

From: [Laura Hendricks](#)
To: [Hamel, Kathy \(ECY\)](#)
Cc: [Stevens, Naki \(DNR\)](#); [Director \(DFW\)](#); [REEVES, BLAIN \(DNR\)](#); [Schirato, Greg \(DFW\)](#); [Halpern, Alison \(AGR\)](#)
Subject: Ecology General Permit Proposal--Spray Imazamox on Japanese Eelgrass in Washington
Date: Sunday, March 04, 2012 12:56:35 PM

March 4, 2012

Ms. Kathy Hamel
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Re: Ecology Proposal to Issue General
Permit to Spray Imazamox on Commercial Shellfish
Beds in Willapa Bay and Puget Sound

Dear Ms.Hamel,

The Sierra Club welcomes the opportunity to comment on the Washington Department of Ecology proposal to issue a general permit for the application of the aquatic herbicide Imazamox to eradicate Japanese eelgrass on commercial shellfish beds in both Willapa Bay and Puget Sound. Please accept these comments that are due by March 9, 2012.

We have read the limited information that was made available by the Department of Ecology and attended the recent informal discussion in Olympia on this issue. After attending the informal discussion and hearing the comments made, we are even more concerned about the plans to spray Imazamox in Willapa Bay and Puget Sound for the following reasons:

1. Native eelgrass which is documented to live in the same proximity to Japanese eelgrass will be at risk of being damaged or eradicated by the spraying of Imazamox. Since the shellfish industry has documented in their "Integrated Pest Management Plan for Washington and Oregon" that both Japanese eelgrass and native eelgrass are considered "weeds/pests", it is not reasonable to allow this industry to be given spray guns to use at their discretion in Washington marine waters. It is clear from their comments, that their expansion plans are hindered by both varieties of eelgrass. It is already well documented that shellfish industry growers have in the past illegally eradicated native eelgrass in Willapa Bay by mowing it and they have also cleared it in Puget Sound.
2. Documentation and observation clearly shows that various migratory waterfowl use Japanese eelgrass as a food source in Willapa Bay. Eradication of this eelgrass puts other species at risk at a time when there are already many stressors that threaten their survival. These migratory waterfowl also travel into Puget Sound, so this link between the two areas cannot be ignored.
3. Japanese eelgrass is still considered an important aquatic plant species for fish according to scientists. The record should clearly show that the Washington Department of Fish and Wildlife only de-listed Japanese eelgrass as a protected species after intense political lobbying and mention of their future budgets. The slides at

the informal discussion presented by the State Weed Board and comments from Ecology should accurately reflect that the WDF&W decision to remove the protections were not based on scientific reasons. The term "eelgrass" is still shown in other state regulations and the protections cannot be ignored.

4. Every ecosystem is unique. The decision by other regulators to remove Japanese eelgrass from another water body should not be a basis for removing it from Washington tidelands.

5. The shellfish industry's demand to WDF&W staff at the informal hearing that Japanese eelgrass is an invasive species and should be required to be removed should also not be considered from a scientific perspective. The manila clams that industry is proposing to grow in the areas where Japanese eelgrass would be eradicated are also considered an invasive species--just like the Pacific oysters they grow. Yes, their shellfish are grown for economic reasons, but their actions must be considered as just one of the stakeholders in the State of Washington.

6. One would believe from the documents made available that the Japanese eelgrass is moving into current shellfish growing areas. However, it appears that a great deal of the eradication of Japanese eelgrass plans are to make available tidelands for hard clams that have not been used by this industry before. Upon further examination, it appears that a significant amount of the tidelands looked at for expansion are in fact Washington State public tidelands managed by the Department of Natural Resources.

7. From the informal discussion, it was clear that very little is known about the effects of Imazamox, especially in marine waters. We do not see where Ecology has done any testing or has issued an EIS that includes this chemical for use in marine waters. It has not been mentioned in the information presented that Ecology is already allowing the use of Carbaryl (used to kill ghost/mud shrimp), Glyphosate/Imazaphyr (to kill Spartina) and the proposal to allow Imidacloprid to replace Carbaryl in 2013 in Willapa Bay. Industry and their scientist Kim Patten had stated in the past that Carbaryl was safe to use in the marine environment and studies now clearly show that it adversely affects fish species including ESA listed salmon.

8. Allowing the shellfish industry to spray chemicals in Willapa Bay and Puget Sound at their discretion with "self monitoring" puts other stakeholders interests at risk. The Shoreline Management Act states that damage is to be prevented. The Ecology position presented at the informal discussion of monitoring after the fact the damage to protected native eelgrass is a violation of the SMA. The industry scientist, Kim Patten, documents concerns in his power point shown at the end of our comment letter: "Control Options--Chemical-no data, marine registrations problematic, potential impacts to native eelgrass"

9. As Ecology should be aware, one of the top Puget Sound Partnership restoration goals is for native eelgrass to increase by 20%. Spraying Imazamox not only threatens this species, but would also hinder the goal of expanding native eelgrass beds.

10. We have seen no studies that consider the effects on human health. Since Imazamox will be sprayed in public waters and possibly aerially, this possible effect must be adequately studied prior to

application. Merely posting a sign for an untested chemical at a location or in a newspaper is not sufficient for public safety.

11. The term "Commercial Shellfish Beds" was not clearly defined and this definition should be understood by all parties.

12. Jobs and tax revenues are certainly important considerations for Washington citizens and the Sierra Club. We would request that Ecology ascertain the number of new working wage jobs that industry will be adding by this proposal in both Willapa Bay and Puget Sound and provide this information to interested parties. According to state records, the State of Washington receives minimal tax revenue from shellfish that is exported. Since minimal tax revenues do not benefit the citizens of Washington, we would also request specific information on the financial benefits to the citizens of Washington should Ecology decide to issue this general spray permit.

For the reasons outlined above based on the information provided, the Sierra Club opposes the spraying of Japanese eelgrass in both Willapa Bay and Puget Sound. If growers need to manually eradicate Japanese eelgrass from commercial shellfish tidelands they own, they are already allowed to do that. Spraying chemicals in public waters that threaten the survival of other aquatic plant, animal species and public health should not be allowed. Our natural resources and public waters include many stakeholders. Allowing the shellfish industry to adversely affect these resources for their economic gain clearly is at the expense of aquatic life and other stakeholders.

Please notify me and the Sierra Club at the following email addresses for any questions or further notices. For some reason, the Washington Department of Ecology continues to send Sierra Club a letter when others receive email notification.

Laura.L.Hendricks@gmail.com
marine@washington.sierraclub.org

We appreciate your consideration on this matter. Further documentation on this issue is shown at the end of this email.

Sincerely,
Laura Hendricks, Chair
Sierra Club-Marine Ecosystem Campaign-Washington State
Sierra Club-Marine Team Northwest Representative
(253) 509-4987

Shellfish Industry Plans to Eradicate Japonica Eelgrass in Washington Also Threatens Native Eelgrass

Both Native eelgrass (*Zostera marina*) and Japanese eelgrass (*Zostera japonica*) have been considered important fish habitat by scientists and protected by the Washington Department of Fish and Wildlife. On March 11, 2011, the protection for Japonica eelgrass was deleted by the Department of Fish and Wildlife, at the request of Rep. Brian Blake, Chairman of the House Natural Resources Committee-on behalf of the shellfish industry.

Link: Letter from Fish and Wildlife to Rep Blake
<http://www.caseinlet.org/uploads/Blake2.8.11Zosterajaponica.pdf>

History

The shellfish industry decided that Japonica eelgrass should be eradicated in Willapa Bay and Puget Sound because "In general, (Kim) Patten said that it appears there is more oyster growth without japonica present and that the presence of the grass may inhibit softshell production by 44 percent"(Chinook Observer).

At the request of the shellfish industry, The State Noxious Weed Board listed japonica as a Class C Noxious weed in November 2011. Now industry is trying to obtain approval to eradicate japonica in Willapa Bay and Puget Sound by applying the herbicide imazamox and the chemicals imazapyr, imazapic and glyphosate have also been mentioned. In addition to destroying habitat for birds and fish, interested parties should be concerned about the impact of herbicides being applied in marine waters and the threat to adjacent native eelgrass.

For more information on the industry plan to eliminate both aquatic animals and eelgrass, see the following link (list of animals page 27, eelgrass pages 48-51):

"Integrated Pest Management Plan for Bivalves in Oregon and Washington"
<http://washington.sierraclub.org/tatoosh/Aquaculture/OR-WAbivalvePMSP.pdf>
"Weeds-Algae, Grasses, Japanese Eelgrass, Native Eelgrass" Page 27

Science Studies

1. Expansion of seagrass habitat by the exotic *Zostera japonica*, and its use by dabbling ducks and brant in Boundary Bay, British Columbia, John R. Baldwin, James R. Lovvorn, January 6, 1994
<http://www.int-res.com/articles/meps/103/m103p119.pdf>

"This introduced species provides an important feeding habitat for many migratory waterfowl."
Page 119

"Numerical densities of decapods, gammarid amphipods, cumaceans and a variety of other invertebrates are also higher in *Z. japonica* than on unvegetated flats (Dinnel et al 1986, Simenstad et al 1988, authors' unpubl. data)." "These invertebrates are important foods of both fish and waterbirds in this region." Page 125

2. Padilla Bay
<http://www.padillabay.gov/researchselectedHannam.asp>

3. Distribution and potential effects of a non-native seagrass in Washington State
http://www.dnr.wa.gov/Publications/aqr_zostera_study.pdf

According to scientists, this is an important issue that agencies and environmental groups should weigh in on. Eelgrass, including *Zostera japonica*, has been considered a critical habitat and resource. Spraying these herbicides in the intertidal area could also eradicate native species (*Z. marina*) as the two eelgrass species do inter-mix across the tideflats. Native eelgrass is critical for all our anadromous salmon species, all our marine forage fish and many rockfish species, and for a functioning Puget Sound ecosystem.

According to Anne Shaffer, a former WDF&W biologist, "*Z. japonica* has no negative impact to environment or other species and provides more caloric resource--both from the plant itself and invertebrates that colonize it--to fish and wildlife than the native eelgrass species.

There is NO reason to remove it."

Using the argument that japonica should be eradicated because it is non-native when the shellfish industry is expanding non-native Manila clams and Pacific oysters must be carefully examined using a transparent process.

Documentation for Review

1. The following summary from LookChem, completely contradicts the information in the Ecology Freshwater EIS and industry information:
<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/imazapic>

16. OTHER INFORMATION-Imazamox

[http://www.lookchem.com/msds/2011-06%2f1%2f34227\(114311-32-9\).pdf](http://www.lookchem.com/msds/2011-06%2f1%2f34227(114311-32-9).pdf)

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Aquatic Acute

Aquatic Chronic

H410

N

R50/53

Acute aquatic toxicity

Chronic aquatic toxicity

Very toxic to aquatic life with long lasting effects.

Dangerous for the environment

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2. Imidazolinone Herbicide Family-Fact Sheet-Chemical Family Impacts

<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/imazapic>

"Imazapic is in the imidazolinone herbicide family, "some of the most potent herbicides on the market." Imidazolinone herbicides have the same mode of action as another potent herbicide family, the sulfonylureas.

3. Shellfish Industry Slideshow-Kim Patten

<http://longbeach.wsu.edu/spartina/documents/pcsogaeelgrasstalk2008.pdf>

"Control Options--Chemical-no data, marine registrations problematic, potential impacts to native eelgrass"

4. Ecology Freshwater EIS-for Penorsulam, Imazamox, Bispyribac-sodium, Flumioxazin, & Carfentrazone-ethyl

http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/noxious/docs/eis100511.pdf

"Ecology currently does not have resources to develop independent risk assessments for new active ingredients for aquatic use in Washington. Therefore, it intends to rely on the Environmental Protection Agency (EPA) risk assessment evaluations of new aquatic pesticide products and any other risk assessments (e.g., Canadian, European, New York State, etc.) and information sources that may be available for these active ingredients when writing this SEIS." page vii

Non-target plants

"Although imazamox applied as an in-lake application to control submersed or floating leaved vegetation could potentially have an impact on native emergent wetland communities, Ecology considers this unlikely. Emergent plant species are not particularly susceptible to water column treatments. Elevated concentrations of imazamox should

not persist in well-lighted and aerobic shorelines. However, improperly applied foliar applications could impact non-targeted emergent plants. Applicators are required to follow all label and water quality permit conditions that reduce non-target impacts." Page 34

"Because of possible sub-lethal impacts to juvenile salmon, Ecology imposed timing restrictions on the use of some chemicals. However, because of low fish toxicities and low use rates of imazamox, Ecology does not plan to require timing windows for fish (salmon, bull trout, or steelhead) in its water quality permits for the use of imazamox." Page 37

"Perhaps the most serious environmental impact from the use of imazamox could occur to rare floating or submersed plant species." Page 37

For more information on the importance of eelgrass and kelp in Puget Sound, the following links have been included for your convenience:

Kelp and Eelgrass in Puget Sound

http://www.pugetsoundnearshore.org/technical_papers/kelp.pdf

The Role of Seagrasses and Kelps in Marine Fish Support

<http://el.erdc.usace.army.mil/elpubs/pdf/tnwrap06-1.pdf>

Eelgrass Conservation for the B C Coast (Includes the Pacific Northwest)

<http://www.stewardshipcentre.bc.ca/static/eelgrass/discussionpaper.pdf>

Revised December 4, 2011