

***ZOSTERA JAPONICA* MANAGEMENT ON
COMMERCIAL CLAM BEDS IN WILLAPA BAY
NPDES GENERAL PERMIT**

**Addendum to the Fact Sheet
Appendix F: Response to Comments**

April 2, 2014

SUMMARY OF MAJOR PERMIT CHANGES

This is a summary of the changes made to the *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit (permit) in response to the public comments received between January 2 and February 15, 2014. In finalizing this permit, the Washington State Department of Ecology (Ecology) considered all of the public comments received during the public comment period, and comments received during oral testimony at the public hearing held in South Bend Washington on February 1, 2014.

COMMENTS AND RESPONSES

Ecology published a draft *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit on January 2, 2014 for public comment. The public comment period ended February 15, 2014 at 5:00 p.m. During the comment period, Ecology conducted a public workshop and hearing in South Bend. Ecology also accepted public comments via letter and email.

Ecology considered all comments in preparing the final permit. This response to Comments documents Ecology's response to each commenter and any changes to the permit that resulted from the comments. Ecology received comments from 49 people during the public comment period. Each comment and response is numbered. This number allows the commenter to find Ecology's response to their comments. In Table 1, the comment number that corresponds to the comments submitted for each individual is listed. Comments about similar permit issues are grouped together and summarized into one response. Each comment has been paraphrased to clarify the concern that Ecology is responding to. Full text of all comments received by Ecology can be found at: <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass.html> or by contacting Nathan Lubliner at: nathan.lubliner@ecy.wa.gov, or 360-407-6563. Comments on the Draft Environmental Impact Statement (EIS) are summarized in Appendix B of the Final EIS.

The response to comments is broken into five sections:

1. List of Commenter and Comment number
2. General comments about the permit
3. Comments on specific permit sections (sections that received no comment are omitted)
4. Comments on the Fact Sheet
5. Comments on the appropriateness of issuing a general permit versus individual permits.

Section 1: List of Commenters and Comment Numbers

Table 1: Commenters

Commenter Name	Affiliation	Comment Number
Alison Halpern	WSNWCB	11
Bill Taylor	Taylor Shellfish	7, 8
Brian Sheldon	Northern Oyster Co.	1, 7, 35, 36, 38, 39, 40, 41, 43, 44, 45, 46, 47, 49, 50, 51, 52, 54, 55, 56, 57, 59
Cameron Jimmo, Joel Reschly, Kelsey Herman	Northwest Environmental Defense Center	4, 30, 33, 42, 48, 58
Cherie Elliot	Interested Party	3
Chris Conklin	WDFW	60
Christina Barkhurst	Interested Party	3, 4
Christine Westland	Interested Party	3
Curt Stephens	Ocean Park Resort	16
Dan Penttila	Salish Sea Biological	2, 3, 4, 5
Darold Rhodes	USFWS	30
Dick Sheldon	Willapa Resources	1,7, 35, 47
Don Gillies	Stony Point Oyster Co.	47
Dorothy Walker	Interested Party	29
Ed Darcher	Pacific County Spartina Coordinator	7
Eric Hall	Taylor Shellfish	1, 7, 8
Francescha Perez	Stillaguamish Tribe	12
Fritzi Cohen	Interested Party	3
Gary Johnson	Interested Party	3
Gary McGrew	Ocean Park Chamber of Commerce	8
Gustav Weigardt	Interested Party	47
Harry Branch	Interested Party	2
Heather McFarlane	Friends of Burley Lagoon	32
Jerry Johannes	Interested Party	5, 6
Joy Weber	Interested Party	17
Karen Stephens	Ocean Park Resort	3
Ken Wiegardt	Shellfish Farmer	47
Kim Patten	WSU Extension-Long Beach	47
Kim W. Kratz, Ph.D.	NOAA	31, 53, 61, 62
Kristin Swenddal	DNR	34
Landye Bennett Blumstein Attorneys LLP	Coalition to Protect Puget Sound Habitat	2, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 63

Laura Hendricks	Sierra Club	15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
Margaret P. Barrette	Pacific Coast Shellfish Growers	7, 17, 35, 37, 45, 47
Marilyn Sheldon	Interested Party	13
Mark Ballo	Brady's Oysters Inc	7
Michael Lambert	Interested Party	8
Pat Rasmussen	World Temperate Rainforest Network	4, 5, 6, 15, 19, 22, 30
Paul Philpot	Pacific County Economic Development Council	8
Rebecca Chaffee	Port of Willapa Harbor	8, 10
Rich Roloff	Interested Party	3
Rob Kavanaugh	Interested Party	5, 19, 21, 23, 24, 30
Ross Barkhurst	Washington Waterfowl Assn	3, 4, 14, 15
Samuel W. Plauche	Plauche & Carr LLP	47
Steve Rogers, Frank Wolfe, Lisa Ayers	Pacific County Commissioners	7, 8
Tim Morris	Coast Seafood/Pacific Shellfish	7, 35, 45, 47
Vicki and Steve Wilson	Arcadia Point Seafood	7
Walt Weber	Interested Party	9
Zena Hartung	Interested Party	3

Note: Ecology was informed that 2835 emailed comment letters were intended to be submitted by the Sierra Club commenting on this action. At the close of the comment period the emailed comment letters were not received by Ecology. Ecology looked for the missing emails and conferred with the Information Technology Program to try to identify what may have happened to the emails. At this time, Ecology has not received the emails. However, a comment letter from a Sierra Club representative was received. Ecology feels that in responding to the comments received by the Sierra Club representative that it has been responsive to the concerns put forth by the group.

Section 2: General Comments on the Permit

Comment 1: *Zostera japonica* is damaging our environment and more needs to be done by state agencies to control it.

Comment 2: *Ecology should not allow chemical use in support of the aquaculture industry.*

Comment 3: *Pesticide use negatively affects the environment and should not be allowed for use.*

Comment 4: *The draft NPDES Permit and Draft Environmental Impact Statement are not adequate to protect the environment and water quality of Willapa Bay.*

Comment 5: *Impacts to *Z. marina* in mixed eelgrass beds are objectionable because eelgrass is a protected species under the SMA and the Clean water Act with a goal to increase its area by 20%.*

Comment 6: *I oppose the permit due to the negative impacts it will have on fish species, including removal of juvenile salmon habitat and herring spawning medium.*

Comment 7: *We support the issuance of a permit for *Z. japonica* control due to the negative impacts it is having on the tidelands and on aquaculture.*

Comment 8: *The shellfish industry is an important part of the Pacific County economy. We encourage issuance of the permit.*

Comment 9: *The environmental impacts of imazamox use should be given equal consideration as the economic impacts to shellfish growers from *Z. japonica*.*

Comment 10: *We urge the Department of Ecology to broaden the final permit to cover all shellfish beds rather than just commercial clam beds.*

Comment 11: *The Washington State Noxious Weed Control Board supports issuance of a permit that allows shellfish growers to manage the class C noxious weed *Z. japonica*.*

Comment 12: *We find no issues of concern with the EIS and draft permit for use of Imazamox on Willapa Bay commercial clam beds.*

Comment 13: *The growers have spent a lot of their own money to conduct studies in support of this permit. I hope that DOE can use the study result to provide a permit in an expeditious manner.*

Response: Thank you for your comments. The permit regulates the use of imazamox to manage the state listed class C noxious weed *Zostera japonica* in Willapa Bay only. The legislature has directed Ecology to develop permits for noxious weed management. Ecology attempts to strike a balance between beneficial uses of a water body when developing aquatic pesticide permits. This permit took Ecology several years to develop and required the development of a non-project EIS. Ecology worked with natural resource agency scientists as well as academic scientists when developing the permit. Based on the EIS, Ecology included mitigations within the permit to reduce potential ecological impacts to Willapa Bay.

Comment 14: *Inputs from WDFW, DNR, citizens and Washington Waterfowl have been ignored.*

Response: Ecology held two public comment periods when determining whether to proceed with permit development. Those comments can be found here: <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass/historical.html>.

As a result of these comment periods, Ecology determined to reduce the scope of the permit from all shellfish beds statewide to commercial clam beds (excluding geoduck) in Willapa Bay only.

The public had the opportunity to provide scoping comments for the EIS.

Ecology held an informational public meeting in December of 2012 to discuss development of the draft permit and listen to concerns.

During draft permit development, Ecology worked with the Washington State Departments of Natural Resources (DNR) and Fish and Wildlife (WDFW) to help develop the Buffer Validation Study that is included as Appendix B in the Fact Sheet.

Ecology conducted a workshop and public hearing on February 1, 2014 in South Bend, as well as a 45-day comment period that ran from January 2 through February 15, 2014, to solicit comments on the draft permit documents. Ecology considered the comments submitted during the 45-day public comment period and made a number of changes to the Draft National Pollutant Discharge Elimination System (NPDES) Permit and Draft EIS.

Comment 15: *We disagree that there is no "Federal Nexus" for this action.*

Response: The language that guides Endangered Species Act (ESA) species consultation is given below. SEC. 7. (a) FEDERAL AGENCY ACTIONS AND CONSULTATIONS.— (2) Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

The full text can be found here: <http://www.nmfs.noaa.gov/pr/laws/esa/text.htm#section7>

Though Ecology is the delegated authority for NPDES permitting in Washington State, Ecology is not a federal agency. The requirement for ESA consultation is for federal agencies. There are provisions for USFWS and NOAA/NMFS to raise concerns to Environmental Protection Agency (EPA) and Ecology about ESA species. Ecology has received comment from both USFWS and NOAA/NMFS and has responded to them.

Comment 16: *Is imazamox safe and is permit development necessary? Is spraying on the Bay supported by the wildlife refuge and other environmental group?*

Response: Thank you for your comment. Imazamox has an EPA toxicity category of practically non-toxic for mammals, fish, birds and invertebrates. Furthermore, imazamox received an exemption from tolerance designation from the EPA. The exemption from tolerance designation indicates that the EPA does not feel that the total amount of imazamox in or on food products poses a hazard to public health. Imazamox only exceeds EPA's level of concern for aquatic vegetation, which includes both the native and non-native eelgrass. A risk analysis for imazamox can be found here:
<http://www.ecy.wa.gov/programs/wq/pesticides/eelgrassdocs/riskassessmentimazamox110712.pdf>

Zostera japonica is a state listed class C noxious weed and the legislature directed Ecology to issue permits for aquatic noxious weed management.

RCW 90.48.445 Aquatic Noxious Weed Control - Water quality Permits

In 1991, the Washington State Legislature directed Ecology to issue or approve water quality permits for use by federal, state, and local government agencies and licensed applicators for the purpose of using, for aquatic *noxious weed* control, herbicides and surfactants registered under state or federal pesticide control laws. Aquatic noxious weed means an aquatic weed on the state noxious weed list adopted under RCW 17.10.080. The legislature also specified that the issuance of these permits was subject only to compliance with federal and state pesticide label requirements, FIFRA requirements, the *Washington Pesticide Control Act*, the *Washington Pesticide Application Act*, and the *State Environmental Policy Act* (SEPA) (with some exceptions for *Spartina* projects).

The comments in support and opposition to development of this permit are given in this document as well as in earlier comments on whether Ecology should develop the permit. The comments initially submitted on whether Ecology should go forward with permit development can be found here:

<http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass/historical.html>

Comment 17: *This permit should allow for control of *Z. japonica* in all waters of the state. It should cover all types of shellfish beds not just commercial clam beds and public land managers as well as private citizens should be able to obtain coverage under the permit.*

Response: The initial request for permit development from the Willapa Grays Harbor Oyster Growers Association (WGHOGA) was for a permit to control *Z. japonica* statewide on all commercial shellfish beds. When Ecology put that permit development proposal out for public comment, concerns were raised about ecological impacts, including impacts to the native eelgrass. As a result of these concerns, Ecology decided to start with permit development that was more limited in scope so that impacts from *Z. japonica* management could be evaluated.

Comment 18: *The spraying of imazamox will violate county, state and federal regulations for eelgrass protection as well as the Memorandum of Understanding on the Migratory Bird Treaty Act.*

Response: Ecology does not feel that the limited application of imazamox that would be allowed by the proposed permit will conflict with county, state or federal regulations. However, the burden of compliance with applicable laws and regulations falls on the Permittee.

Permit General Condition G9 states:

COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit excuses a Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

Comment 19: *The extent of the spraying is not identified and it appears that spraying can occur in Willapa Bay, Grays Harbor and the Puget Sound. We cannot determine exactly where and on whose land (public, private, federal or state) that imazamox is to be used.*

Response: Draft Permit Special Condition S1 states that imazamox discharge would be allowed on commercial clam beds, excluding geoduck culture, in Willapa Bay only. Grays Harbor and Puget Sound are not covered under this draft permit. With few exceptions federal and tribal lands are not covered by this permit. Applicator has to have property owner approval.

Comment 20: *Why was the public told at the February 1, 2014 meeting that a monitoring plan would not be required for the first three years and is voluntary?*

Response: Draft Permit Special Condition S5 covers the monitoring requirements within the permit. Permittees are required to conduct this monitoring each year that they have coverage under the permit.

The Buffer Validation Study (Fact Sheet Appendix B) was not included as a condition of the permit due to the fact that Ecology could not hold a single Permittee responsible for conducting the study. As a result, the Buffer Validation Study was put in as an appendix to the fact sheet as a requested study. It is voluntary, however, the third year after permit issuance the discharge of imazamox will be prohibited and Ecology will determine whether to modify the permit to allow continued discharge of imazamox based on the results of the Buffer Validation Study and the monitoring. If the Buffer Validation Study is not completed or does not determine an appropriate buffer then Ecology may determine not to modify the permit to allow discharge of imazamox. If the permit is modified, the language within the permit that is modified will be opened to public comment at that time.

Comment 21: *The acting program manager does not meet the requirement that the highest official sign the EIS and NPDES. SEPA clearly intends that the highest level of official (DIR) of the agency is responsible to sign the EIS and NPDES.*

Response: WAC 197-11-788 and WAC 197-11-910 discuss the SEPA responsible official and designation of the SEPA responsible official. The method for designating the SEPA responsible official is through the Signature and Authority Matrix (Policy 1-05 Attachment A), which indicates that the section manager, program manager, deputy director or director may act as the SEPA Responsible Official for this project.

Final documents will have signatures from the responsible official.

Comment 22: *The Monitoring plan allows loss of *Z. marina* on commercial clam beds and even allows *Z. marina* to be degraded on adjacent properties. The monitoring plan does not measure short or long term effects on flora and fauna. The monitoring plan fails to include effective management alternatives or adaptive management.*

Response: Imazamox only reached EPA's level of concern for aquatic vegetation. Imazamox has an EPA toxicity category of practically non-toxic for mammals, fish, birds and invertebrates. Based on imazamox toxicity to plants, the Buffer Validation Study focuses on identifying the appropriate buffer width to apply in the permit to minimize impacts to off-site *Z. marina*. Management alternatives and adaptive management are discussed in the EIS and will also be covered in the Discharge Management Plan that each Permittee is required to submit as part of their permit application documents (Permit Appendix D).

Comment 23: *The shellfish industry should not be allowed to do self monitoring. Ecology should not delegate enforcement authority to the Washington State Department of Agriculture.*

Response: It is standard practice for NPDES permits to rely on the Permittee to conduct the required monitoring.

Ecology has not delegated enforcement authority for NPDES permits to the Washington State Department of Agriculture (WSDA). The comment is referring to the Aquatic Noxious Weed Control Permit under which WSDA is the Permittee.

Under the Draft permit for *Z. japonica* Management on Commercial Clam Beds in Willapa Bay the Permittee would be the aquatic pesticide applicator and each Permittee would need a sponsor, which would be the person or entity with the legal authority to authorize imazamox use for that property.

Permit compliance and monitoring is enforceable by Ecology and third parties.

Comment 24: *Why isn't the destruction estimate of 20% of *Z. marina* meadows mentioned in either the NPDES or the EIS?*

Response: The Buffer Validation Study (Fact Sheet Appendix B) uses a 20% reduction in *Z. marina* stem density as the cutoff to determine whether a buffer distance is appropriate. The reasoning for using a 20% reduction in *Z. marina* stem density as the metric for the Buffer Validation Study follows. Based on the WDFW Eelgrass/Macroalgae Habitat Interim Survey Guidelines, the 20% change allowed Ecology to align

with the guidance given by WDFW. Further, 20% is a criteria that allows standard survey methods a chance of detecting a change at a level of effort that is not prohibitively expensive (Personal communication with Kirk Krueger- WDFW).

This should not be construed to mean that Ecology estimates that 20% of *Z. marina* meadows will be removed.

The Buffer Validation Study was not included as a condition of the permit due to the fact that Ecology could not hold a single Permittee responsible for conducting the study. As a result the Buffer Validation Study was put in as an appendix to the fact sheet as a requested study. It is voluntary, however, after the third year of permit issuance the discharge of imazamox will be prohibited and Ecology will determine whether to modify the permit to allow continued discharge of imazamox based on the results of the Buffer Validation Study and the monitoring.

Comment 25: *Spray drift has not been adequately evaluated and impacts to adjacent non-target species of vertebrates and invertebrates have not been documented.*

Response: Imazamox only reached EPA's level of concern for aquatic vegetation. Imazamox has an EPA toxicity category of practically non-toxic for mammals, fish, birds and invertebrates.

The Buffer Validation Study (Fact Sheet Appendix B) is designed to determine the appropriate buffer distance to protect off-site *Z. marina*. Further, no aerial application of imazamox is allowed under the draft permit and application of imazamox is limited to times when the wind speed is below 10mph.

Comment 26: *A committee of stakeholders should have been included in setting the management goals for the plant and wildlife species that will be adversely affected.*

Response: Setting management goals for plant and wildlife species is outside the scope of action for NPDES Permit development by Ecology.

Comment 27: *Since imazamox was not intended to be used in water, there is no independent research as to the effects. Likely synergistic effects were not considered in the proposed spraying.*

Response: The imazamox formulation registered as Clearcast[®] is labeled for use in estuarine and marine sites as well as freshwater aquatic sites. Please see: EPA (U. S. Environmental Protection Agency). 2008. Environmental Fate and Ecological Risk Assessment – Registration of New Use Imazamox for the Proposed New Use for the Control of Vegetation in and Around Aquatic and Noncropland Sites. USEPA PC Code: 129171.

To avoid potential synergistic effects the Draft Permit includes a restriction on other pesticide applications the four days before and after imazamox application (Permit Special Condition S4.A).

The Final EIS addresses the potential for synergistic interactions in section 2.9.

Comment 28: *The proposed permit should not be issued for any waters that are “Water Quality Limited,” but do not yet have TMDLs.*

Response: Ecology periodically reviews water quality data to determine if water bodies meet criteria. Section 303(d) of the CWA requires that waters not meeting criteria undergo an evaluation of the cause and amount of the contaminant. Ecology publishes Total Maximum Daily Load (TMDL) reports, which may establish limits on the amounts of pollutants contributors may discharge.

Willapa Bay is on the 303(d) list for several parameters, including invasive exotic species; however, Ecology believes that further impairment to Willapa Bay is unlikely through activities permitted under this permit. Treatment will have no effect on most of the listed parameters, such as legacy chemicals. Willapa Bay is not listed as an impaired water body for imazamox. Imazamox treatment is unlikely to impair parameters such as dissolved oxygen or nutrients. Noxious weeds dying from treatment on the tide flats should not cause low oxygen conditions or substantial nutrient nitrogen release in Willapa Bay with its dynamic tidal systems and substantial dilution potential.

Comment 29: *The class C noxious weed designation for *Z. japonica* is not based on good science and as a result, the permit should be denied.*

Response: The designation of noxious weeds is conducted by the Washington State Noxious Weed Control Board.

When a plant is listed as an aquatic noxious weed, RCW 90.48.445 directs Ecology to develop permits for aquatic noxious weed control.

Comment 30: *We do not support large scale chemical treatment of mixed native and non-native eelgrass beds, even where they occur on commercial clam beds.*

We do not agree that the current draft permit adequately characterizes impacts to native eelgrass or addresses the matter of mitigation for collateral damage to non-target vegetation.

Response: Ecology appreciates the concerns regarding herbicide treatment of mixed native and non-native eelgrass beds and whether mitigation for removal of native eelgrass is needed. When developing draft NPDES permits Ecology must balance, what are at times, competing beneficial uses of the water body. The permit is designed to contain impacts from imazamox application to commercial clam beds. The Buffer Validation Study and permit conditions should determine the appropriate buffer distance to protect off-site *Z. marina* from the effects of imazamox.

Commercial clam beds are privately owned or leased lands that are managed as commercial aquaculture farms. As stated in the EIS: *Washington State Department of Fish and Wildlife (WDFW) Requirements for *Z. japonica* Control*. RCW 77.115.010(2) limits application of WDFW regulatory powers with respect to private-sector cultured aquatic products. The limitation prevents WDFW from requiring a Hydraulic Project Approval permit to regulate the planting, growing, and harvesting of clams and other shellfish grown by private aquaculturalists (AGO 2007 No. 1, January 4, 2007).

RCW 90.48.445 directs Ecology to develop aquatic pesticide permits for noxious weed management. Furthermore it states that Ecology may not utilize this permit authority to otherwise condition or burden noxious weed control efforts.

Ecology does not feel that there are regulations in place that require commercial clam growers to protect or mitigate for non-target vegetation within commercial clam beds in Willapa Bay. Further, Ecology feels that the draft permit will provide the appropriate herbicide application restrictions to protect off-site vegetation.

Comment 31: *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.*

NMFS recommends that Ecology include NMFS on the Z. japonica management/monitoring team and the Discharge Management Plan (DMP) team.

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.

Response: Ecology appreciates NMFS' interest in participating on the team for evaluating monitoring data and results of the buffer validation study. NMFS will be contacted to participate on the data evaluation team.

At this time, Ecology has not determined that it will develop a team for DMP review. If Ecology decides to develop a team for DMP review, NMFS will be contacted to take part.

At this time, the only formulation of imazamox known to be registered for marine and estuarine use is Clearcast[®] (Fact Sheet pg 30). The permit does not allow the use of adjuvants, only aquatic herbicides containing imazamox and food marker dyes. If adjuvants were allowed it would be clearly included as part of permit Special Condition S1.A (for an example see the Aquatic Plant and Algae Management Permit http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/aquatic_plants/p/ermitdocs/Modification2012/apamgpermit040412.pdf). This permit does not allow the use of adjuvants or surfactants.

Ecology agrees that the term drainage needs to be clearly defined in the permit.

Change: The definition of drainage, given below, will be included in Appendix A of the permit.

Drainage: A depression or channel in the inter-tidal surface topography that moves water down-slope as the water recedes off of the tide flat as the tide ebbs.

Comment 32: *We would like the department to halt issuing the permit until after EPA studies on how chemical exposures may impact brain development are conducted.*

Response: Imazamox has an EPA toxicity rating of practically non-toxic to mammals.

The imazamox risk assessment can be found here:

<http://www.ecy.wa.gov/programs/wq/pesticides/enviroReview/riskAssess/riskassessmentimazamox110712.pdf>

Comment 33: *We are concerned that imazamox could find its way into underground waters and request that Ecology investigate whether imazamox discharge could seep into groundwater resources.*

Response: The Buffer Validation Study (Fact Sheet Appendix B) asks for imazamox residue testing in the sediments of the treated test plots, which should inform the likelihood of imazamox to bind and persist in sediments. The draft permit would only allow for imazamox discharge on commercial clam beds in Willapa Bay.

In terrestrial applications, imazamox degrades slowly when applied to upland soils (half-lives varied from 15 to 130 days in field sites in North America). In sediment, imazamox half-lives were similar (15 - 130 days). Because imazamox is highly water soluble, it is not expected to bind with organic materials in the sediment. However, Ecology expects the half-life of imazamox in estuarine sediment to be less than observed in lake sediments due to tidal exchange and dilution. In its risk assessment, EPA concluded that even if imazamox does persist in the sediments, it is unlikely to present any risk to fish, invertebrates, birds, or mammals.

Ecology does not expect that imazamox discharge to marine and estuarine waters would impact potable groundwater supplies.

Comment 34: *As the stewards of state-owned aquatic lands in Washington, DNR would like the permit to be modified to require permit holders to notify the land owner prior to spraying on public lands.*

DNR would like to see inclusion of more substantial monitoring language that defines enforcement and provides greater protection from impacts to native eelgrass and vulnerable species.

Response: The draft permit does not differentiate between a lessee and a property owner for the purposes of operating under the permit. Ecology feels that any extra requirements for a lessee should be defined by the lease agreement between DNR and the lessee.

Imazamox only reached EPA's level of concern for aquatic vegetation. Imazamox has an EPA toxicity category of practically non-toxic for mammals, fish, birds and invertebrates. Based on imazamox toxicity to plants, the Buffer Validation Study focuses on identifying the appropriate buffer width to apply in the permit to minimize impacts to off-site *Z. marina*.

The permit conditions and monitoring are enforceable by Ecology and third parties.

Section 3. Comment on Specific Sections of the Permit

S1 Permit Coverage

Comment 35: *We have concerns that limiting the discharge of imazamox after 3yrs doesn't provide stability to growers. There needs to be clarification of when the permit may be modified and the purpose of the modification.*

Response: After the third year of permit issuance, the discharge of imazamox will be prohibited and Ecology will determine whether to modify the permit to allow continued discharge of imazamox based on the results of the Buffer Validation Study and the monitoring. See Fact Sheet page 47 and page 57 for a discussion about how the Buffer Validation Study is intended to be used to modify the permit after the third year.

Comment 36: *Why have geoducks beds been excluded from the permit and what is the science that supports that limitation.*

Response: When Ecology initially received the request for permit development, we solicited comments about whether Ecology should proceed with permit development. One of the primary concerns was the broadness of the proposed permit and the effect it may have on *Z. marina*. As a result, Ecology determined to reduce the scope of the proposed permit to cover only commercial clam beds, excluding geoduck culture, in Willapa Bay in order to determine what the impacts of *Z. japonica* management would be on a limited scale.

Comment 37: *Ecology should carefully review how the final permit will be implemented in time for the 2014 treatment program and work to avoid any conflicts it may present for control participants.*

Please clarify how the presence of a secondary shellfish crop on a commercial clam bed would impact permit coverage.

Response: For specific questions regarding how to prepare and submit permit compliance documents, potential Permittees or Sponsors should contact Ecology's Water Quality Program Aquatic Pesticide Permit Manager. For a list of contacts please visit: <http://www.ecy.wa.gov/programs/wq/pesticides/contacts.html>

If a shellfish grower has an aquaculture bed that meets the definition of a commercial clam bed as it is defined in the permit, then it would qualify for *Z. japonica* management under the permit, even if a secondary aquaculture crop were also present on the bed.

S2 Permit Administration

Comment 38: *If the permit is issued this year how can potential permittees submit permit applications so that they would be able to treat within the permit application window of April 15th through June 30th?*

Response: An application for coverage may be submitted any time after permit issuance. However, the required legal notice cannot be published until the permit is issued and the 30-day comment period on permit coverage does not begin until after the second legal

notice is published in the newspaper. Assuming a Notice of Intent (NOI) and other application materials were received concurrent with permit issuance, the earliest date that Ecology could issue permit coverage to allow discharge is 38 days after the date of permit issuance.

For specific questions regarding how to prepare and submit permit compliance documents, potential Permittees or Sponsors should contact Ecology's Water Quality Program Aquatic Pesticide Permit Manager. For a list of contacts please visit: <http://www.ecy.wa.gov/programs/wq/pesticides/contacts.html>

Comment 39: *What is the purpose and can the requirement be removed for the 30 day comment period that commences after the second public notice is published in a local newspaper?*

Response: WAC 173-226-130 (5)(b)(iv) requires that all proposed activities for which Ecology receives a permit application must have a 30-day public comment period before Ecology takes any action on the permit application.

Comment 40: *I find the requirement to include contact information and proposed treatment locations for each applicant in the public notice for publication in the local newspaper to be excessive.*

Response: WAC 173-226-130 (5)(b) lists the requirements for public notice. The requirements for public notice in the draft permit follow those outlined in WAC 173-226-130 (5)(b).

S3 Discharge Limits

Comment 41: *The permit should clarify that plants of concern for permit special condition S.3.D are identified from existing information contained within DNR or other information as applied to Pacific County.*

Response: Ecology uses the Washington State DNR Natural Heritage Program for rare plant information. The Fact Sheet is a companion document to the NPDES permit and discusses Sensitive, Threatened, or Endangered Plants, and Priority Habitats and Species on page 50.

Comment 42: *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. We feel that a numeric water quality standard for imazamox should be used rather than the narrative water quality standard applied in the draft permit.*

The draft permit provision which allows for temporary exceedance[s] of water quality standards (Draft Permit S.3.(B)) is not meaningful and may sanction any and all temporary exceedances of water quality standards with the application of aquatic herbicides.

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.

Response: Operational standards in the permit are designed to achieve the narrative standards for water quality. Timing of application, FIFRA label, buffer requirements, application frequency and other application restrictions outlined in permit special condition S4 contribute to maintain State water quality standards.

Ecology periodically reviews water quality data to determine if water bodies meet criteria. Section 303(d) of the CWA requires that waters not meeting criteria undergo an evaluation of the cause and amount of the contaminant. Ecology publishes Total Maximum Daily Load (TMDL) reports, which may establish limits on the amounts of pollutants contributors may discharge. Willapa Bay is on the 303(d) list for several parameters; however, Ecology believes that further impairment to Willapa Bay is unlikely through activities permitted under this permit. Treatment will have no effect on most of the listed parameters, such as legacy chemicals. Imazamox treatment is unlikely to impair parameters such as dissolved oxygen or nutrients. Noxious weeds dying from treatment on the tide flats should not cause low oxygen conditions or substantial nutrient nitrogen release in Willapa Bay with its dynamic tidal systems and substantial dilution potential.

S4 Product Use

Comment 43: *Section S.4.A.3.5 states: "Not treat a commercial clam bed more than once per year". This should be re-written to clarify that this single treatment per year restriction is intended to apply to the actual portion of the clam bed treated. It's likely that portions of a clam bed may be treated at different times, but those portions would only be treated once per year.*

Response: Ecology intends the one treatment per year limitation to mean that the surface area may only be treated once per year. A single clam bed may be treated at various times in the treatment season as long as each surface area within the clam bed only receives one treatment per year.

Change: Section S.4.A.3.5 will be changed to read: "Not treat a commercial clam bed more than once per year. Treatment of a commercial clam bed may be completed over multiple days if each area within the clam bed is only treated once per year."

Comment 44: *Section S.4.A.3.7 states: "Aerial application of imazamox is prohibited. Ground based applications must not be made when wind speed exceeds 10 miles per hour". I believe this restriction is based on average wind speed.*

Response: RCW 90.48.445 (b) states:

(b) The director shall issue water quality permits for the purpose of using herbicides or surfactants registered by the department of agriculture to control aquatic noxious weeds, other than *Spartina*, and the permit shall state that aerial and ground broadcast applications may not be made when the wind speed exceeds ten miles per hour.

The RCW does not state that the requirement is based upon average wind speed.

Comment 45: *I request that there be no buffer requirement between commercial shellfish beds.*

Response: Ecology agrees that no buffer should be required between commercial shellfish beds, as long as one of the parties is permitted under this NPDES permit and both parties agree to the treatment occurring up to the property line.

Change: S4.B will be changed to read: “Where a Permittee and sponsor who have a clam bed that is contiguous with an adjacent commercial shellfish bed, and both parties agree, a buffer is not required on the connecting parcel boundary. Each Permittee must indicate whom they are cooperating with and on which parcel(s) in their annual pre-treatment plan (special condition S7.A). See Appendix E, Figure 2 for an example of this situation.”

Comment 46: *Section S.4.h.3 states "Must be limited to 1 acre or less" in regard to the use of an Experimental Use Permit (EUP). It should be clarified that the permit allows the utilization of a Federal EUP or other legal permitting action for research purposes, and that these alternate permits may allow more than one acre to be treated under the NPDES permit for these purposes.*

Response: Ecology has determined to limit the acreage treated under an experimental use permit (EUP) to one acre or less under the proposed NPDES permit, unless the EUP has been reviewed and approved. Ecology will review and may approve EUPs for use under this NPDES permit for applications of herbicide on more than one acre. The reason for this limitation is to protect *Z. marina* from non-target impacts of herbicides being tested under state or federal EUPs.

Change: S4.H.3 will be changed to read: “Must be limited to one acre or less, except for situations where Ecology has reviewed and approved a federal EUP.”

Comment 47:

a. *The requirement for a 10m property line buffer will have negative economic impacts to shellfish growers through loss of farmable area.*

b. *We feel that the 10m property line buffer should only occur where *Z. marina* intersects with the property line.*

c. *The 10m buffer would prevent growers from controlling a noxious weed on their property.*

d. *We feel that data collected under an EUP shows that 6m is the appropriate buffer distance.*

e. *Requiring a 10m buffer where *Z. japonica* is allowed to remain will contribute to the *Z. japonica* seed bank in Willapa Bay and will cause commercial clam beds to be recolonized more rapidly, leading to increased herbicide use under the permit.*

f. *In no other aquatic permit does Ecology include a treatment buffer zone. The use of a 10 m buffer in a NPDES permit for control of a listed noxious weed and non-native species also sets a dangerous legal precedent for all future NPDES permits for aquatic noxious weeds, or for control of any state-listed terrestrial noxious weed.*

g. If the buffer size validation study shows 10m is not necessary, will Ecology reduce or eliminate the buffer size?

Response: Ecology proposed the 10m buffer to protect off-site *Zostera marina* and to protect adjacent properties from the effects of imazamox treatment. The necessary research to determine the appropriate buffer width for commercial scale application of imazamox could not be completed without a permit in place because it would require a discharge of imazamox. Ecology chose to err on the side of caution when proposing the 10m buffer. Ecology requested a Buffer Validation Study to determine the appropriate buffer width. Based on the results of the Buffer Validation Study and monitoring within the permit, Ecology may re-open the permit after three years and modify the buffer width to reflect these results. If it is shown in the Buffer Validation Study that a buffer of less than 10m is appropriate then the permit may be modified to reflect that. The proposed permit would not limit the Permittee from using physical or mechanical control techniques to manage *Z. japonica* within the buffer.

S5 Monitoring

Comment 48: *The requirements for routine monitoring proposed in the draft permit are vague and ambiguous.*

The draft permit provisions meant to address cases of noncompliance are vague and ambiguous.

Response: From permit Special Condition S5 A: To quantify this distance, 30 days after treatment, the Permittee must measure the width of dead eelgrass (*Zostera spp.*) in the buffer.

Monitoring is to occur 30 days after the application of imazamox. The monitoring required within the permit is paired with the Buffer Validation Study requested in Appendix B of the Fact Sheet to minimize effects to off-site *Z. marina* and other non-target impacts to adjacent properties.

It is standard practice for NPDES permits to rely on the Permittee to report cases of non-compliance. Ecology has enforcement discretion for NPDES permits. Ecology may respond to complaints, make unannounced inspections and announced inspections. It is expected that Ecology will observe a portion of the treatments that would occur under the proposed permit. Monitoring requirements and non-compliance issues are enforceable by Ecology and third parties.

S7 Reporting

Comment 49: *How will potential permittees be required to submit the pre-treatment plan for the first year of coverage under the permit?*

Response: Ecology agrees that the pre-treatment plan will need to be submitted after the March 1 deadline if a decision is made to issue the permit this year.

Change: Permit Special Condition S.7 will be changed to include: “For new applications for coverage under this permit, the pre-treatment plan for the first year of coverage must be submitted with the NOI and DMP as part of the permit application.”

Comment 50: *I oppose the requirement that growers include information from previous years treatments on maps intended to reflect their plans for the upcoming treatment season.*

I request that only one GPS coordinate be required from a central location of the expected treatment site rather than providing GPS coordinates for all four corners of the proposed treatment site.

Response: Ecology does not require that all locations proposed for treatment in the pre-treatment plan be treated. However, all areas treated must have been proposed for treatment in the pre-treatment plan.

Ecology agrees that maps of the previous season’s treatments are not needed as part of the pre-treatment plan. Instead, Ecology would request that the Permittee indicate whether beds proposed for treatment in the pre-treatment plan were treated the previous year.

Change: S.7.A.c will be changed to read: “Maps delineating the locations of the areas planned for treatment. After the first year of treatment, the maps must also indicate whether the location was treated the previous year.”

Appendix A Definitions

Comment 51: *Commercial clam beds are defined as: " Marine or estuarine areas where clams (excluding geoduck and oysters) are raised and harvested for commercial sale under a current Washington State business license". I ask that this language be amended to eliminate the reference to "excluding geoduck and oysters" in this definition, due to the potential for secondary shellfish crops to present on the beds.*

Response: The intent of the permit is to condition pesticide discharge for the management of the noxious weed *Z. japonica* on commercial clam beds in Willapa Bay. The presence of an incidental occurrence of oysters or presence of oysters as a secondary crop should not exclude a commercial clam bed from *Z. japonica* management activities under the permit.

Change: The definition of commercial clam bed will be changed to read: “*Commercial clam beds:* Marine or estuarine areas where clams (excluding geoduck) are raised and harvested for commercial sale under a current Washington State business license. Commercial clam beds may also include other shellfish as a secondary crop, so long as clams are the primary crop on the bed.”

Comment 52: *Please amend the definition of *Zostera japonica* to clarify that this is an invasive or non-native species in the United States.*

Response: From the Washington State Noxious Weed Control Board (WSNWCB): 'Noxious weed' is the traditional, legal term for invasive, non-native plants that are so aggressive they harm our local ecosystems or disrupt agricultural production.

The terms invasive and non-native are part of the WSNWCB definition of noxious weed, so it would be redundant to include them in the definition.

Comment 53: *NMFS recommends Ecology clearly define the meaning of “no net loss” so that it clarifies whether it includes direct toxic and indirect effect of the application of imazamox on native eelgrass.*

Response: WDFW defines no net loss as : No-net-loss = (a) Avoidance or mitigation of adverse impacts to fish life; or (b) Avoidance or mitigation of net loss of habitat functions necessary to sustain fish life; or (c) Avoidance or mitigation of loss of area by habitat type. Mitigation to achieve no-net-loss should benefit those organisms being impacted ([WAC 220-110-020\(56\)](#)).

The conditions of the permit set out the mitigation and avoidance requirements to achieve the goal of no net loss to *Z. marina* off of the treatment site due to direct effects from imazamox. Ecology agrees that there may be a reduction of off-site *Z. marina* due to indirect effects of imazamox treatment.

The phrase “no net loss” is not used in the permit and is not part of the conditions set forth in the permit.

Comment 54: *Suggest that the Notice of Intent (NOI) form defined in the definitions section be added as an appendix to the permit.*

Response: The Notice of Intent (NOI) is the permit application form and is maintained as a separate document.

Appendix D – Discharge Management Plan

Comment 55: *Suggest spelling out “Notice of Intent” in first paragraph to clarify what NOI means.*

Response: Ecology agrees that spelling out Notice of Intent will help with clarity.

Change: Notice of Intent will be spelled out in the first paragraph of Appendix D.

Comment 56: *Can answers to questions posed in the Discharge Management Plan (DMP) be answered by referencing the appropriate section(s) of the EIS?*

Response: See page 51 of the Fact Sheet for information on how to incorporate parts of the EIS into the Discharge Management Plan (DMP).

Comment 57: *The action threshold for Z. japonica should be presence of the noxious weed on the commercial clam bed. The DMP infers that studies must be completed to determine an action threshold.*

Response: The action threshold is set by the Permittee when developing the DMP and is defined as: The density of, or number of individuals in, a pest population that triggers management activities.

An example of a method for determining if the action threshold is met could be a survey conducted by the Permittee to estimate the number or percent of *Z. japonica* present on the commercial clam bed.

Comment 58: *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.).*

Response: The requirement for potential Permittees to develop a Discharge Management Plan (DMP) stems from EPA's NPDES Pesticide General Permit. The federal Pesticide General Permit requires Permittees to develop a DMP and state permit may not be less stringent than federal permits. The purpose of the DMP as stated in EPA's Pesticide General Permit: "The PDMP documents how Decision-makers will implement the effluent limitations in Parts 2 and 3 of the permit, including the evaluation and selection of Pest Management Measures to meet those effluent limitations in order to minimize discharges. In the PDMP, Decision-makers may incorporate by reference any procedures or plans in other documents that meet the requirements of this permit."

Ecology does not feel that the purpose of the DMP is to evaluate all of the environmental impacts discussed in the EIS. Permittees may incorporate relevant sections of the EIS in their DMP.

Appendix E – Figures

Comment 59: *All figures should be modified to reflect changes in buffer requirements as discussed in my comments above.*

Response: It is not Ecology's intent to modify the buffer distance of 10m until after the third year of permit issuance as discussed in permit Special Condition S1.A. If the proposed permit is modified after the third year the figures will be updated at that time to reflect the changes.

Section 4. Comments on the Fact Sheet

Comment 60: *The statement on page 53 of the Fact Sheet: **The application window is also within the work windows set by WDFW for their regulatory Hydraulic Project Approval Program to protect fish life.** This statement is inaccurate and a proposed rewording is: **The application window is also within the work windows set by WDFW for their regulatory Hydraulic Project Approval Program to protect herring spawning periods.***

On page 54 there is a reference to a 20m buffer and I can't tell if this is a typo or a different buffer.

Response: Thank you for your comments. Ecology Agrees.

Change: The bolded sentence should read: The application window is also within the work windows set by WDFW for their regulatory Hydraulic Project Approval Program to protect herring spawning periods.

The typo of 20m should have been 10m in reference to the buffer distance.

Comment 61: *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*.*

*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.*

Response: Ecology agrees that the reasoning for using the 20% reduction in stem density for *Z. marina* in the Buffer Validation study should have been included in the Fact Sheet.

The Buffer Validation Study is not a requirement of the permit, but rather a study requested to validate the appropriate buffer distance for inclusion in the permit after the third year by Ecology when the permit is opened for modification based on the study results. The proponents of the study must follow the study guidelines and be covered under the permit to apply imazamox according to the conditions of the permit. For the results to be considered for use in modification of the permit after the third year, Ecology must receive the data and study results so that there is sufficient time for Ecology and others reviewing the results to make a determination of what the appropriate buffer distance may be. Additionally results must be received in a timely manner so that Ecology can go through the public review process that is a part of a major permit modification prior to the fourth treatment season. Ecology has not defined the timeframe for result submittal, from the study proponents, to allow the potential for a multi-year study or for inclusion of additional data, outside of what is asked for in the study, to support the modification of the buffer distance.

Change: The reasoning for using a 20% reduction in *Z. marina* stem density as the metric for the Buffer Validation Study follows. Based on the WDFW Eelgrass/Macroalgae Habitat Interim Survey Guidelines the 20% change allowed Ecology to align with the guidance given by WDFW. Further, 20% is a criteria that allows standard survey methods a chance of detecting a change at a level of effort that is not always prohibitively expensive (Personal communication with Kirk Krueger-WDFW).

Comment 62: *NMFS recommends reconciling the timing of the single-point-in-time post-treatment monitoring (30 days) in the Buffer Width Study (Fact Sheet Appendix B) with the natural senescence of plants in late June (Grue et. al2013). 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.*

Response: Monitoring impacts at 365 days post-application may be better for assessing any net loss of native eelgrass associated with control of *Z. japonica* on commercial clam beds. However, Ecology is concerned that monitoring at the 365 day time point will include indirect effects to *Z. marina* from *Z. japonica* management, such as changes in sediment retention on the commercial clam beds. The design of the buffer width study is to determine the appropriate buffer width to protect off-site *Z. marina* from the direct toxic effects of imazamox.

Section 5. Comments on the appropriateness of issuing a general permit versus individual permits.

Comment 63: *Issuance of a general permit is not appropriate. Individual permits should be required that are site specific. If a general permit is developed Ecology needs to condition it to require that applicants fully comply with FIFRA and the FIFRA label for the chemical involved.*

Response: The Fact Sheet defines a General Permit as: “A permit that covers multiple discharges of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.”

Ecology feels that a general permit is appropriate since all proposed discharges would occur on commercial clam beds in Willapa Bay using imazamox. All potential applicants have similar operations (commercial clam aquaculture) in a similar location (Willapa Bay) using the same herbicide (imazamox). Individual site differences are not expected to be substantial enough to justify development of individual permits. A further consideration is that many commercial clam growers have clam beds that are spread throughout Willapa Bay, which, if individual permits were required, would mean that a business owner may need multiple individual permits for management of *Z. japonica* within Willapa Bay.

The Draft General Permit for *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay (permit) includes conditions which require compliance with FIFRA and the FIFRA label for imazamox. Conditions in the permit that require compliance with FIFRA and the FIFRA label are: Special Condition S3.A.2, Special Condition S4 and General Condition G2.