Laura Hoberecht - NOAA Federal](#)
Subject: non-native Japanese eelgrass control
Date: Friday, February 14, 2014 4:02:41 PM
Attachments: [Ecology, NPDES comments, eel grass 021314.pdf](#)

Attached - thanks.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232

February 13, 2014

Nate Lubliner
State of Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Lubliner

Thank you for the opportunity to comment on the draft State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) for the draft general permit (National Pollutant Discharge Elimination System and State Waste Discharge general permit) for non-native Japanese eelgrass (*Zostera japonica*) management on commercial clam beds in Willapa Bay, Washington. NOAA's National Marine Fisheries Service (NMFS) comments are provided based on our responsibilities under Executive Order 13112, the Endangered Species Act (ESA), the Magnuson Stevens Fishery Conservation and Management Act (MSA), and the Department of Commerce and NOAA Aquaculture Policies.

NMFS' primary concern with the action proposed by Ecology is the potential for negative effects on native eelgrass (*Zostera marina*). NMFS recommends, because of shared resource concerns and in the spirit of interagency collaboration, that Ecology include NMFS on the *Z. japonica* management/monitoring team (see #9 below) and the Discharge Management Plan team (see #10 below). We also offer these comments for your consideration:

General Comments:

1. *Z. japonica* has been confirmed to be a non-native species to Washington. Since its introduction it has colonized and spread into many habitats along the West coast. Based on Executive Order 13112 that formed the National Invasive Species Council (NISC), NMFS does not promote the spread of invasive plants. Although NMFS has consulted on various control methods for *Z. japonica*, the agency does not currently advocate any specific type of control.
2. In addition to biological effects on marine resources by controlling *Z. japonica*, NMFS is concerned about economic impacts shellfish growers are experiencing due to the spread of non-native *Z. japonica*. Aquaculture is an important component of our agency's efforts to maintain healthy and productive marine and coastal ecosystems, protect special marine areas, rebuild overfished wild stocks, restore populations of endangered species, restore and conserve marine and coastal habitat, balance competing uses of the marine environment, create employment and business opportunities in coastal communities, and enable the production of safe and sustainable seafood.



3. NMFS has not had the opportunity to analyze the effects of the chemical control of *Z. japonica* in respect to our regulatory authorities under the ESA and MSA. As a selective herbicide, it is not anticipated that the active ingredient in imazamox (proposed herbicide) would have direct effects on ESA listed species or critical habitat identified in the application area, however, NMFS trust resources under the essential fish habitat (EFH) provisions of the MSA could be affected. In particular, *Z. marina* is designated as a habitat area of particular concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan.
4. The proposed permit for the application of imazamox does not include information regarding the formulation that may be used, or contain a prohibition on the inclusion of surfactants or adjuvants. Because some surfactants and adjuvants can have significant deleterious effects on the environment and ESA listed species, information regarding the specific formulation of imazamox that may be used and the chemical information for any surfactants or adjuvants should be included in the permit, or the permit should explicitly state that no surfactants or adjuvants may be used during application. Without providing this information or restrictions, the conservative approach to analyzing the effects must assume that surfactants and adjuvants with the potential for significant environmental impacts are being permitted by Ecology, potentially leading to harmful effects on ESA listed species or EFH.

Specific Comments, EIS (State of Washington 2014a):

5. Because the two species of eelgrass overlap somewhat, NMFS recommends the SEPA EIS discuss direct and indirect effects of current *Z. japonica* physical removal practices (on commercial clam beds) on *Z. marina* in Willapa Bay. Although migration of native eelgrass higher into the intertidal zone normally occupied by *Z. japonica*, as well as presence in clam beds after *Z. japonica* treatment (Patten et al. no date), is discussed, NMFS suggests including a statement regarding current *Z. marina* presence within commercial clam beds. As described on page 12 of the EIS (State of Washington 2014a), current practices of *Z. japonica* control include removal by hand during clam harvest, and use of physically disruptive harrowing and sweeping techniques that cause severe foliage damage and minimal root/rhizome damage. NMFS believes this is important because the preferred alternative (State of Washington 2014a, page 13) is an integrated approach that includes operational (crop rotation and harvest practices), physical (existing control practices) and chemical (imazamox application) methods of control. We also note the Ecology goal for this permit is no net loss of native eelgrass.
6. NMFS recommends reconciling the timing of the single-point-in-time post-treatment monitoring (30 days following) in the 10 meter buffer in the draft permit relative to the timing of herbicide (April 15 through June 30), with the natural senescence of plants in late June (Grue et. al 2013). The decrease in the two endpoints suggests *Z. marina* is already senescing by the end of June when 30-day post herbicide application monitoring is scheduled to occur on these study sites. Monitoring 365 days post- application may be better to assess any “net loss” of native eelgrass associated with the control of *Z. japonica*

on commercial clam beds in Willapa Bay, however this would require monitoring of a reference site to avoid confounding natural annual variation with direct effects of application.

Specific Comments, Permit (State of Washington 2014b) and Associated Permit Fact Sheet (State of Washington 2014c):

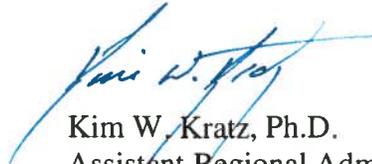
7. NMFS recommends Ecology clearly define the meaning of “no net loss.” The goal for *Z. marina* is no net loss, from commercial clam bed properties in Willapa Bay due to activities conducted under this permit (State of Washington 2014c, page 45). As stated by Grue *et al.* (2013) on page 21, “A decision on the importance of a distinction between direct toxic and indirect effects of the application of imazamox on native eelgrass is important. Direct toxic effects may result in a reduction in the selected endpoints 30 and/or 365 days following application resulting from the exposure of off-site eelgrass to the herbicide. Determination of direct toxic effects 365 days after application may be confounded by indirect effects on the environment on and off the study plots. Removal of *Z. japonica* on the herbicide-treated beds may alter water flows and/or depths along the study transects, particularly on the upper elevation transects. A reduction in water retention resulting from removal of the non-native eelgrass may result in a reduction in native eelgrass metrics not due to direct exposure of the latter to the herbicide. Therefore, there may be a “net loss” of off-site eelgrass, but not due to the direct exposure to the herbicide. “
8. NMFS recommends the Ecology include the reasoning in the Permit Fact Sheet (State of Washington 2014c) for the selection of the significance threshold (greater than 20 percent reduction in stem density) for adverse effects on *Z.marina*.
9. NMFS recommends, because of shared resource concerns and in the spirit of interagency collaboration, that Ecology include NMFS on the *Z. japonica* management/monitoring team. As stated in the permit fact sheet (State of Washington 2014c), “Ecology will review and approve buffer validation study data, review monitoring information and reports, and if non-target impacts to *Z. marina* beds, located off of the commercial clam bed property, are unacceptable or other adverse impacts become apparent, may modify the permit or terminate permit coverage, Ecology plans to form a team of scientists from state resource agencies to help it evaluate monitoring data and to advise on future monitoring” (State of Washington 2014c, page 43). NMFS staff can offer technical assistance through participation on this team.
10. NMFS recommends, because of shared resource and aquaculture interests and responsibilities, that Ecology include NMFS on the Discharge Management Plan (DMP) team, identified in Appendix D of the draft general permit (State of Washington 2014b,c). NMFS can offer technical assistance on development of the DMP through participation on the DMP team.
11. NMFS recommends Ecology include a description of how the flow of inundation water off treated beds will be determined since direct application of imazamox into any drainage that contains *Z. marina* and is moving water off the treatment site is not allowed (State of Washington 2014b, c).

12. NMFS recommends inclusion of a flow chart in the Permit Fact Sheet that clearly illustrates the timeline for the pre-treatment and post-treatment eelgrass surveys relative to the biology of the species, submission of reports, and adaptive-decision making by the Committee/Team regarding the efficacy of the 10-m buffer for *Z. marina* protection. Grue et al. (2013) stated: "Of concern is the extent of senescence that may occur in 2014 between the application of the herbicide and post-treatment monitoring 30 days later that may mask any short-term treatment effects." Based on the information provided (ENVIRON International Corporation 2012, Patten 2012), management of *Z. japonica* will likely require annual application, and both species are equally sensitive to imazamox.

The NMFS recognizes that states may adopt procedures to evaluate listed species and their critical habitat consistent with federal procedures. And, while the EFH consultation requirements of the MSA do not apply to state-issued NPDES permits, NMFS may use existing coordination procedures to provide conservation recommendations to state agencies for any action that may adversely affect EFH. In lieu of such procedures for ESA and EFH, NMFS appreciates the consideration of these comments and requests to be notified prior to the issuance of any future permits for imazamox application for the management of *Z. japonica*.

NOAA is one of the lead federal agencies in Washington State involved in protecting, improving, and restoring marine species, habitats, and ecosystems. We look forward to the timely completion of the State's SEPA EIS and general permit that will allow control of non-native Japanese eelgrass in a manner consistent with the protection of NMFS trust resources. We also look forward to participation on the *Z. japonica* management/monitoring team and the Discharge Management Plan team. If you have questions regarding these comments, please contact our Regional Aquaculture Coordinator, Laura Hoberecht by phone, 206-526-4453 or email, laura.hoberecht@noaa.gov, or Fisheries Biologist, Zach Hughes by phone, 360-753-6052 or email, zach.hughes@noaa.gov.

Sincerely,



Kim W. Kratz, Ph.D.
Assistant Regional Administrator
Oregon - Washington Coastal Area Office

Literature Cited

- ENVIRON International Corporation. 2012. Screening-level ecological risk assessment of the proposed use of the herbicide Imazamox to control invasive Japanese eelgrass (*Zostera japonica*) in Willapa bay, Washington State. Prepared for Washington State University, Project Number 3022749A. 80p.
- Grue, C.E., J.M. Grassley, and L. Conquest. 2013. Evaluation of Sampling Design for monitoring Impacts of the Control of Exotic Eelgrass on Native Eelgrass in Willapa Bay, Washington. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, WA. 27 p.
- Patten, K, Haldeman, N., Rasmussen, K., Booth, S., Suhrbier, Fisher, J., Meanders, M., Raub, G., Dumbauld, B., and L. McCoy. No date. Impact of Japanese eelgrass and its potential control tactic, Imazamox, to estuarine resources and bivalve aquaculture in Willapa Bay, Washington. Final report to Washington Department of Fish and Wildlife and Willapa Oyster Reserves Committee. 33p
- State of Washington, Department of Ecology. 2014a. Draft environmental impact statement; management of *Zostera japonica* on commercial clam beds in Willapa Bay, Washington. 124p. State of Washington, Department of Ecology. 2014b. Draft *Zostera japonica* management on commercial clam beds in Willapa Bay General Permit. 32p. State of Washington, Department of Ecology. 2014c. Draft fact sheet for the State of Washington *Zostera Japonica* management on commercial clam beds in Willapa Bay NPDES general permit. 72p.