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**To:** [Lubliner, Nathan \(ECY\)](#)  
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**Subject:** NEDC Comment on Draft General Permit for Zostera japonica Management  
**Date:** Saturday, February 15, 2014 4:57:09 PM  
**Attachments:** [Zostera Japonica Proposed Draft General Permit Comment.docx](#)

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Dear Mr. Lubliner,

Attached please find a copy of NEDC's comments pursuant to the Draft General Permit for Zostera japonica Management on Commercial Clam Beds in Willapa Bay.

If you have any questions or need any further information, please let us know.

Sincerely,

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February 15, 2014

SUBMITTED BY EMAIL TO: [Nathan.Lubliner@ecy.wa.gov](mailto:Nathan.Lubliner@ecy.wa.gov)

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**Re: Comment on Draft General Permit for *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay**

Dear Mr. Lubliner:

The Northwest Environmental Defense Center (NEDC) respectfully submits these comments to the Washington State Department of Ecology (Ecology) regarding the Proposed Draft General Permit for *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay. NEDC is an independent, non-profit organization working to protect the environment and natural resources of the Pacific Northwest. Our membership includes individuals who visit and recreate near Willapa Bay, where Ecology's proposed permit may allow for the use of *imazamox* as a pesticide to control the invasive *Zostera japonica* (*Z. japonica*). NEDC routinely comments on state-issued NPDES permits, monitors state and federal agency compliance with environmental laws, and engages in litigation to clean up degraded waters.

While NEDC appreciates Ecology's efforts to ensure ecologically responsible methods of controlling invasive species, NEDC is concerned that the provisions of the proposed Draft General Permit will not adequately protect the environment in Washington's Willapa Bay. This permit, which would allow the use of the herbicide *imazamox* on commercial clam beds in Willapa Bay, will negatively affect a large area that encompasses diverse and unique Northwest ecosystems.

The goal of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To achieve this goal, the CWA generally prohibits the discharge of pollutants into the waters of the United States unless authorized by a permit. 33 U.S.C. § 1311(a). Section 402 of the CWA allows for discharges of pollutants into the waters of the United States when certain requirements and conditions are met. 33 U.S.C. § 1342 (a). This comment addresses the proposed permit seeking to cover covers all Z.

*japonica* management activities that result in a discharge of aquatic herbicides containing the active ingredient *imazamox* and marker dyes from treatment of commercial clam beds (excluding geoduck culture) to surface waters of Willapa Bay in the state of Washington. However, without further amendments, conditions, and restrictions this permit will not ensure, restore, or maintain the chemical, physical, and biological integrity of the Nation's waters.

Washington's State Environmental Policy Act (SEPA) is meant to ensure that "environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations." RCW 43.21C.030(2)(a). NEDC is concerned that the Draft Environmental Impact Statement (DEIS) provided by Ecology does not adequately meet SEPA's mandate. SEPA Rules require agencies to "identify and evaluate probable impacts, alternatives and mitigation measures," (WAC 197-11-030(2)(b)), however Ecology has not provided sufficient information to demonstrate that it has evaluated all probable environmental impacts, or sufficiently analyzed alternatives and mitigation measures.

## CWA

### 1. Environmental Impacts

#### a. Underground Waters

The general permit covers all of the "[s]urface waters of the state of Washington," which includes both those defined by 40 CFR 122.2 as "waters of the United States," as well as those defined by RCW 90.48.020 as "waters of the state," excluding underground waters. NEDC is concerned about the possibility that an aquatic herbicide containing *imazamox* could find its way into underground waters in addition to those waters covered by the permit. NEDC also requests that Ecology further investigate the possibility that discharge of *imazamox* could seep into ground water resources as well as the effect that lack of light and tidal dilution would have on the 6.8-hour half-life of *imazamox* in such a situation.

### 2. Discharge Limits

The discharge limits currently proposed in the permit are not sufficient to ensure the chemical, physical, and biological integrity of Willapa Bay and the waters of the United States. Willapa Bay, as a marine water, is currently considered to be in "excellent" condition for aquatic life and well suited for wildlife habitat and aesthetics. *See* WAC 173-201A-612. In order to protect its current integrity and to prevent deterioration, the proposed permit should be as stringent as possible. The purpose of a § 402 NPDES permit is simple: It is intended to be the measuring stick against which permittees can base their actions. In tandem with this is the idea that, absent a clear standard the permittee can base its actions against, there is no meaningful standard to comply with when taking action. As it is written currently, the permit simply states that: "The application of *imazamox* must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington, Ground Water Quality Standards, Sediment Management Standards, and human health criteria in the National Toxics Rule." *Draft Zostera Japonica Management on Commercial Clam Beds in Willapa Bay General Permit (Draft Permit)*, S.3(A)(1). In addition, it calls for "All known, available, and reasonable methods of

prevention, control and treatment (AKART) when applying *imazamox*.” *Id.* at S.3(A)(2).

However, while these conditions seem to impose strict standards on their face, they offer no meaningful guidelines a permittee can gauge their actions against. At most they offer a vague sense of acceptable practice and allow for after-the-fact enforcement actions against permittees for violations of the general permit. As they offer no meaningful guidelines by which a permittee can gauge their actions, they offer no meaningful form of control over the application of *imazamox* except for post-application enforcement, at which point irreversible or significant harm to Willapa Bay may have already occurred.

Certainly, in certain situations a narrative standard is the best that can be hoped for. However, that is not the case here. *Imazamox* is a regulated pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). 7 U.S.C. §136 et al. (2012). While compliance with FIFRA does not necessarily ensure that the chemical, physical, and biological integrity of the Nation’s waters and compliance with the CWA, it does demonstrate that a numeric standard in this case is possible and is preferable to a narrative standard, as it provides a measuring post for permittees to determine what appropriate actions to take.

#### **a. Temporary Exceedance**

The permit contains a provision which allows for “[t]emporary exceedance[s] of water quality standards . . . provided the Permittee complies with the provisions of WAC 173–201A–410.” *Draft Permit*, S.3(B). This is a meaningless standard essentially sanctioning any and all temporary exceedances of water quality standards with the application of aquatic herbicides. It offers no actual stringent controls over the application of *imazamox*. At best it is a reiteration of the already lax permit requirements. Exceedances, while temporary, may contribute to significant environmental harm and degradation.

#### **b. Antidegradation**

Furthermore, the permit requires that: “The Permittee . . . ensure that treatment does not cause or contribute to further impairment of Willapa Bay for any parameter for which Willapa Bay is listed as impaired.” *Draft Permit* at S.3(C). This should be rewritten to state that the Permittee must ensure that treatment does not cause or contribute to further impairment or degradation of Willapa Bay. Language such as this recognizes the fact that Willapa Bay is in generally healthy condition barring problems with bacteria, invasive species, and minor problems with dissolved oxygen and potential problems with pH due to ocean acidification. *See Washington’s Approved 2010 303(d) List*, available at <http://apps.ecy.wa.gov/wats/Default.aspx>. Merely requiring that the permittee does not cause or contribute to further impairment of Willapa Bay renders this provision null and void, as *imazamox* is used to treat invasive species and that is the primary cause of degradation in Willapa Bay. While NEDC recognizes that something should be done to address the harm caused by invasive species in Willapa Bay, NEDC urges the State to ensure that the potential solution to one problem does not become a problem in itself.

### **3. Product Use**

#### **a. Prohibited Discharges**

RCW 90.48.080 has been interpreted by Ecology as prohibiting the “treatment that causes oxygen depletion to the point of stress or lethality to aquatic biota from plant die-off, unintended impacts to water quality or biota, or the mortality of aquatic vertebrates.” *Draft Fact Sheet* at 51. Application of *imazamox* is expected to kill any *Zostera marina* (*Z. marina*) within the treatment site that does not lie within a drainage site. NEDC is concerned that there will be “unintended impact to water quality or biota” by large quantities of *Z. marina* being destroyed, which have been identified by the Sierra Club (See *Sierra Club Eelgrass Protection* at 1-2, available at [http://washington.sierraclub.org/tatoosh/Aquaculture/Sierra\\_Club\\_Eelgrass\\_Protection.doc](http://washington.sierraclub.org/tatoosh/Aquaculture/Sierra_Club_Eelgrass_Protection.doc)). NEDC requests that additional investigation take place that focuses on the extent to which the native eelgrass *Z. marina* will be destroyed by application of *imazamox* to the treatment sites.

#### **b. Sufficiency of buffer-zone restrictions**

NEDC is concerned about the impact that the post-treatment die-off of *Z. japonica* will have on the native eelgrass species *Z. marina*. According to the DEIS, “the proposed NPDES permit should include buffers around *imazamox* treatments to protect off-site *Z. marina*.” *Draft Environmental Impact Statement* at 28. It has been established that the use of *imazamox* on *Z. japonica* will negatively affect native eelgrasses, specifically *Z. marina*, within the treatment area. However, while it has also been determined that there will be no direct consequences on any *Z. marina* that exists outside of the six-meter buffer zone, the potential indirect consequence that the plant die-off of *Z. japonica* facing treatment may still adversely effect *Z. marina* outside the buffer zone. (See *Shellfish Industry Slideshow*, available at <http://longbeach.wsu.edu/spartina/documents/pcsogaeelgrasstalk2008.pdf>, which indicates possible collateral damage to *Z. marina* as a result of indirect contact with *imazamox*.) NEDC requests that Ecology further investigate any indirect effects the use of *imazamox* will have on the native eelgrass *Z. marina* outside of the proposed 10-meter buffer site.

#### **4. Inadequate Monitoring Requirements**

The requirement that “the Permittee must conduct routine monitoring” proposed by the Draft Permit is vague and ambiguous. *Draft Permit* at S5. It does not state when monitoring is to occur, how frequently, and does not require monitoring before and after *imazamox* application. *Id.* Without accurate monitoring reports and requirements there is no meaningful way for the State of Washington and the public to know the effects of *imazamox* on the aquatic environment. Additionally, without stringent monitoring requirements enforcement becomes difficult if not impossible.

The Draft Permit provisions meant to address any case of noncompliance are also vague and ambiguous. The Draft Permit states that “in the event a Permittee is unable to comply with any of the terms and conditions of [the] permit, . . . the Permittee must immediately stop the activity causing the noncompliance, correct the problem, orally notify the permit manager at Ecology. . . , and return to compliance as quickly as possible.” *Draft Permit* at S7(C). These permit conditions do not provide meaningful guidance to Permittees on how to address incidents of noncompliance. Further, the permit impermissibly relies on the Permittees themselves to report

cases of noncompliance. These vague and ambiguous monitoring and reporting requirements make it likely that many cases of noncompliance will go unreported and unresolved, thus these provisions of the Draft Permit will not adequately protect the Willapa Bay.

Something needs to be done to address invasive species in Willapa Bay. However, any action undertaken by the State or interested parties should be based on sound science and practice which is in turn based on sound information. Stringent monitoring requirements ensure that this occurs and that any potentially harmful applications of *imazamox* are caught, recorded, and remedied.

## SEPA

### 1. Environmental Impacts

The toxic impacts of aquatic use of *imazamox* to combat the invasive *Z. japonica* are allegedly “minimal.” *Draft Fact Sheet* at 30, 55. However, the introduction of chemicals to alter naturally occurring plant-life is in itself unnatural. Use of *imazamox* in conjunction with mechanical measures (Alternative 3) has the potential to damage native *Z. marina*, as well as remove a microcosmic ecosystem that *Z. japonica* creates.

There also exists a concern that if the applicator errs in application that *Z. marina* plants will suffer. *Draft Environmental Impact Statement* at 1.5. *Z. marina* and *Z. japonica* often dwell interchangeably in the waters, and *imazamox* is a broad-spectrum agent that, when applied, inhibits virtually all plant growth. *Id* at 26. Even with certain levels of water coverage, *Z. marina* is likely to be reduced by 50% or more when *imazamox* is sprayed within approximately 20 feet. *Id* at 26.

Furthermore, *imazamox* has the potential to mix with other pesticides and herbicides that are also used in the area, which has the potential to cause further damage. While initial studies have not indicated any harmful impacts from these specific contacts between *imazamox* and other pesticides, the continued contact of these chemicals in nature has the potential for cumulative negative impacts after years of use. *Id* at 2.9.1. We cannot know the true potential risk of these interactions in nature without data gathered over the course of several years. Considering these chemicals will be used in places of human food production and natural animal habitat, the effects could be substantial.

The impacts to animals coming in contact with *imazamox* are limited. This assumes, however, that removal of *Z. japonica* will 1) not damage current native eelgrasses (EIS at 2.8); and 2) not adversely effect that flora and fauna, both aquatic and terrestrial, subsisting in the ecosystems created by eelgrasses. While *Z. japonica* is a non-native and invasive species, ecosystems thrive where it exists. *Id* at 3.1.1. Both native and non-native eelgrasses provide a foraging and spawning ground for various fish, potential cover from predators, as well as hunting grounds and important feeding habitats for migratory waterfowl. *Draft Fact Sheet* at 14–15; *Expansion of seagrass habitat by the exotic Zostera japonica, and its use by dabbling ducks and brant in Boundary Bay, British Columbia* at 119, 125, available at <http://www.int-res.com/articles/meps/103/m103p119.pdf>. Eelgrasses teem with aquatic and terrestrial life, so its

removal eliminates feeding grounds and habitats for the animals subsisting on the eelgrasses' provisions.

## **2. Adverse Effects on Endangered Species**

The Endangered Species Act (ESA) prohibits, among other actions, “remov[ing] and reduc[ing] to possession any [endangered] species from areas under federal jurisdiction.” 16 U.S.C. § 1538(a)(2)(B). These prohibitions generally apply to species of wildlife listed as threatened, unless otherwise specified during listing. 50 C.F.R. § 17.31(a). If the applicant’s proposed activity would result in the removal of an endangered plant species in any area under federal jurisdiction, the applicant’s activity would violate the ESA. Ecology fails to disclose whether any endangered plant species under the ESA are present in Willapa Bay, whether any portion of Willapa Bay is under federal jurisdiction, and if so, how such species might be affected by the applicant’s activity. Instead, Ecology states “The Permittee must ensure treatment does not cause permanent harm to sensitive, threatened, or endangered plant populations.” *Draft Permit* at 8. The public cannot determine whether the applicant is able to comply with this mandate without Ecology’s disclosure of whether there are in fact any ESA-listed threatened or endangered fish or wildlife species, or endangered plant species present in Willapa Bay. The Final EIS should directly assess whether the permit would violate the ESA.

## **3. Alternatives and Mitigation**

SEPA requires every agency to include in its environmental impact statement a “detailed statement by the responsible official on ... alternatives to the proposed action.” RCWA 43.21C.030. Under SEPA’s federal law counterpart, NEPA, the alternatives analysis is the “the heart of the environmental impact statement.” 40 C.F.R § 1502.14. This section “should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.” *Id.*

### **a. No-Action Alternative**

Alternative 1 is a No-Action Plan which allows only the continuing use of manual and mechanical control practices. Although the threat to shellfish growers is considerable, the potential positive impacts of *Z. japonica*, such as the benefit to native eelgrass populations, should be considered before allowing additional control methods. *Draft Environmental Impact Statement* at 78. Apart from economic interests, Ecology does not address why additional control methods are needed or how that need outweighs other environmental interests.

### **b. Use of Chemical Methods Only**

Alternative 2 proposes to allow the use of *imazamox* instead of permitting the continued use of manual and mechanical practices discussed above. While this option would avoid the harms of those practices, such as the threat to human health from certain physical injuries or the threat to marine invertebrates from increased turbidity caused by sediment disturbance, new problems may arise. For example, while the *Draft Environmental Impact Statement* concludes the

difference in emissions would be negligible upon air quality, Ecology notes that either backpack sprayers or workers utilizing ATVs might be acceptable for this plan, but merely states that the distinction between users is unlikely to have a significant effect. *Id* at 15. On the contrary, the use of ATVs is likely to have significant impacts, including benthic disturbances that this alternative purports to diminish. *Id* at 14. This is particularly concerning when Ecology proposes no mitigation strategy to measure or document benthic disturbances under this alternative. *Id*.

In addition, Ecology acknowledges that more applications may be necessary if this is the sole intervention. *Id*. However, Ecology is already proposing to allow an annual application of the maximum label rate, which is 16 ounces of active ingredient per acre. *Id* at 46. Ecology notes that the current label for the herbicide does not indicate how many applications are allowed per growing season and that the repeated use might lead to herbicide-resistant plants. *Id*. Herbicide-resistant plants are a serious concern. If it chooses this alternative, Ecology should enforce its proposed maximum of no more than one application per season per treated area. *Id*.

### **c. Integrated Pest Management Plan**

Alternative 3, Ecology's "Preferred Alternative," presumes that fewer chemical applications of the *imazamox* will be necessary if combined with the continued use of existing control practices as well as crop rotation timing and harvest activities. *Draft Environmental Impact Statement* at 47. While Ecology's desire to minimize the use of a chemical herbicide is laudable, its plan assumes that allowing such practices will result in fewer chemical applications but fails to address how the efficacy of those practices will be evaluated. Ecology should determine and announce the standards it plans to use in reviewing applicants' Discharge Management Plans (which it states will be used as the IPM plans). In particular, the current evaluation proposed on page 28 of the Draft Permit should be expanded to require an evaluation of all the environmental impacts discussed in the environmental impact statement under Table 1.5-1 and elsewhere (i.e., air quality, sediment, surface water, etc.). *Id* at 14. Given the potential negative effects of both the existing control practices and the proposed chemical application as discussed above, Ecology should seek to minimize the use of both interventions. No additional intervention should be approved without a clear indication of how doing so will minimize the harms of existing interventions.

Furthermore, Ecology needs to provide more information on what is meant by crop rotation timing and harvest activities. Crop rotation timing is defined as "the activity of harvesting mature clams, then waiting for the next clam seed size to grow to a harvestable size" (*Id* at 13, n.1), yet nowhere in the environmental impact statement is it stated what a "harvestable size" is or how that activity will be monitored. Harvest activities are left undefined and are thus too vague to allow a fair consideration.

### **Conclusion**

NEDC urges Ecology to provide additional information and conduct further research before approving the General Permit for use of *imazamox* in the Willapa Bay. The proposed permit falls short in meeting many of the standards set forth by the CWA and SEPA, and the potential adverse impacts to the diverse ecosystems of the Willapa Bay warrants an effort by Ecology to

address these shortcomings. As Ecology's mission is to protect, preserve, and enhance Washington's environment, the department should pursue the opportunity to conduct a more comprehensive review of the permit's conditions and restrictions and the cumulative environmental impacts that will result. The CWA and SEPA standards must be fully addressed by the General Permit before Ecology can authorize the permit's use for *imazamox* application on commercial clam beds in Willapa Bay.

NEDC appreciates your careful consideration of these issues, and requests that Ecology refrain from filing any temporary or permit rule which fails to address these concerns.

Sincerely,

Cameron Jimmo  
Joel Reschly  
Kelsey Herman  
Sarah Butler  
Joanna Lau  
Joni Sliger  
Colby Stewart  
Kay Teague