

**From:** [Nancy\\_BrennanDubbs@fws.gov](mailto:Nancy_BrennanDubbs@fws.gov)  
**To:** [Hamel, Kathy \(ECY\); ECY RE Japanese Eelgrass Permit Comments](#)  
**Cc:** [Ryan\\_McReynolds@fws.gov](mailto:Ryan_McReynolds@fws.gov); [Martha\\_Jensen@fws.gov](mailto:Martha_Jensen@fws.gov); [Kevin\\_Aitkin@fws.gov](mailto:Kevin_Aitkin@fws.gov)  
**Subject:** Re: Japanese Eelgrass Management on Commercial Clam Beds in Willapa Bay; General Permit and EIS Scoping Notice  
**Date:** Tuesday, October 23, 2012 3:10:49 PM

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Dear Ms. Hamel,

The Washington State Department of Ecology (Ecology) Aquatic Pesticide Permits program has announced its intent to prepare an Environmental Impact Statement (EIS) and General Permit addressing the application of the aquatic herbicide imazamox to control Japanese eelgrass (*Zostera japonica*) on commercial clam beds, excluding geoduck (*Panopea generosa*), in Willapa Bay, Pacific County, Washington. Earlier this year, in a letter signed and dated March 7, 2012, the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, provided comments and expressed a range of concerns regarding the application of imazamox for control of Japanese eelgrass.

We support Ecology's current decision to narrow the scope of the proposed General Permit to commercial shellfish operations located in Willapa Bay. In our letter dated March 7, 2012, we cautioned against "...widespread use and application of imazamox ...until substantially more has been done in Washington State to examine [the] response of the biological community to limited, pilot-scale chemical treatments with the herbicide and associated adjuvants." We anticipate that preparation of an EIS, and development and implementation of a General Permit limited to commercial clam beds in Willapa Bay, will provide additional information regarding native and nonnative eelgrass interactions, target and non-target responses to chemical control with imazamox, and biological community response to alternative means of control (i.e., mechanical, biological, and chemical methods of control; and, integrated pest management or IPM).

We appreciate the opportunity to comment and express our concerns regarding the application of imazamox for control of Japanese eelgrass. If you have any questions, if our comments below require further explanation, or you would like to discuss the Aquatic Pesticide Permits program, please contact Ryan McReynolds at (360) 753-6047, or Nancy Brennan-Dubbs at (360) 753-5835, of this office.

Sincerely,

Nancy Brennan-Dubbs

Nancy Brennan-Dubbs  
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## COMMENTS

◇ The commonly-available aquatic formulation, Clearcast, contains 12.1 percent imazamox ammonium salt, and 87.9 percent “other ingredients.” We recommend that Ecology request and obtain additional information from the product's commercial manufacturer (BASF) regarding other chemical constituents contained in the product. It is unclear to us how Ecology can evaluate the range of potential effects to non-target species and habitat functions without more complete information regarding the product.

◇ Selective chemical treatment with imazamox will require careful planning and implementation at the scale of individual shellfish aquaculture farms and harvest plots to avoid dispersion into non-treatment areas and unintended impacts to non-target, native eelgrass and other aquatic vegetation.

◇ Ecology has suggested that chemical control should be part of a more comprehensive IPM program, including monitoring for loss of efficacy. We support this recommendation. There is likely still a role for mechanical control of Japanese eelgrass on some commercial shellfish farms and harvest plots. An IPM approach to managing Japanese eelgrass should include mechanical methods of control, which may have advantages over other methods under some circumstances (e.g., where chemical control would have significant, unintended impacts to non-target, native eelgrass and other aquatic vegetation)

◇ Any future NPDES permit addressing application of imazamox and associated adjuvants to commercial shellfish beds must outline 1) the conditions under which chemical treatments will, and will not, be employed, 2) how application (direct or indirect) to non-target, native eelgrass and other aquatic vegetation will be avoided, 3) how collateral damage to non-target vegetation will be mitigated, and 4) the monitoring and adaptive management protocols that will be implemented to achieve and demonstrate compliance with the permit requirements. Timing restrictions will be necessary, but may not be sufficient to fully offset or mitigate collateral damage to non-target, native vegetation and intertidal habitat functions.

◇ We recommend that pilot-scale studies begin with locations where persistent Japanese eelgrass monocultures have taken-hold and are already measurably reducing commercial shellfish productivity. We do not support large-scale chemical treatment within mixed native and nonnative eelgrass beds. We acknowledge, however, that some amount of collateral damage to non-target, native eelgrass and other aquatic vegetation will likely be unavoidable during pilot

studies. However, if collateral damage, loss of efficacy, and biological community response to imazamox treatments are carefully monitored and documented, we expect that this science and information will meaningfully inform future decisions regarding the role of imazamox treatments within IPM programs and how the use of imazamox can and should be reasonably constrained by permit conditions. When pursuing additional studies, we recommend that Ecology and the industry investigate practical, real-world treatment scenarios, focus on application during drawdown conditions, document dispersion into non-treatment areas, and collect data to describe potentially important abiotic factors (such as low-light and/or low-dissolved oxygen conditions).