Center for Food Safety

Please see the attached comments for this proposed permit renewal. The two past comment documents are also attached as exhibits.

January 14, 2025

Department of Ecology
Water Quality Program
Attn: Shawn Ultican
PO Box 47696
Olympia, WA 98504-7696

RE: Comments on Proposed Renewal of General Permit for Discharge of Imazamox on Commercial Clam Beds in Willapa Bay

Dear Dept. of Ecology:

Thank you for the opportunity to comment on the proposed renewal of the NPDES Permit for Zostera Japonica Management on Commercial Clam Beds in Willapa Bay, to allow continued spraying of imazamox on clam beds.

Center for Food Safety (CFS) is a national non-profit organization representing nearly 1 million members nationwide and tens of thousands in the Pacific Northwest, including Washington State. CFS uses education, policy and legislation, and impact litigation to address the negative effects to public health and the environment from harmful food production technologies, and supports ecological food production, like organic and beyond. CFS operates in the Pacific Northwest and its members are particularly concerned with the increasingly industrial aquaculture, and particularly the use of pesticides in shellfish aquaculture.

CFS urges Ecology to deny this permit to continue killing eelgrass, whether on or off commercial clam beds. Washington is home to many iconic and endangered species like salmon and the orcas that rely on them, and numerous other fish, birds, and invertebrates. These species, and their prey, rely on eelgrass habitat in Willapa Bay. Washington has a "no net loss" policy for eelgrass given its importance and the decline of eelgrass and other seagrasses worldwide. Thus, Ecology must prevent further intentional destruction of this crucial habitat. As Ecology acknowledges (EIS at 76-78), introduced eelgrass also provides essential ecosystem functions, like food, shelter, and habitat stabilization for numerous species, as well as nutrient cycling and climate change mitigation.

As experts have stated, there is no sound reason to allow the direct spraying of any native eelgrass, including on commercial clam beds (*see* FWS Comments on 2014 Imazamox NPDES Permit). For ten years, Ecology has allowed the unmonitored spraying of eelgrass with the herbicide imazamox. Because of the past permit buffer rules, growers who sprayed imazamox were not required to monitor impacts to eelgrass outside of their plots, so hundreds of acres were sprayed over the last ten years without any monitoring of

off-site impacts. Ecology's buffer validation study in 2016 was fatally flawed, but even then showed negative impacts to native eelgrass, and should never have supported extending the permit for the full five years.[1] Given the benefits of introduced eelgrass, the negative impacts of herbicides to the Bay, native eelgrass, and other species, and the significant data gaps here, this under-studied plan should not move forward.

In this round of permit renewal, Ecology continues to rely on outdated and biased data to formulate the problem and need for this pesticide permit. Further, Ecology failed to conduct any review of the impacts on the ground after the last five years of spraying. While the additional monitoring and public comment period required in the proposed permit is an improvement, the permit, fact sheet, and EIS fail to show how use of synthetic herbicide complies with Washington's "no net loss" of eelgrass policy, water quality laws, or the principles of Integrated Pest Management (IPM), or how IPM principles (herbicide as a very last resort) will specifically be required though this permit. Ecology should not grant this permit, full stop, but if it does, it must do more to analyze the impacts of the last five years of spraying, use up-to-date data, and provide much more clear and strict limits on spraying that will protect *Z. marina,* water quality, and implement IPM.

State Environmental Policy Act

The State Environmental Policy Act ("SEPA") is Washington's core environmental policy and review statute. Like its federal counterpart, the National Environmental Policy Act ("NEPA"), SEPA broadly serves two purposes: first, to ensure that government decision-makers are fully apprised of the environmental consequences of their actions and, second, to encourage public participation in the consideration of environmental impacts. *Norway Hill Preservation and Prot. Ass'n v. King Co*, 87 Wn.2d 267, 279 (1976). For decades, SEPA has served these purposes effectively, requiring full environmental reviews for projects with significant environmental impacts.

SEPA was enacted to "encourage productive and enjoyable harmony between humankind and the environment" and to "prevent or eliminate damage to the environment and biosphere." RCW 43.21C.010. Thus, in adopting SEPA, the Washington legislature declared the protection of the environment to be a core state priority, "recogniz[ing] that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment." RCW 43.21C.020(3). This policy statement, which is stronger than a similar statement in the federal counterpart of NEPA, "indicates in the strongest possible terms the basic importance of environmental concerns to the people of the state." *Leschi v. Highway Comm'n*, 84 Wn.2d 271, 279–80 (1974).

[1] CFS, Comments on Proposed Modification of General Permit for Discharge of Imazamox on Commercial Clam Beds in Willapa Bay (Jan. 31, 2017); CFS, Comments on Proposed NPDES Permit Renewal (Nov. 4, 2019) (both attached).

SEPA is more than a purely "procedural" statute that encourages informed and politically accountable decision-making. SEPA requires agencies to integrate environmental concerns into their decision-making processes by studying and explaining environmental consequences before decisions are made. *See Stempel v. Dep't of Water Resources*, 82 Wn.2d 109, 117–18 (1973). In enacting SEPA, the state legislature gave decision-makers the affirmative authority to deny projects where environmental impacts are significant, cannot be mitigated, and collide with local rules or policies. SEPA provides substantive authority for government agencies to condition or even deny proposed actions—even where they meet all other requirements of the law—based on their environmental impacts. RCW 43.21C.060.

Because SEPA's purpose is informed decision-making, information is critical, and the regulations direct the lead agency to obtain necessary information, if possible, provided the "costs are not exorbitant." WAC 197-11-080(1). While Ecology drafted an EIS in support of this proposed permit, it relies on old information rather than information from the last five years of imazamox spraying under the prior permit. Even at the outset in the problem formulation section, Ecology relies on a 14-year-old study with one author that had a direct economic conflict and was previously sanctioned.[2] EIS at 7. Ecology relies on a 13-year-old survey of shellfish growers conducted by their own trade group, the same group seeking the permit, to claim that use of imazamox is necessary. *Id.* Given the two iterations of this same permit, Ecology should update its information as things may have changed in the last decade plus. EIS at 7-10. The costs of obtaining such information should not be "exorbitant" as the permittees were required to file annual reports, and information such as the extent of clam aquaculture and *Zostera* beds should be available from other sources, including the U.S. Army Corps of Engineers and National Marine Fisheries Service.

Nowhere in the Fact Sheet or EIS does Ecology clearly lay out the extent to which acres were sprayed under the last permit or any results of monitoring (if there was indeed any monitoring under the last permit). While this EIS again uses the 1,100-acre number for acres of clam aquaculture, that number came from 2012 and has been regurgitated in 2014 and again in 2019, but the actual current acreage that may be impacted by this permit remains unclear. Is *Z. japonica*, given all its admitted benefits to the ecosystem (EIS at 76-78), still truly such a problem for current shellfish aquaculture operations? Ecology continues to rely on an unpublished 2011 study by Kim Patten claiming that *Z. japonica* causes on average a 44% decrease in clam yield. This is unsubstantiated and unscientific, a far cry from the "information reasonable sufficient to evaluate the environmental impacts of a proposal" that SEPA requires. WAC 197-11-335. *See also*

[2] *See* Center for Food Safety Comments on Proposed Renewal of General Permit for Discharge of Imazamox on Commercial Clam Beds (Nov. 4, 2019) (incorporated herein by reference and attached), citing Washington State Executive Ethics Board, Investigative Report and Board Determination of Reasonable Cause, No. 2017-012, Kim Patten, Director WSU Pacific County Ext. (July 20, 2017).

Boehm v. City of Vancouver, 111 Wn. App. 711, 718, 47 P.3d 137 (2002) (internal citations and footnotes omitted). As Ecology notes in its EIS, this same Mr. Patten claimed that waterfowl do not eat *Z. japonica*, downplaying an important impact of using herbicide on this eelgrass, and was proven wrong by a citizen scientist who provided evidence to the contrary, including photographs and not just the word of someone who has economic conflicts. EIS at 77. Further, in Mr. Patten's published 2014 study, the results indicated only a 9-33% increase in yield for young, fast-growing clams, and no significant differences for fully mature clams.[3] The study admits that the "45% increase in commercial yield" is "likely an artifact of the study design" because clams are mobile and will seek more favorable locations (i.e. away from thick *Z. japonica*). *Id.* So Ecology's continued use of the 44% decrease in yield figure in its EIS does not conform to the requirements of SEPA.

Further, while Ecology lists several areas of uncertainty, it also states that a determination of necessary buffer distance to protect *Z. marina* is still "needed." EIS at 18, 90. If Ecology still has not validated to a reasonable certainty the 10m buffers it has imposed in the last two permits, how can Ecology claim that this permit will uphold the state's "no net loss" policy for eelgrass or comply with state and federal water quality laws? Before Ecology can claim that spraying a systemic, synthetic herbicide into aquatic environments will have no significant impacts, much less violate federal and state water quality laws and policies, Ecology must use the best information available, rather than rely on unsubstantiated claims from the very industry that seeks to spray the pesticide.

NPDES and Water Quality Permitting Standards

Ecology must also comply with all Clean Water Act and Washington State water-quality standards when permitting the discharge of pesticides into water. 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). Discharges are prohibited from causing or contributing to violations of water quality standards. 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); RCW 90.48.010, 90.48.520, 90.52.040, and 90.54.020. Water quality standards are defined as the designated beneficial uses of a water body, in combination with the numeric and narrative criteria to protect those uses and an antidegradation policy. 40 C.F.R. § 131.6; Chapter 173-201A WAC. The antidegradation policy is meant to ensure that the highest possible water quality is restored, that existing uses are maintained, and that any human activities that may lower water quality are allowed, at a minimum, with AKART. WAC 173-201A-300-330.

Ecology claims that Integrated Pest Management is AKART and the equivalent of technology-based-effluent limitations but fails to describe how IPM principles will *actually*

[3] K. Patten, *The Impacts of Nonnative Japanese Eelgrass (Zostera japonica) on Commercial Shellfish Production in Willapa Bay, WA*, Agricultural Sciences Vol. 5, No.7 (June 2014).

be used and how they will be effective. As with the last version of this permit, it remains entirely unclear how this permit meets technology-based or AKART standards. In its Fact Sheet, Ecology says that Appendix C of the proposed permit sets out the minimum standards and guidelines for a Discharge Monitoring Plan (required by EPA), but this appendix provides zero guidance of what the thresholds should be for determining when it is appropriate to use imazamox, which as a synthetic herbicide should be a very last resort under IPM principles. Fact Sheet at 50. Ecology claims that DMPs will incorporate IPM to "help reduce pesticide use," Fact Sheet at 69, but never says what these thresholds should be and how it will ensure that a permittee actually takes all non-chemical actions before going to the easiest and cheapest solution (imazamox).

As to surface water quality-based effluent limits, Ecology does not provide what beneficial uses are designated for Willapa Bay or how this permit to spray herbicide into the Bay will maintain those uses, including such things has wildlife habitat. 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. "Wildlife habitat" means waters of the state used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity. WAC 173-201A-020. Habitat therefore *includes* areas used for commercial shellfish aquaculture, it is in no way excluded from this definition. So, Ecology has an obligation to ensure that any pollutants discharged, even on commercial clam beds, will not violate state water quality requirements, including protecting beneficial uses like wildlife habitat. To protect its current integrity and to prevent deterioration, Ecology may only issue a permit that will protect water quality and must show how this permit will be effective at doing that but instead provides no analysis. Ecology admits, as it must, that all eelgrass sprayed will be killed, but shrugs this off as still compliant with the "no net loss" policy because that eelgrass exists on commercial clam beds. EIS at 18. Tidal habitat, and the species it supports, does not stop and start at leased tide beds used for commercial aquaculture.

Under the antidegradation analysis, Ecology must use the information collected from implementation of the permit to revise the permit or program requirements. However, Ecology *has* no monitoring data because the last two permits failed to require monitoring whenever spraying "does not occur up to the 10m property line buffer." 2019 Permit Special Condition S.5.A.1. During the first five years of the permit, only one grower has ever been required to monitor impacts in the 10m buffer (according to self-reported Annual Reports), on a total of 17.9 acres out of the over 1,000 sprayed over the life of the permit.[4] Monitoring on *1.6% of acres treated* is far from enough data to conduct the required analysis. Even if impacts were occurring to native eelgrass within treatment areas, or within the 10m buffer, or off-site, if growers did not spray "up to the 10m buffer"

[4] *See* Ecology, Annual reports and pre-treatments plans, https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Zostera-japonica-eelgrass-management#report (last accessed Nov. 4, 2019).

(potentially meaning just inches away under the vague permit language), there was no monitoring. It is an improvement that Ecology is now proposing to require monitoring after *all* use (Draft Permit at 14), but Ecology should not continue this approach of spray now, evaluate later without better information on the actual impact of using this herbicide in the Bay.

Further, the buffer validation study conducted after year three of the first permit suffered from serious flaws (including a small sample size and use of a lower per-acre rate of active ingredient than allowed on the label). *See* Exhibit 1. Despite the problems with the buffer validation studies, they still found an over 20% reduction of eelgrass on lower elevation plots, and 2 of 3 test areas showed impacts to native eelgrass beyond the 10m buffer zone. (Grue & Conquest 2015). These findings, even with the small sample size and low rate of application, indicate that the 10m buffers are not sufficient to avoid impacts to native eelgrass off the property. Ecology calls this "no significant impact" but under a "no net loss" of native eelgrass policy, it is hard to see how a 20% reduction in cover/stem density is acceptable. Fact Sheet at 41. The appears to be *no* actual antidegradation analysis here, or plan to ensure that the water quality of Willapa Bay and its beneficial uses will be maintained.

Ecology Should Say No to Intentional Eelgrass Destruction

As stated above, Ecology has the power under SEPA to say no to projects or permits based on their environmental impacts. Ecology should not assume the public interest in killing eelgrass, native or introduced. Further, even if killing *Z. japonica* is acceptable (it is not), this permit will allow harm to native eelgrass. There are mixed beds of introduced and native eelgrass in Willapa Bay, given how shallow it is, and the two species can look similar. Eelgrass habitat is crucial to many species, including as food and shelter. For example, herring, a key forage fish, spawn at sites near active aquaculture cites on *Z. japonica*. Ecology discounts impacts to native eelgrass, despite evidence that they will happen. And evidence that numerous species are in severe decline, indicates that Ecology *must* take seriously the impacts that allow more eelgrass killing will have on these species, in conjunction with all the other stressors they face from human activities.

Further, much of the mitigation Ecology relies on is the dilution of the imazamox with tidal flushing in Willapa Bay. But recent science indicates this tidal flushing is much slower than previously assumed.[5] Rather, high-tide water flowing over the Willapa Bay flats can take as many as four tidal cycles—or about two days—before it is fully replaced by "new" water. This means that imazamox residues will stick around longer and be

[5] James Urton, *Tides don't always flush water out to sea, study shows*, UW News (Sept. 19, 2019), https://www.washington.edu/news/2019/09/10/tidal-flats-old-water/; Wheat *et al.*, *Multi-day water residence time as a mechanism for physical and biological gradients across intertidal flats*, Estuarine, Coastal and Shelf Science, Vol. 227 (Oct. 31 2019).

moved to other parts of the Bay to impact other eelgrass beds. Ecology must take this study and its implications for where "old" and "new" water concentrate in the Bay into account when determining the environmental impact of the proposed permit. Until it does so, it is relying on old and inaccurate information.

In sum, Ecology should deny this permit based on environmental impacts and the public interest. We applaud Ecology for requiring better monitoring and public notice and comment provisions in this draft permit but allowing the continued destruction of eelgrass habitat is unacceptable, and Ecology has a duty to prevent such degradation of a crucial piece of the near shore ecology. At the very least, the permit should be strengthened in the following ways:

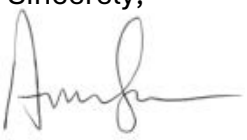
1. Include a more detailed example of what IPM (AKART) is when it comes to removal of *Z. japonica* from commercial clam beds (i.e. using manual or mechanical methods first, pesticides as a last resort).[6]
    a. What are appropriate action thresholds for *Z. japonica* on commercial clam beds? A single sighting of one clump of *Z. japonica* is clearly too low a threshold, so how much must be present before imazamox may be used? CFS suggests it should be a heavy density, and that this threshold should also take into account the available space in a given operation (including however many adjacent plots it controls) for clams to migrate to an area with less dense *Z. japonica*.
    b. In less than heavy density *Z. japonica* beds, mechanical or manual removal methods should be used first. Only when these methods are ineffective at keeping the *Z. japonica* density moderate to low should imazamox control be employed.
    c. Ecology should work with experts to determine what IPM principles are for this type of pesticide use in this aquatic environment before issuing a permit that allows permittees to decide for themselves.
2. Monthly reporting on compliance with Special Condition S3, S4, and S5 requirements during the permissible imazamox application window (currently May through July) regardless of whether treatment has occurred or is planned. Such reporting should be made available to the public through Ecology's Permitting and Reporting Information System (PARIS).[7] Also post notification forms used prior to treatment publicly.
3. Public notice on all permits, including renewing or existing permittees.
4. Prohibit use of vehicles for accessing spray area or spraying imazamox, specify backpack sprayers or other hand-sprayers only.
5. Shorten application window to end in early June.
6. Lengthen dry time from one to six hours and require monitoring during dry time.

[6] *See e.g.,* EPA, How do IPM programs work?, https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles#how_ipm-programs; WSU Extension, Integrated Pest Management, https://ipm.wsu.edu/.
[7] CFS joins the comments by Twin Harbors Waterkeeper.

7. Specify how wind speeds must be monitored for compliance with the wind speed limitations.
8. Prohibit spraying near or over pools where *Z. marina* exists and create a buffer around drainage swales that contain *Z. marina*.
9. Require markers (such as flags) on boundaries of 10m buffer.
10. Specify monitoring requirements for buffers: measure for *zostera spp*. plant kill every 250 feet in the buffer one week after herbicide application.
11. Improve public notice by requiring signs posted four business days prior to treatment at and around Leadbetter Point, including near and around Leadbetter Point State Park and the Willapa National Wildlife Refuge; include additional information like location with description and map, amount of imazamox to be applied, number of acres treated, and name and contact information for the commercial clam bed owner/operator.
12. Remove allowance for Experimental Use of chemicals not listed in the permit: state and federal experimental use permits are not NPDES permits and the current permit does not include any limits to such experiments that ensure they will not cause harm.

Thank you for considering this comment.

Sincerely,



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November 4, 2019

Jon Jennings
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CFS urges Ecology to deny this permit to continue killing eelgrass, whether on or off commercial clam beds. Washington is home to many iconic and endangered species like salmon and the orcas that rely on them, and numerous other fish, birds, and invertebrates. These species, and their prey, rely on eelgrass habitat in Willapa Bay. The decline of eelgrass and other seagrasses worldwide, and the call for no net loss and restoration of eelgrass habitat in Washington all point to the need to prevent further intentional destruction of this crucial habitat. As Ecology acknowledges (Fact Sheet at 14-24), introduced eelgrass also provides essential ecosystem functions, like food, shelter, and habitat stabilization for numerous species, as well as nutrient cycling and climate change mitigation.

As experts have stated, there is no sound reason to allow the direct spraying of any native eelgrass, including on commercial clam beds (*see* FWS Comments on 2014 Imazamox NPDES Permit). For five years, Ecology has allowed the unmonitored spraying of eelgrass with the herbicide imazamox. Because of the permit buffer rules, growers who sprayed imazamox were not required to monitor impacts to eelgrass outside of their plots, so thousands of acres were sprayed over the last five years without any monitoring of off-site impacts. Ecology's buffer validation study in 2016 was fatally flawed, but even then showed negative impacts to native eelgrass, and should never have supported extending the permit

for the full five years.[1] Given the benefits of introduced eelgrass, the impacts of herbicides to the Bay, native eelgrass, and other species, and the significant data gaps here, this under-studied plan should not move forward. Ecology failed to evaluate any alternatives that are more environmentally protective than spraying herbicides to kill eelgrass or conduct any review of the impacts on the ground after five years of spraying. Ecology must do more under the Clean Water Act and Washington state water quality protection laws when granting an NPDES permit.

State Environmental Policy Act

The State Environmental Policy Act ("SEPA") is Washington's core environmental policy and review statute. Like its federal counterpart, the National Environmental Policy Act ("NEPA"), SEPA broadly serves two purposes: first, to ensure that government decision-makers are fully apprised of the environmental consequences of their actions and, second, to encourage public participation in the consideration of environmental impacts. *Norway Hill Preservation and Prot. Ass'n v. King Co*, 87 Wn.2d 267, 279 (1976). For decades, SEPA has served these purposes effectively, requiring full environmental reviews for projects with significant environmental impacts.

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SEPA is more than a purely "procedural" statute that encourages informed and politically accountable decision-making. SEPA requires agencies to integrate environmental concerns into their decision making processes by studying and explaining environmental consequences before decisions are made. *See Stempel v. Dep't of Water Resources*, 82 Wn.2d 109, 117–18 (1973). In enacting SEPA, the state legislature gave decision-makers the affirmative authority to deny projects where environmental impacts are significant, cannot be mitigated, and collide with local rules or policies. SEPA provides substantive authority for government agencies to condition or even deny proposed actions—even where they meet all other requirements of the law—based on their environmental impacts. RCW 43.21C.060. As one treatise points out, when this premise was challenged by project proponents early in SEPA's history, "the courts consistently and emphatically responded that even if the action previously had been ministerial, it became *environmentally discretionary* with the enactment of SEPA."[2]

[1] CFS, Comments on Proposed Modification of General Permit for Discharge of Imazamox on Commercial Clam Beds in Willapa Bay (Jan. 31, 2017), attached as Exhibit 1.
[2] Richard Settle, *SEPA: A Legal and Policy Analysis*, §18.01[2] (2014) (emphasis added).

Here Ecology, invoking RCW 43.21C.0383, is proposing to proceed with its permitting decision without complying the requirement to develop an Environmental Impact Statement ("EIS"), RCW 43.21C.030(2)(c). Fact Sheet at 47. RCW 43.21C.0383, states that waste discharge permits "(f)or existing discharges, the issuance, reissuance, or modification of a waste discharge permit that contains conditions no less stringent than federal effluent limitations and state rules" are not subject to the EIS requirement. Ecology suggests that because the "proposed permit is at least as stringent as the version of the permit which expires May 2019," this exception applies. Fact Sheet at 47-48. Ecology's reliance on this exception is misplaced.

First, the proposed discharges are not "existing" discharges under the statute. Neither SEPA, nor Ecology's implementing regulations, define "existing discharges." The Pollution Control Hearings Board, however, "has previously ruled that the term 'existing discharge' refers to a discharge existing at the time the rule was adopted creating the categorical exemption." *Save Lake Sammamish v. Ecology, et al.*, 1996 WL 379222, at *6 (citing *Cooper v. Department of Ecology*, PCHB No. 80-173 (1980)). Applying that rule here, the discharge of imazamox cannot be considered an existing discharge. The legislature first passed the exemption in 1996 and amended the law in 2008. Because the request to discharge imazamox did not come until after this exemption was established, it cannot be considered an existing discharge under RCW 43.21C.0383.

Second, the exemption is inapplicable because there are no federal effluent limitation that apply to the proposed discharges, thus there is no meaningful floor against which to judge the permit. Federal effluent limitations for certain types of discharges are set by the Environmental Protection Agency, pursuant to section 306 of the Clean Water Act, 33 U.S.C. § 1316. To date, EPA has not set such limitation or standards for the discharge of imazamox for the purposes intended here. Thus, the exception to the EIS where the proposed permit "contains conditions no less stringent than federal effluent limitations" cannot apply because the intent of the exemption, avoiding duplicate analysis of the necessary minimum permit requirements, is not met. Ecology's insistence that "the proposed permit is at least as stringent as the version of the permit which expires May 2019"—whether true or not—is immaterial.

As such, Ecology must conduct at least a supplemental EIS under SEPA, to evaluate data collected and any new studies or information during the last five years,[3] potential impacts to the environment from continued intentional destruction of eelgrass and discharge of imazamox into Willapa Bay, and more environmentally benign alternatives.

[3] For example, EPA conducted a registration review of imazamox during the time since Ecology conducted its EIS on the permit being renewed. *See* https://www.regulations.gov/docket?D=EPA-HQ-OPP-2014-0395. However, as part of that registration review, EPA failed to consult with the expert Services under Section 7 of the Endangered Species Act. *See* Center for Biological Diversity, Comments on EPA Draft Ecological Risk Assessment – Bispyribac-Sodium, Diclosulam, Florasulam, Flucarbazone, Imazamox, Imazapic, Imazaquin, Imazethapyr (Docket #: EPA-HQ-OPP-2014-0074, EPA-HQ-OPP-2014-0074, EPA-HQ-OPP-2015-0548, EPA-HQ-OPP-2013-0283, EPA-HQ-OPP-2014-0395, EPA-HQ-OPP-2014-0279, EPA-HQ-OPP-2014-0224, EPA-HQ-OPP-2013-0774), https://www.regulations.gov/document?D=EPA-HQ-OPP-2014-0395-0024. Ecology should consider all information available on imazamox, but also the gaps in data, including impacts to endangered species, which apparently no agency, federal or state, will take responsibility for evaluating. Further, a search of Google Scholar shows thousands of hits for eelgrass studies since 2015.

NPDES and Water Quality Permitting Standards

Ecology must also comply with all Clean Water Act and Washington State water-quality standards when permitting the discharge of pesticides into water. 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). Discharges are prohibited from causing or contributing to violations of water quality standards. 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2); RCW 90.48.010, 90.48.520, 90.52.040, and 90.54.020. Water quality standards are defined as the designated beneficial uses of a water body, in combination with the numeric and narrative criteria to protect those uses and an antidegradation policy. 40 C.F.R. § 131.6; Chapter 173-201A WAC. The antidegradation policy is meant to ensure that highest possible water quality is restored, that existing uses are maintained, and that any human activities that may lower water quality are allowing, at a minimum, AKART. WAC 173-201A-300-330.

Ecology's Fact Sheet fails to explain its compliance with the above requirements. Ecology ignores AKART based on the nature of pesticides leftover in water after their use, Fact Sheet at 38, and says that Integrated Pest Management (IPM) is the equivalent of technology-based-effluent limitations, but fails to describe by IPM principles will actually be used and how they will be effective. Ecology cites Discharge Management Plans, but these are unavailable on Ecology's website for public review, and Ecology says that its prior EIS from 2014 may be allowed as "substitution" for "some of the DMP plan elements where appropriate" but provides no further explanation of what those might be. It remains entirely unclear how this permit meets technology-based or AKART standards. As to surface water quality-based effluent limits, Ecology does not provide what beneficial uses are designated for Willapa Bay or how this permit to spray herbicide into the Bay will maintain those uses, including such things has wildlife habitat. 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. "Wildlife habitat" means waters of the state used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity. WAC 173-201A-020. Habitat therefore *includes* areas used for commercial shellfish aquaculture, it is in no way excluded from this definition. So Ecology has an obligation to ensure that any pollutants discharged, even on commercial clam beds, will not violate state water quality requirements, including protecting beneficial uses like wildlife habitat. In order to protect its current integrity and to prevent deterioration, Ecology may only issue a permit that will protect water quality, and must show how this permit will be effective at doing that, but instead provides no analysis.

Under the antidegradation analysis, Ecology must use the information collected, from implementation of the permit, to revise the permit or program requirements. However, Ecology *has* no monitoring data because the first permit (and proposed renewal) failed to require monitoring whenever spraying "does not occur up to the 10m property line buffer." Draft Permit Special Condition S.5.A.1. During the five years of the permit, only one grower has ever been required to monitor impacts in the 10m buffer (according to self-reported Annual Reports), on a total of 17.9 acres out of the over 1,000 sprayed over the life

of the permit.[4] Monitoring on *1.6% of acres treated* is far from enough data to conduct the required analysis. Even if impacts were occurring to native eelgrass within treatment areas, or within the 10m buffer, or off-site, as long as growers did not spray "up to the 10m buffer" (potentially meaning just inches away under the vague permit language), there was no monitoring and none will be required under the current proposed permit. Ecology says "if there is a change that show the buffer is no longer working, Ecology may consider alternative options for protecting off-site *Z. marina*, which would take place during the next reissuance process or through a major modification of the permit." Fact Sheet at 42. But without more stringent monitoring it is unclear how Ecology would ever know about impacts to off-site eelgrass.

Further, the buffer validation study conducted after year three of the permit suffered from serious flaws (including a small sample size and use of a lower per-acre rate of active ingredient than allowed on the label). *See* Exhibit 1. Despite the problems with the buffer validation studies, they still found an over 20% reduction of eelgrass on lower elevation plots, and 2 of 3 test areas showed impacts to native eelgrass beyond the 10m buffer zone. (Grue & Conquest 2015). These findings, even with the small sample size and low rate of application, indicate that the 10m buffers are not sufficient to avoid impacts to native eelgrass off the property. Ecology calls this "no significant impact" but under a "no net loss" of native eelgrass policy, it is hard to see how a 20% reduction in cover/stem density is acceptable. Fact Sheet at 41. The appears to be *no* actual antidegradation analysis here, or plan to ensuring that the water quality of Willapa Bay and its beneficial uses will be maintained.

As to sediment quality standards, chapter 173-204 WAC, Ecology appears to rely in part on studies associated with the proposed imidacloprid NPDES permit to kill burrowing shrimp in Willapa Bay, but that permit was *denied based in part on impacts to sediment*.[5] To the extent Ecology is relying on impacts to sediment based on the now-denied imidacloprid permit, Ecology must re-evaluate its conclusions on sediment impacts with updated information.

With the significant data gaps from lack of monitoring of impacts from the last five years, and a lack of any analysis of new information since 2014, this permit cannot satisfy the requirements of federal or state law.

Ecology Should Say No to Intentional Eelgrass Destruction

As stated above, Ecology has the power under SEPA to say no to projects or permits based on their environmental impacts. And any such water discharge permits must comply with all state and federal water quality standards, which this permit does not.

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[4] *See* Ecology, Annual reports and pre-treatments plans, https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Zostera-japonica-eelgrass-management#report (last accessed Nov. 4, 2019).

[5] Ecology, Burrowing shrimp control (Imidacloprid), https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Burrowing-shrimp-control-Imidacloprid (citing "Significant, unavoidable impacts to sediment quality" as one reason for permit denial).

Ecology should not assume the public interest in killing eelgrass, native or not. Ecology broadly cites RCW 90.48.447[6] and clam growers' claims that they need to kill eelgrass to increase production numbers. In its Fact Sheet, Ecology acknowledges that introduced eelgrass provides the same ecosystem functions as native eelgrass, is "also valued for habitat" and provides food, shelter and habitat stabilization for numerous species, as well as aides in nutrient cycling and improves water quality through oxygen production. Fact Sheet at 14, 24 (unlike most invasive weeds, introduced eelgrass has positive attributes and scientific opinions are mixed as to balance of positives and negatives). *Z. japonica* is the only seagrass designated as "invasive," and even the rationale given by the Weed Board when it designated *Z. japonica* as "invasive" is clear that it only based on the perceived economic benefit of shellfish growers, not because of its other properties, many of which are beneficial. Ecology also acknowledges that *Z. japonica* has been growing in Washington for nearly a century, originally *introduced* by the shellfish industry. Fact Sheet at 15. Moreover, disturbance, such as *by the commercial shellfish industry*, helps to spread *Z. japonica*, which thrives with disturbance unlike *Z. marina. Id.* at 19. Despite the proven positive impacts of *Z. japonica*, including as food for waterfowl and migratory birds, *id.* at 22, Ecology relies on personal communications from industry-conflicted and previously sanctioned[7] Kim Patten for the "fact" that manila clams grow at lower density when *Z. japonica* is present, and other self-serving statements from the commercial shellfish industry. *Id.* at 21. It is not in the public interest to allow the commercial shellfish industry to use herbicides in the Bay to "fix" a problem of their own making and of highly debatable negative impact. Further, eelgrass inhibits burrowing shrimp, another native "problem" species that the industry has been killing with toxic pesticides for decades. Not all introduced species are bad and allowing the continued destruction of *both* introduced and native eelgrass through this permit is *not in the public interest.*

Ecology must step up to protect wildlife habitat in Willapa Bay because other state and federal agencies do not. As Ecology stated, because of the loophole in the Hydraulic Project Approval Program for shellfish growers, WDFW does not claim authority to protect *Z. marina* with respect to private sector shellfish aquaculture. Fact Sheet at 23. And the U.S. Army Corps, the federal agency with authority to issue Clean Water Act Section 404 and River & Harbor Act Section 10 permits, has historically and unlawfully ignored the cumulative impacts of shellfish aquaculture on the environment, including through pesticide use. *See Center for Food Safety v. U.S. Army Corps of Engineers*, 17-1209RSL, 2019 WL 5103309, at *6 (W.D. Wash. Oct. 10, 2019) (holding unlawful and setting aside Nationwide Permit 48 for commercial shellfish aquaculture in Washington). In that case, the federal court recognized the impacts that pesticide use by the shellfish industry might have on the environment and how it was unanalyzed by this federal agency:

> The Corps makes a similarly untenable argument whenever the use of pesticides in a shellfish operation permitted under NWP 48 is discussed.

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[6] Including as a Purpose in the notes that commercial herbicides exist that can kill aquatic noxious weeds without risk to the environment or public health, but making no claim that all use of any pesticide to kill any species, particularly one with beneficial characteristics, is in the public interest under the Antidegradation Policy or any other Washington state law.

[7] Washington State Executive Ethics Board, Investigative Report and Board Determination of Reasonable Cause, No. 2017-012, Kim Patten, Director WSU Pacific County Ext. (July 20, 2017).

> While acknowledging that these substances are used and released into the environment during permitted activities, the Corps declines to consider the environmental impacts of pesticides because they are regulated by some other entity. *See* NWP003077. Even if the Corps does not have jurisdiction to permit or prohibit the use of pesticides, it is obligated to consider "other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." NWP003074 (quoting 40 C.F.R. § 1508.7). The Corps' decision to ignore the foreseeable uses and impacts of pesticides in the activities it permitted on a nationwide basis does not comport with the mandate of NEPA or with its obligations under the CWA. Having eschewed any attempt to describe the uses of pesticides in commercial shellfish aquaculture or to analyze their likely environmental impacts, the decision to permit such activities through NWP 48 cannot stand.

Id. While the Corps must now go back and analyze the impacts, statewide, of pesticide use by the commercial shellfish industry, it is still not the agency responsible for permitting this use and upholding CWA Section 402 and state water quality standards: Ecology is, and it must protect the environment and public health over promoting this commercial industry.

Further, even if killing *Z. japonica* is acceptable (it is not), this permit will allow harm to native eelgrass. There are mixed beds of introduced and native eelgrass in Willapa Bay, given how shallow it is, and the two species can look similar. Fact Sheet at 17-18. With basically no monitoring data from permittees (save on 1.6% of treated acreage over the life of the last permit), and the buffer validation study *showing negative impacts to native eelgrass off-site*, the existing data shows there will be harm to *Z. marina.* The federal court in *Center for Food Safety* found the NWP 48 permit unlawful in large part based on the improperly analyzed and unmitigated impacts to eelgrass habitat from commercial shellfish aquaculture. 2019 WL 5103309, at *5.

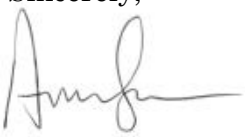
Eelgrass habitat is crucial to many species, including as food and shelter. For example, herring, a key forage fish, spawn at sites near active aquaculture cites on *Z. japonica*. Fact Sheet at 23. The species that rely on eelgrass habitat are key parts of the food web, including for critically-endangered orcas. That is why people are calling for its preservation and restoration, including the Southern Resident Killer Whale Recovery Task Force and Puget Sound Partnership, which does not distinguish between *Z. marina* and *Z. japonica*. Fact Sheet at 24. Ecology discounts impacts to native eelgrass, despite evidence that they will happen (or lack of any monitoring to prove they will not), despite this being Ecology's "greatest concern" with this permit. And evidence that numerous species are in severe decline (including that provided by Ross Barkhurst, *see* Comments on Permit Renewal), indicates that Ecology *must* take seriously the impacts that allow more eelgrass killing will have on these species, in conjunction with all the other stressors they face from human activities.

Further, much of the mitigation Ecology relies on is the dilution of the imazamox with tidal flushing in Willapa Bay. But recent science indicates this tidal flushing is much

slower than previously assumed.[8] Rather, high-tide water flowing over the Willapa Bay flats can take as many as four tidal cycles—or about two days—before it is fully replaced by "new" water. This means that imazamox residues will stick around longer and be moved to other parts of the Bay to impact other eelgrass beds. Ecology must take this study and its implications for where "old" and "new" water concentrate in the Bay into account when determining the environmental impact of the proposed permit. Until it does so, it is relying on old and inaccurate information.

In sum, Ecology should deny this permit based on environmental impacts and the public interest. At the very least, Ecology must go back and conduct a supplemental EIS under SEPA. Should any permit be issued (it should not), Ecology must condition the permit to actually comply with federal and state water quality requirements, including but not limited to further limits on where and when the herbicide is used (after further research is conducted on buffers and all available information is evaluated, including the above-mentioned tidal flushing study), and full monitoring and reporting requirements. We applaud Ecology for saying no to the imidacloprid permit, but allowing the continued destruction of eelgrass habitat is unacceptable, and Ecology has a duty to prevent such degradation in Willapa Bay.

Sincerely,



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[8] James Urton, *Tides don't always flush water out to sea, study shows*, UW News (Sept. 19, 2019), https://www.washington.edu/news/2019/09/10/tidal-flats-old-water/; Wheat *et al.*, *Multi-day water residence time as a mechanism for physical and biological gradients across intertidal flats*, Estuarine, Coastal and Shelf Science, Vol. 227 (Oct. 31 2019).

Exhibit 1

CENTER FOR FOOD SAFETY

January 31, 2017

Nathan Lubliner
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Nathan.lubliner@ecy.wa.gov

RE: Comments on Proposed Modification of General Permit for Discharge of Imazamox on Commercial Clam Beds in Willapa Bay

Department of Ecology:

Thank you for the opportunity to comment on the proposed modifications to the NPDES Permit for *Zostera Japonica* Management on Commercial Clam Beds in Willapa Bay, and Department of Ecology's proposal to modify the permit to allow continued spraying of imazamox on clam beds for the remaining two years of the permit.

Center for Food Safety (CFS) is a national non-profit organization representing over 800,000 members nationwide and tens of thousands in Washington State. CFS uses education, policy and legislation, and impact litigation to address the negative effects to public health and the environment from harmful food production technologies, and supports ecological food production, like organic and beyond. CFS operates in the Pacific Northwest and is particularly concerned with the increasingly industrial aquaculture and in particular the use of pesticides in shellfish aquaculture.

While CFS supports the concept of monitoring and testing to validate the buffers imposed in the original imazamox permit, based on sound science, unfortunately it does not appear that Ecology can truly validate the 10m buffers based on the studies conducted. Instead, the information presented indicates that Ecology should **not modify** the permit and prohibit further imazamox spraying until more accurate studies can be conducted and the full impacts to the environment are taken into account (through permit renewal in 2019). As noted by

the U.S. Fish & Wildlife Service in 2014, there is no sound reason to allow the direct spraying of any native eelgrass, including on commercial clam beds.[1] While CFS recognizes that Ecology is seeking only comment on the proposed modifications, Ecology has not provided good cause for modifying the permit as proposed. The inadequacy of the entire permit, including the current monitoring and buffer requirements, indicates the prohibition on further spraying in the original permit be allowed to go into effect. Further, because the buffer validation studies did not test the maximum allowed rate of imazamox use, it does not represent the full impacts of imazamox use on off-property native eelgrass. For this reason alone, Ecology should not modify the permit and use the next two years to gather data on the full potential effects of yearly imazamox spraying on commercial clam beds in Willapa Bay. Alternatively, Ecology does have good cause to modify the permit to require better buffers for native seagrasses, set numerical effluent limitations, and require increased monitoring and reporting by permittees, as well as studies that correct the inadequacies of the buffer validation Studies.

A. Buffer Validation Studies Inadequate to Fully Assess Impacts of Imazamox.

The buffer validation Studies are not adequate for several reasons. First, as noted by Washington Department of Natural Resources (WDNR), one of three agencies consulted to review the study data, the sample size (n=3) was too small, making the findings of that study "inconclusive." The Grue 2015 study found negative effects to z. marina after 30 days, but given the small sample size, their finding of statistical insignificance "does not necessarily indicate that there is no impact" to native eelgrass beyond property boundaries.[2]

WDNR also identified problems with the dimensions evaluated in the study (failure to capture the way the tide flows across the test plots) and the failure to monitor impacts to another native seagrass susceptible to imazamox, *Ruppia maritima* (widgeon grass).

Finally, the spraying on test plots in May 2014 used a rate of active ingredient per acre *lower* than the maximum rate allowed in the permit, and lower the rate actually reported by permittees. *See* Clearcast® label (EPA Reg. No. 241-437, most recent label approved Oct. 24, 2016).[3] The permit imposes no limits on the amount of active ingredient allowed per acre, other than the EPA approved labels for imazamox, the active ingredient. However, EPA has approved several

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[1] Ken S. Berg, Washington Fish and Wildlife Office (USFWS) Letter to Donald Seeberger, Department of Ecology, at 5 (Feb. 14, 2014).
[2] Cinde Donoghue, Wash. Dept. of Nat. Resources Comments to Nathan Lubliner, Ecology (July 8, 2016).
[3] Clearcast® Label, Oct. 24, 2016, attached as Exhibit A.

labels for products containing imazamox, including the technical grade active ingredient that is *all* imazamox, as opposed to formulations containing over 80% "inert" ingredients. This aside, the Clearcast® product that specifically addresses Japanese eelgrass has a general maximum rate of 1lb or about 16 oz of active ingredient per acre, and a Japanese eelgrass range of 4 fl oz to 32 fl oz Clearcast/Acre.[4] This Japanese eelgrass-specific rate is expressed as ounces of the *formulation* per acre, not active ingredient. This formulation of imazamox has 12.1% active ingredient, so a maximum rate of 32 oz of formulation would include 3.872 fl oz of active ingredient per acre. While the study reported a rate of 11.5-11.7 oz a.i./acre (Grue 2015 at 6), Ecology has stated that the actual rate was 1.4 oz a.i./acre.[5] So the tested rate was about 1.4 oz a.i./acre, while the maximum labeled rate for Japanese eelgrass is nearly 4 oz a.i./acre, or nearly *three times higher*. Ecology gave a range of reported use rates from 0.72 oz a.i. per acre to 2.26 oz a.i. per acre from 2014-2016.[6] Ecology indicated that about 18% of those applications were above tested rate of 1.4 oz a.i./acre.[7] Thus, not only did the buffer validation Studies use rates three times lower than the maximum rate for Japanese eelgrass, they do not even reflect the highest rate *actually used* by growers. The problem with this design is obvious and means the studies do not reflect the true extent of potential impacts to native eelgrass. For this reason alone, this study does not support or provide sufficient cause to modify the permit to allow continued spraying, because the full effect to native eelgrass off-property is still unknown.

B. Ecology Should Not Modify the Permit or Should Modify it to Include More Protections for Native Seagrass, Numeric Effluent Limitations, and Increased Monitoring and Reporting.

Ecology cannot modify an NPDES permit without cause. 40 C.F.R. § 122.62; WAC 173-226-230; 33 U.S.C. § 1342(b)(1)(C). The flawed studies have not provided any justification for a modification of the permit at this time, and Ecology has not identified any of the enumerated causes for modification listed in 40 C.F.R. § 122.62(a) or (b) that justify its proposal to modify the imazamox permit as proposed. To the contrary, the new information indicates that stronger protections for native seagrasses and more monitoring and reporting are needed. Indeed, federal CWA regulations consider modifications to NPDES permits that "[r]equire more frequent monitoring or reporting by the permittee" to be *minor* modifications, which Ecology could undertake at any time. 40 C.F.R. § 122.63. Thus, while Ecology seeks to limit public comment to its proposed permit modification, Ecology has failed to show good

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[4] *Id.* at 5, 9.

[5] Ecology, Workshop Presentation, *Draft Permit Modification for the Zostera japonica Management on Commercial Clam Beds in Willapa Bay NPDES General Permit* at 12.

[6] *Id.* at 22.

[7] Phone conversation with Nathan Lubliner, Jan. 30, 2017.

cause for modifying the permit as proposed. Instead, it should modify it to include increased monitoring and reporting requirements to respond to the findings of Grue 2015, and make up for the inadequacies in that study (i.e. small sample size, lower applications rates).

Rather than support the modification proposed, the new information indicates that the permit requires more protections for native seagrasses and increased monitoring and reporting. Despite the problems with the buffer validation Studies, they still found an over 20% reduction of eelgrass on lower elevation plots, and 2 of 3 test areas showed impacts to native eelgrass *beyond* the 10m buffer zone. (Grue & Conquest 2015). These findings, even with the small sample size and low rate of application, indicate that the 10m buffers are *not* sufficient to avoid impacts to native eelgrass off the property. Further, in the three years of spraying under this permit, only one grower has ever been required to monitor impacts in the 10m buffer, on a total of 17.9 acres out of the nearly 700 sprayed from 2014-2016. This extremely limited monitoring leaves the public (and Ecology) hamstrung to actually access the impacts of this permit to native seagrasses and the environment.

Part of the cause of confusion and lack of sound science is the lack of numeric effluent standards in the imazamox discharge permit. The only limit is a label approved by EPA, but this does not clearly state any particular rate of active ingredient per acre, as there are different labels for different imazamox products. The CWA defines "effluent limitation" as "any restriction on the quantity, rate, and concentration of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance." 33 USC § 1362(11). These may be non-numeric technology based standards only where numeric standards are *infeasible*. *Citizens Coal Council v. United States Environmental Protection Agency*, 447 F3d 879, 895-96 (6th Cir. 2006). Here, numeric standards are completely feasible, because at least one label (Clearcast® EPA Reg. No. 241-437) includes a range for Japanese eelgrass. However, Ecology should not accept the highest labeled rate without consideration of the impacts from that application rate to native flora and fauna in Willapa Bay. If Ecology is going to modify the permit at all, it should first require/conduct studies with the highest labeled application rate (as allowed by the current permit), evaluate impacts and then select the appropriate application rate as a numerical effluent standard for the permit. Instead, Ecology has put the horse before the cart, allowing three years of imazamox spraying, with application rates up to the highest labeled rate, and basing its current decision to continue that spraying on a one-time application study using rates nearly three times lower than the highest allowable rate and below the *actual* known use rates.

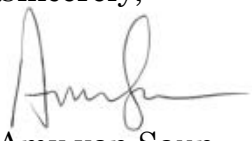
To address the lack of information about impacts to native seagrasses, Ecology can and should adopt all recommendations from WDNR regarding monitoring and reporting by growers as noted in the July 8, 2016 comments. CFS

applauds Ecology for adopting the first recommendation, requiring annual reporting of the distance of treatment from the property edge. However, without the remaining recommendations from WDNR, there is no way to know the actual impacts from currently allowed spraying. Further, as noted by Washington Department of Fish and Wildlife, there remains a need to for caution when applying imazamox and for additional study, because of the inadequacies of the Grue, Patten, and Novak studies.[8] Notably, WDFW, the originator of the 20% loss of eelgrass effect magnitude, stated that "there is little evidence that it ensures continued biological functions, persistence, etc." *Id.* WDFW agreed that further studies should reflect maximum legal rates. *Id.* Thus, both Washington agencies consulted pointed to the inadequacies of the current buffer validation studies and required monitoring to ensure that this permit is not having a negative impact on the seagrass and overall environment of Willapa Bay. CFS urges Ecology to listen to these agencies and use its authority to not modify the permit until best management practices (including buffers) and monitoring and reporting requirements can be tailored using sound science.

Under both the Clean Water Act and Washington Water Pollution Control Act, Ecology should not modify the permit to allow continued spraying. While Japanese eelgrass has been listed as a noxious weed (as requested by shellfish growers), there is no legitimate reason to allow herbicide use that kills native eelgrass and other seagrasses, and Ecology has a duty to protect Washington's aquatic ecosystems. Ecology should go back to the drawing board and fashion a permit based on sound science, which ensures that valuable native sea grass habitat is not being adversely impacted before allowing any further herbicide spraying in Willapa Bay.

Alternatively, Ecology should modify the permit conditions to require better practices to avoid native eelgrass on mixed beds (including set buffers around drainage swales containing native seagrasses and clear requirements for avoiding native seagrass in mixed beds), numerical effluent limits (i.e. a cap on the amount of active ingredient per acre allowed under the permit), increased monitoring and reporting (as enumerated by WDNR), and further studies to address data gaps due to the flaws outlined above.

Sincerely,



Amy van Saun
Legal Fellow

[8] Kirk L. Krueger, Ph.D., WDFW Comment s to Ecology (Aug. 12, 2016).

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CENTER FOR FOOD SAFETY

January 31, 2017

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[2] Cinde Donoghue, Wash. Dept. of Nat. Resources Comments to Nathan Lubliner, Ecology (July 8, 2016).
[3] Clearcast® Label, Oct. 24, 2016, attached as Exhibit A.

labels for products containing imazamox, including the technical grade active ingredient that is *all* imazamox, as opposed to formulations containing over 80% "inert" ingredients. This aside, the Clearcast® product that specifically addresses Japanese eelgrass has a general maximum rate of 1lb or about 16 oz of active ingredient per acre, and a Japanese eelgrass range of 4 fl oz to 32 fl oz Clearcast/Acre.[4] This Japanese eelgrass-specific rate is expressed as ounces of the *formulation* per acre, not active ingredient. This formulation of imazamox has 12.1% active ingredient, so a maximum rate of 32 oz of formulation would include 3.872 fl oz of active ingredient per acre. While the study reported a rate of 11.5-11.7 oz a.i./acre (Grue 2015 at 6), Ecology has stated that the actual rate was 1.4 oz a.i./acre.[5] So the tested rate was about 1.4 oz a.i./acre, while the maximum labeled rate for Japanese eelgrass is nearly 4 oz a.i./acre, or nearly *three times higher*. Ecology gave a range of reported use rates from 0.72 oz a.i. per acre to 2.26 oz a.i. per acre from 2014-2016.[6] Ecology indicated that about 18% of those applications were above tested rate of 1.4 oz a.i./acre.[7] Thus, not only did the buffer validation Studies use rates three times lower than the maximum rate for Japanese eelgrass, they do not even reflect the highest rate *actually used* by growers. The problem with this design is obvious and means the studies do not reflect the true extent of potential impacts to native eelgrass. For this reason alone, this study does not support or provide sufficient cause to modify the permit to allow continued spraying, because the full effect to native eelgrass off-property is still unknown.

B. Ecology Should Not Modify the Permit or Should Modify it to Include More Protections for Native Seagrass, Numeric Effluent Limitations, and Increased Monitoring and Reporting.

Ecology cannot modify an NPDES permit without cause. 40 C.F.R. § 122.62; WAC 173-226-230; 33 U.S.C. § 1342(b)(1)(C). The flawed studies have not provided any justification for a modification of the permit at this time, and Ecology has not identified any of the enumerated causes for modification listed in 40 C.F.R. § 122.62(a) or (b) that justify its proposal to modify the imazamox permit as proposed. To the contrary, the new information indicates that stronger protections for native seagrasses and more monitoring and reporting are needed. Indeed, federal CWA regulations consider modifications to NPDES permits that "[r]equire more frequent monitoring or reporting by the permittee" to be *minor* modifications, which Ecology could undertake at any time. 40 C.F.R. § 122.63. Thus, while Ecology seeks to limit public comment to its proposed permit modification, Ecology has failed to show good

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[4] *Id.* at 5, 9.

[5] Ecology, Workshop Presentation, *Draft Permit Modification for the Zostera japonica Management on Commercial Clam Beds in Willapa Bay NPDES General Permit* at 12.

[6] *Id.* at 22.

[7] Phone conversation with Nathan Lubliner, Jan. 30, 2017.

cause for modifying the permit as proposed. Instead, it should modify it to include increased monitoring and reporting requirements to respond to the findings of Grue 2015, and make up for the inadequacies in that study (i.e. small sample size, lower applications rates).

Rather than support the modification proposed, the new information indicates that the permit requires more protections for native seagrasses and increased monitoring and reporting. Despite the problems with the buffer validation Studies, they still found an over 20% reduction of eelgrass on lower elevation plots, and 2 of 3 test areas showed impacts to native eelgrass *beyond* the 10m buffer zone. (Grue & Conquest 2015). These findings, even with the small sample size and low rate of application, indicate that the 10m buffers are *not* sufficient to avoid impacts to native eelgrass off the property. Further, in the three years of spraying under this permit, only one grower has ever been required to monitor impacts in the 10m buffer, on a total of 17.9 acres out of the nearly 700 sprayed from 2014-2016. This extremely limited monitoring leaves the public (and Ecology) hamstrung to actually access the impacts of this permit to native seagrasses and the environment.

Part of the cause of confusion and lack of sound science is the lack of numeric effluent standards in the imazamox discharge permit. The only limit is a label approved by EPA, but this does not clearly state any particular rate of active ingredient per acre, as there are different labels for different imazamox products. The CWA defines "effluent limitation" as "any restriction on the quantity, rate, and concentration of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance." 33 USC § 1362(11). These may be non-numeric technology based standards only where numeric standards are *infeasible*. *Citizens Coal Council v. United States Environmental Protection Agency*, 447 F3d 879, 895-96 (6th Cir. 2006). Here, numeric standards are completely feasible, because at least one label (Clearcast® EPA Reg. No. 241-437) includes a range for Japanese eelgrass. However, Ecology should not accept the highest labeled rate without consideration of the impacts from that application rate to native flora and fauna in Willapa Bay. If Ecology is going to modify the permit at all, it should first require/conduct studies with the highest labeled application rate (as allowed by the current permit), evaluate impacts and then select the appropriate application rate as a numerical effluent standard for the permit. Instead, Ecology has put the horse before the cart, allowing three years of imazamox spraying, with application rates up to the highest labeled rate, and basing its current decision to continue that spraying on a one-time application study using rates nearly three times lower than the highest allowable rate and below the *actual* known use rates.

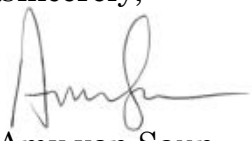
To address the lack of information about impacts to native seagrasses, Ecology can and should adopt all recommendations from WDNR regarding monitoring and reporting by growers as noted in the July 8, 2016 comments. CFS

applauds Ecology for adopting the first recommendation, requiring annual reporting of the distance of treatment from the property edge. However, without the remaining recommendations from WDNR, there is no way to know the actual impacts from currently allowed spraying. Further, as noted by Washington Department of Fish and Wildlife, there remains a need to for caution when applying imazamox and for additional study, because of the inadequacies of the Grue, Patten, and Novak studies.[8] Notably, WDFW, the originator of the 20% loss of eelgrass effect magnitude, stated that "there is little evidence that it ensures continued biological functions, persistence, etc." *Id.* WDFW agreed that further studies should reflect maximum legal rates. *Id.* Thus, both Washington agencies consulted pointed to the inadequacies of the current buffer validation studies and required monitoring to ensure that this permit is not having a negative impact on the seagrass and overall environment of Willapa Bay. CFS urges Ecology to listen to these agencies and use its authority to not modify the permit until best management practices (including buffers) and monitoring and reporting requirements can be tailored using sound science.

Under both the Clean Water Act and Washington Water Pollution Control Act, Ecology should not modify the permit to allow continued spraying. While Japanese eelgrass has been listed as a noxious weed (as requested by shellfish growers), there is no legitimate reason to allow herbicide use that kills native eelgrass and other seagrasses, and Ecology has a duty to protect Washington's aquatic ecosystems. Ecology should go back to the drawing board and fashion a permit based on sound science, which ensures that valuable native sea grass habitat is not being adversely impacted before allowing any further herbicide spraying in Willapa Bay.

Alternatively, Ecology should modify the permit conditions to require better practices to avoid native eelgrass on mixed beds (including set buffers around drainage swales containing native seagrasses and clear requirements for avoiding native seagrass in mixed beds), numerical effluent limits (i.e. a cap on the amount of active ingredient per acre allowed under the permit), increased monitoring and reporting (as enumerated by WDNR), and further studies to address data gaps due to the flaws outlined above.

Sincerely,



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[8] Kirk L. Krueger, Ph.D., WDFW Comment s to Ecology (Aug. 12, 2016).

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