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May 1, 2014

VIA FEDERAL EXPRESS AND FACSIMILE
(360-586-2253)

Pollution Control Hearings Board
Attn: APPEALS
1111 Israel Rd. SW, Ste. 301
Tumwater, WA 98501

Re: ***In Re Appeal from Decision of Washington Department of Ecology to Issue Zostera Japonica*** **Management on Commercial Clam Beds in Willapa Bay General Permit by Coalition to Protect Puget Sound Habitat, Ross P. Barkhurst, and Robert Kavanaugh**

Dear Clerk:

Faxed herewith is the Notice of Appeal in this matter; original and one copy are being sent by federal express.

Thank you for your assistance.

Sincerely,

Jeri Zwick
Legal Assistant to Thane W. Tienson

/jgz
Enclosures
Cc: Department of Ecology, Appeals Processor
P.O. Box 47608
Olympia, WA 98504-7608
Willapa-Grays Harbor Oyster Growers Association
P.O. Box 3
Ocean Park, WA 98640
Coalition to Protect Puget Sound Habitat *(via email - laura.l.hendricks@gmail.com)*
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Of Attorneys for Appellants

BEFORE THE STATE OF WASHINGTON

POLLUTION CONTROL HEARINGS BOARD

In Re:

DECISION OF WASHINGTON DEPARTMENT OF ECOLOGY TO ISSUE *ZOSTERA JAPONICA* MANAGEMENT ON COMMERCIAL CLAM BEDS IN WILLAPA BAY GENERAL PERMIT

NOTICE OF APPEAL

OF COALITION TO PROTECT PUGET SOUND HABITAT, ROSS P. BARKHURST, AND ROBERT KAVANAUGH FROM DECISION OF WASHINGTON DEPARTMENT OF ECOLOGY TO ISSUE *ZOSTERA JAPONICA* MANAGEMENT ON COMMERCIAL CLAM BEDS IN WILLAPA BAY GENERAL PERMIT

Issuance Date: April 2, 2014

I. IDENTIFICATION OF APPELLANT

In accordance with WAC 371-08-340(1), the Appellants' names and addresses are:

Coalition to Protect Puget Sound Habitat
c/o Laura L. Hendricks
P.O. Box 228
Vaughn, WA 98394-0228

Ross P. Barkhurst
151 N. Nemah Rd. W.
South Bend, WA 98586

Robert Kavanaugh
6919 41st St. SE
Lacey, WA 98503

The Appellants are represented by attorneys Thane W. Tienson and Jennifer L. Gates of Landye Bennett Blumstein LLP, whose mailing address, email address, telephone, and facsimile numbers appear on the cover page of this Notice of Appeal.

II. IDENTIFICATION OF RESPONDENT

In accordance with WAC 371-08-340(1), the Respondent's name and address is:

Washington Department of Ecology ("Ecology")
Attn: Appeals Processing Desk
P.O. Box 47608
Olympia, WA 98504-7608

III. IDENTIFICATION OF ORDERS APPEALED HEREIN

This is an appeal from Respondent Ecology's issuance on April 2, 2014 of *Zostera Japonica* Management on Commercial Clam Beds in Willapa Bay General Permit (the "General Permit").

In accordance with WAC 371-08-340(3), a true copy of the General Permit is attached as **Exhibit "1".**

IV. STATEMENT OF GROUNDS FOR APPEAL

The Willapa-Grays Harbor Oysters Growing Association ("WGHOGA") requested an NPDES General Permit for the purpose of allowing chemical treatment of *Zostera japonica* with the herbicide Imazamox on commercial clam beds following the listing of *Zostera japonica* as a Class C noxious weed on commercially-managed shellfish beds (WAC 16-750-015) and the expansion of its listing as a noxious weed to all areas of the State in November 2013. WGHOGA asked Ecology to authorize the use of the herbicide Imazamox to control *Zostera japonica* on commercial shellfish beds throughout Washington, but because of concerns expressed by citizens, scientists, and agencies alike, Ecology concluded that it should narrow its focus to only commercial clam beds (excluding geoduck beds) in Willapa Bay.

Specifically, as Ecology conceded, *Zostera japonica*, in fact, provides multiple beneficial ecosystem services and there are still considerable gaps in knowledge concerning its values, functions, and benefits.

A Final Environmental Impact Statement ("FEIS") was issued on March 26, 2014, and the General Permit itself was issued on April 2, 2014. Appellants seek review of the General Permit on the grounds that it violates federal and state water quality standards and environmental laws and regulations in the following respects:

1. The General Permit violates established water quality standards applicable to the receiving waters of Willapa Bay and in contravention of the Clean Water Act ("CWA"), 33 U.S.C. § 1311(a), 1313, 1312(a), and 1342(a); Revised Code of Washington ("RCW") 90.48.260(1)(a)(ii); and Washington Administrative Code ("WAC)" 173-201A, *et seq.*, as enumerated below.

   A. Ecology may not issue a Permit if it does not contain the requirements necessary to "achieve water quality standards established under § 303 of the CWA, 33 U.S.C. § 1313, including State narrative criteria for water

quality." 40 C.F.R. § 122.44(d). A Permit is required to contain limitations to "control all pollutants or pollutant parameters ... [which] may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above ***any*** State water quality standard, including State narrative for water quality." 40 C.F.R. § 122.44(d)(i) (emphasis added) (the discharge proposed and the standard affected need not be identical). In an instance such as this one, where the discharge is proposed into a WQL water body, the discharge will cause or contribute to violations of water quality standards. Therefore, to allow this proposed discharge, Ecology will be obligated to issue a Permit with effluent limitations to prevent such an outcome – which, in any event, is prohibited by § 122.4(i) – taking into consideration the lack of existing controls on other pollution sources, both point and nonpoint. 40 C.F.R. § 122.44(e)(ii), and (iii). As it cannot issue such a Permit, it is prohibited from allowing the discharge;

B. The General Permit violates established federal and state surface water quality standards promulgated at 40 Code of Federal Regulations ("CFR") § 131.12 and WAC 173-201A-210, 173-201A-260, and 173-204-320 because the General Permit allows for the exceedance of water quality standards, the degradation of existing water quality, and allows for the characteristic water uses in Willapa Bay, including aquatic life uses, to be adversely affected;

C. The destruction of wetland values through an NPDES-permitted source is a violation of Tier I of the CWA's anti-degradation policy, which requires the maintenance and protection of existing uses – that is, any use that has been in place since November 28, 1975 – and the level of water quality necessary to protect the existing uses. 40 C.F.R. § 131.12(a)(1).

Granting the application to discharge an herbicide, Imazamox, that would harm the existing wetland plants would have that effect on the plants that are in those wetlands, and is therefore inconsistent with the anti-degradation policy. It therefore constitutes a discharge that causes or contributes to violations of water quality standards and it is, therefore, prohibited. 33 U.S.C. § 301(b)(1)(C). Unless an individual permitee can demonstrate that the proposed discharge will not harm the wetland plants, and no permitee can do so here, Ecology may not issue such a Permit. The General Permit thus violates federal and state antidegradation requirements set forth in 40 CFR § 131.12, RCW 90.48.010, WAC 173-201A-300 and 173-201-320, because the General Permit allows a new activity that is expected to cause a measurable change in the quality of the water pursuant to WAC 173-201A-320(3)(e), and Ecology failed to perform Tier II review. In the alternative, in issuing the General Permit, Ecology failed to protect the existing and designated uses of Willapa Bay in violation of WAC 173-201A-310;

D. The General Permit fails to include provisions sufficient for environmental monitoring and reporting requirements to ensure that the discharge of pollutants authorized by the General Permit will comply with state water quality standards as required by WAC 173-201A-210, 173-201A-260, and 173-204. To support the beneficial uses of marine waters, "deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters." WAC 173-201A-260(2)(a); 210(1)(b), (2)(a), and (4)(a);

E. The protections, monitoring, and reporting provisions in the General Permit are inadequate especially related to the depressed or threatened Willapa Bay populations of coastal chinook and chum, salmon, as well as forage fish and green sturgeon, and other salmonids in the Bay. Of particular concern are the potential effects on the total invertebrate food supply upon which these species depend for their existence and enhancement. To the extent that Ecology believes that conditions can be placed on the authorized discharges if Imazamox to ensure compliance with water quality standards, a Permit may be issued under the CWA. 40 C.F.R. § 122.4(d). However, if such conditions are not in the Permit, then the permitee cannot obtain coverage under a General Permit. Ecology may not merely rely on the Permit's statement that it does not allow discharges that would cause or contribute to violations of water quality standards because it is the Department's obligation to only issue Permits that will comply with the Clean Water Act. 40 C.F.R. § 122.4(a). Ecology has failed to do so;

F. The General Permit is also in violation of the Clean Water Act, 33 U.S.C. § 1342(a)(1), in that it fails to provide an opportunity for public hearings and the contents of Notices of Intent ("NOI") before individual permitees are authorized to discharge pollutants into the waters of Willapa Bay pursuant to those NOIs. Such a provision is required under the CWA because NOIs are functionally equivalent to detailed applications for individual NPDES Permits. *See Environmental Defense Center v. U.S. EPA*, 344 F.3d 832, 856-58 (9th Cir. 2003) (holding that because "NOIs are the functional equivalent to ... permit applications ... [w]e therefore reject the Phase II Rule as contrary to the declared intent of Congress insofar as it does not provide for public hearings on NOIs as required by

33 U.S.C. § 1342(a)(1)."). The failure to provide for a public hearing is compounded by the allowance in the General Permit for multiple permitees to cooperate and publish a single public notice in a local newspaper that an application for a Permit coverage has been made pursuant to WAC 173-226-130(5), and for them to then allow transfer of coverage of that Permit to a new permitee simply by using the transfer coverage form but without any public notice or opportunity to comment concerning the qualifications, history of compliance, or experience or expertise of the proposed permitee.

2. The General Permit will necessarily result in violations of the CWA because the General Permit in Special Condition S.4 requires that:

> The Permitee must comply with all requirements on the FIFRA product label. Permit requirements do not reduce requirements on the FIFRA label.

FIFRA refers to the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), 7 U.S.C. § 136, *et seq.* Compliance with FIFRA labels is also required by RCW 90.48.445(1). According to the Pacific Northwest Weed Management Handbook, there are three trade named products that qualify as Imazamox formulations: Raptor, Beyond, and Clearcast. All formulations require the use of an adjuvant in conjunction with the product's application, and Raptor and Beyond both require an adjuvant and fertilizer. Ecology indicates that it is the Clearcast formulation that will be likely used, since it is the only formulation registered and labeled for use in estuary and marine sites, as well as freshwater aquatic sites. *See Zostera japonica* management on commercial clam beds in Willapa Bay General Permit addendum to the Fact Sheet, App. F, p. 10, and Response to Comment 31, p. 12. As Ecology's Response to Comment on p. 12 makes clear: "The Permit does not allow the use of adjuvants, only aquatic herbicides containing Imazamox and marker dyes.... This Permit does not allow the use of adjuvants or

surfactants." *See* General Permit Special Condition S4.A, Fact Sheet for State of Washington's *Zostera japonica* management on commercial clam beds in Willapa Bay (Jan. 2, 2014), p. 53 (explaining that only marker dyes and not adjuvants are allowed). The Clearcast FIFRA label (*see* **Exhibit 2**) with which the discharger is required to comply with state law under the terms of the General Permit, however, requires the use of an adjuvant. The "Clearcast" specifies that "applications of Clearcast to emerging floating or shoreline species ***require the use of a spray adjuvant. Always use a spray adjuvant that is appropriate for aquatic sites***." Consequently, the General Permit will necessarily result in a violation of the CWA (by virtue of the violation of the condition in the Permit requiring compliance with the FIFRA label and a violation of RCW 90.48.445. The FIFRA product label for Clearcast also provides that it "application must be avoided below two miles per hour due to variable wind direction and high inversion potential." Yet, the General Permit says nothing about the 2 mph minimum threshold, only the 10 mph maximum wind threshold.

3. Such use contrary to the FIFRA product label is also a violation of the Washington Pesticide Control Act, RCW 15.58.150(2)(c).

4. Such use, contrary to the FIFRA product label, is also a violation of the Washington Pesticide Application Act, RCW 17.21.150(4) which prohibits operation by a pesticide applicator "... in a faulty, careless, or negligent manner." By failing to apply Imazamox in compliance with the labeling requirements in violation of the Washington Pesticide Control Act and aquatic noxious weed control laws would, by definition, constitute operation in a faulty, careless, or negligent manner.

5. The General Permit violates the State Environmental Policy Act ("SEPA"), RCW 43.21C.030(2)(c), in that the General Permit imposes unresolved conflicts concerning alternative uses of available resources, and Ecology failed to

adequately consider alternatives to the General Permit, including no action manual removal or non-chemical mechanical removal, that would mitigate or eliminate the General Permit's adverse impacts on water quality and the beneficial aquatic uses dependent thereon.

6. The General Permit constitutes a "development," as that term is defined in RCW 90.58.030(3)(a), because it is a project of a temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to RCW Chapter 90.58 at any state of water level, and the General Permit is subject to RCW 90.58.140(1) because it constitutes a development undertaken on the shoreline of the State and therefore must be consistent with RCW 90.58 and Pacific County's SMP;

7. Willapa Bay is a shoreline of the State of Washington pursuant to RCW 36.70A. As such, the goals and policies of the Shoreline Management Act ("SMA") as set forth in RCW 90.58.020 are one of the goals of the Growth Management Act ("GMA"), RCW 36.70A. The Pacific County Shoreline Master Program ("SMP") was required to be adopted pursuant to the procedures of RCW 36.70A.480(2) of the GMA. The SMP requires that it be based upon the Best Available Science ("BAS"), and RCW 36.70A.172(1) provides that special consideration must be given to "measures necessary to preserve or enhance anadromous fisheries. The FEIS and General Permit are not based upon BAS and there was no special consideration given to such measures.

8. Federal regulations give guidance to the Department in weighing one set of designated uses against another by requiring that states, "for waters with multiple use designations such as Willapa Bay, [adopt] criteria [that] shall support the most sensitive use." 40 C.F.R. § 131.11(a). Ecology is obligated by that law, including the SMA, to provide protection to the most sensitive uses - that is, aquatic and aquatic-dependent species such as migratory waterfowl and fish,

including anadromous salmonids, especially when they qualify as threatened or endangered species - over the desire of the shellfish industry to acquire more habitat to engage in commercial planting of yet another exotic species - non-native manila clams;

9. Permitted uses on the shorelines of the State, including the subject General Permit, must be consistent with the SMA, Pacific County's SMP, and with the policy of RCW 90.58.020 and the applicable guidelines under RCW 90.58.340 and WAC 173-16. The General Permit's authorization fails to do so in that it does not recognize and protect statewide interests over local interests, does not preserve the natural character of the shoreline, does not result in long term over short term benefits, does not protect the resources and ecology of the shoreline, and does not preserve the public's opportunity to enjoy the physical and esthetic qualifies of natural shorelines of the State to the greatest extent feasible, consistent with the overall best interests of the State and the people generally.

10. The General Permit violates RCW 90.58.020(7), in that the permitted uses were not designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area, and any interference with the public's use of the water; the use allowed is not consistent with control of pollution and prevention of damage to the natural environment or unique to or dependent upon the use of the State's shoreline and are inconsistent with the provisions regarding alterations of the natural condition of the shorelines of the State.

11. The General Permit violates Pacific County shoreline policies contained within § 3.B. of its SMP (hereinafter Pacific County SMP will be referred to as "SMP"). More specifically, the General Permit is inconsistent with the following shoreline policy provisions:

A. The General Permit violates § 3.B(1)(c), pertaining to shoreland use in that the authorized activities (spraying Imazamox on the shoreline) are not located on shorelines in such a manner as to retain or improve the quality of the environment;

B. The General Permit violates SMP § 3.B(1)(e), in that it does not minimize the adverse impacts of shoreline uses and activities on the environment during all phases of development;

C. The General Permit violates SMP § 3.B(2)(a) pertaining to Economic Development, in that it does not ensure healthy, orderly economic growth by allowing those economic activities for which the adverse effects on the quality of the shoreline and surrounding environment can be mitigated;

D. The General Permit violates SMP § 3.B(1)(d), in that it does not ensure that the economic activity taking place along the shorelines operates without causing irreparable harm to the quality of the State's environment or adjacent shore land;

E. The General Permit violates SMP § 3.B(1)(d) pertaining to Conservation, in that it is inconsistent with § 3.B(4)(a) since it will not ensure a sustained yield of renewable resources of the shorelines while preserving, protecting, enhancing, and restoring unique and nonrenewable shoreline resources, environments, or features;

F. The General Permit violates SMP § 3.B(8)(a), in that it does not preserve vital estuary areas for fisheries and wildlife protection;

G. The General Permit violates SMP § 3.B(8)(a) pertaining to Wetlands, in that it does not preserve and protect wetlands to prevent their continued loss and degradation;

H. The General Permit violates SMP § 3.B(8)(c), in that it does not provide adequate mitigation for disturbance of wetlands and buffers in the shoreline environment;

I. The General Permit violates SMP § 3.B(8)(d), in that it does not maintain wetland buffer zone of adequate width between a wetland and adjacent development to protect the functions and values of the wetland;

J. The General Permit violates SMP § 3.B(8)(e), in that does not base the width of the established buffer zone upon the functions and values of the wetland, instead basing the buffer zone only upon adjacent property lines;

K. The General Permit violates SMP § 3.B(8)(f), in that it does not provide for restoration for wetlands upon project completion;

L. The General Permit violates SMP § 3.B(11)(a) in violation of the policy pertaining to Vegetation Management, in that it does not stress prevention of aquatic weed problems, the destruction and removal route is not the minimum necessary to allow water-dependent activities to continue, and those activities are not controlled to minimize negative impacts on the native plant communities;

M. The General Permit violates SMP § 3.B(12)(a) pertaining to Water Quality, in that it does not locate and maintain shoreline uses and activities to minimize adverse impacts to water quality and fish and wildlife resources;

N. The General Permit violates SMP § 3.B(15)(a) pertaining to Conservancy Environment, in that it does not prohibit or restrict activities and uses which would substantially degrade or permanently deplete the physical or biological resources of the area;

O. The General Permit violates SMP § 3.B(15)(c), in that it does not prohibit activities or uses which would strip the shoreline of vegetated cover or adversely affect wildlife or aquatic life;

P. The General Permit violates SMP § 3.B(17)(a) pertaining to Aquatic Environment, in that it does not prohibit uses which will substantially degrade the existing character of the area;

Q. The General Permit violates SMP § 3.B(34)a) pertaining to Salmon Habitat, in that it does not lessen impacts of uses and activities in salmon habitat to the maximum extent possible and does not mitigate the significant unavoidable impacts by creating in-kind replacement habitat or other equal benefit where feasible;

R. The General Permit violates SMP §3.B(40)(a) pertaining to Saltwater Habitat, in that it does not protect critical saltwater habitats, including critical rearing and nursery areas for valuable recreational and commercial species, nor does it protect habitat for ecologically important marine plants, fish, and animals;

S. The General Permit violates SMP § 3.B(40)(c), in that the activities permitted were not designed to minimize adverse environmental impacts, even though it adversely affects critical saltwater habitat;

T. The General Permit violates SMP §3.B(41)(b) and (5) pertaining to Aquaculture in Pacific County's SMP, in that it is inconsistent with § (a)(1) in that the aquacultural uses that were permitted on a natural shoreline do have a harmful ecological impact and do materially interfere with the normal public use of the waters or shorelines of the State, and the aquacultural use is not located, design, or operated consistent with state guidelines.

12. The General Permit fails to comply with WAC 173-26-010, *et seq.*, including WAC 173-26-221, which provides for regulatory protections under the General Master Program provisions to shoreline areas. Pursuant to WAC 173-26-010 and RCW 36.70A.480, the goals and policies contained in Pacific County SMP are considered an element of the local comprehensive plan required by the Growth Management Act ("GMA"), RCW 36.70A, and all portions of the Pacific County SMP, including the use regulations, are considered a part of the local development regulations required by the GMA. RCW 90.58.020 and WAC 173-26-176(2) provide that "permitted uses in the shorelines of the State shall be designed and conducted in a manner to minimize, insofar as practical, any resultant change to the ecology and environment of the shoreline area and the public's use of the water." The General Permit fails to do so.

13. RCW 90.58.020 and WAC 173-26-181 set forth the special policy goals of the Pacific County SMP and for shorelines of statewide significance, including Willapa Bay, which require preferences in uses and an order of preference which elevate the protection of statewide interest over local interest, the preservation of the natural character of the shore, the preference for long-term over short-term benefit, and for the protection of resources and ecology of the shoreline. The General Permit is in violation of these mandated preferences.

14. Appellants contend that spraying of Imazamox under the terms of the General Permit is subject to the Hydraulic Code, WAC 220-010, *et seq.*, and that Ecology's failure to require an HPA or comply with the Code was error. Regardless of the applicability of the aquatic plant removal and control provisions of the Hydraulic Code set forth at WAC 220-110-331 through 338, the spraying authorized by the General Permit and the Permit itself should be consistent with the terms and conditions set forth in those regulatory provisions and they are not. This constitutes error.

15. The General Permit violates, or is inconsistent with, numerous provisions of the Hydraulic Code and its implementing provisions because the intended destruction of *Zostera japonica* will also inevitably destroy native eelgrass, *Zostera marina*. Both provide for important ecological services in the nearshore, have been designated as critical habitat, and are therefore protected by a no net loss policy in Washington state. This is so, despite the proposal by WDFW to eliminate *Zostera japonica* from the protective scope of WAC 220-110-250. Moreover, there has been no adequate survey or assessment or monitoring requirement that will allow for accurate assessment of change in eelgrass density as a consequence of the activities authorized by the challenged General Permit.

16. Eelgrass, including *Zostera japonica*, is recognized as vegetation that serves an essential function in the development of shellfish, and for saltwater habitats of special concern, such as Willapa Bay, pursuant to WAC 220-110-250(3)(a). Yet, no consideration was given to this status and designation.

17. The General Permit fails to comply, or is inconsistent, with WAC 220-110-331 regarding aquatic plant removal and control technical provisions, in that all forms of control strategies were not adequately considered. There was no consideration of a control strategy other than chemical spraying. The General Permit is not site specific and the integrated vegetation management plan does not adequately "center upon an understanding of the biology and ecology of the aquatic plant to be controlled and the environmental characteristics of the site," as set forth in the above rule, because of the critical importance to the ecological function played by both *Zostera marina* and *Zostera japonica* in Willapa Bay.

18. The General Permit violates WAC 173-26-221(2)(c)(iii) which governs critical saltwater habitats, including that of Willapa Bay, expressly provides that

such habitats include all kelp beds, eelgrass beds, spawning, and holding areas for forage fish, such as herring, smelt, and sand lance, "... and that such Critical saltwater habitats require a higher level of protection due to the important ecological functions they provide." The General Permit fails to afford that required higher level of protection to the native eelgrass beds, *Zostera marina*.

19. The Willapa National Wildlife Refuge Comprehensive Conservation Plan ("CCP"), issued by the U.S. Fish & Wildlife Service, expressly identifies the best management practices applicable to pesticide handling and mixing, and those practices have not been adopted in the General Permit, despite the fact that the General Permit applies, in part, to areas incorporated within the Willapa National Wildlife Refuge.

20. The General Permit fails to comply with RCW 43.21C.020(2)(a) through (f), in that Ecology arbitrarily, unreasonably, capriciously, and/or unlawfully failed to use all practicable means consistent with other consideration of state policy to improve and coordinate its plans, programs, and resources to that end so that the State and its citizens may satisfy the obligations set forth in RCW 43.21(c)(020)(a) through (f).

21. The General Permit violates RCW 90.58.020, 040, 050, and WAC 173-26-186(8) because the consequence of its issuance will be a net loss of ecological function and adverse impact on eelgrass and aquaculture should not permitted in areas where it would result in a net loss of ecological functions, adversely impact eelgrass, and macroalgae. Moreover, the inevitable substantial impacts to ecological functions that will result from the issuance of the General Permit are not required to be mitigated. That is precisely what should have been done here; *i.e.*, avoiding the impact by not allowing chemical herbicide application, but it was not.

22. The General Permit violates the GMA, which mandates the designation and protection of critical areas by incorporating the best available science into the decision-making process. RCW 36.70A.170, 172. Fish and wildlife habitat conservation areas such as those in the affected waters of Willapa Bay, are considered a critical area. RCW 36.70A.030 and WAC 173-26-221(2). Pursuant to WAC 365-190-130, the purpose of these areas is to support viable populations of fish and wildlife over the long-term by cooperative planning and coordination. WAC 365-190-130(2)(d) specifically lists eelgrass beds as a type of fish and wildlife conservation area, and WAC 173-26-020(28) identifies eelgrass meadows as "priority habitat of particular importance for fish and wildlife. The best available science was not followed by Ecology in issuing the General Permit and critical areas and priority habitat are not being protected.

23. Ecology failed to comply with WAC 173-802-090 and 802-100, 197-11-508, 408(2)(d), 11-510, 11-455, 11-502, and 11-510, the regulations that require listing in the SEPA register to ensure that potentially affected and interested agencies and individuals have an opportunity to comment and thereby influence the proposed rule before it becomes effective. Here, the Agency failed to timely file the Draft Environmental Impact Statement ("DEIS") on the SEPA register, and, as a consequence, interested parties and agencies were not given an adequate opportunity to comment. WDFW failed to adequately comment except for the expression of anecdotal concerns. There were no scientific or substantive comments at all because WDFW SEPA staff did not receive timely notice. As a consequence, Ecology failed to consider the impacts of the discharges authorized by the General Permit on waterfowl in Willapa Bay, including, but not limited to, ducks and black brant; it failed to consider WDFW fishery data regarding the presence of rearing and spawning, characteristics of and likely impacts of the proposed discharges on green sturgeon and salmonid species in Willapa Bay,

including the loss of rearing habitat to be caused by the destruction of *Zostera marina* and *Zostera japonica.*

24. In addition, in G.16(B), the General Permit provides that the applicability of the Permit terms and conditions to an individual discharger are subject to appeal, but within 30 days of the effective date of coverage of that discharger. Since the effective date of the coverage means that, as a practical matter, a discharger may operate for up to 30 days while an appeal is pending and because of the transfer permit cover authorized by G.13 which is not made public, practical ability on the part of the public to appeal Permit terms and conditions as they apply to an individual discharger will be limited, if not eliminated altogether. This would constitute a violation of the CWA because it would constitute a violation of an express condition of an NPDES Permit. WAC 173-220-150(1)(a).

25. The General Permit is in violation of RCW 90.48.445(1)(a)(ii) in that this statutory provision requires the applicator to "... take all reasonable precautions to prevent the spraying of non-target vegetation in non-vegetated areas." Yet, the General Permit requires only a 10 meter property buffer to protect neighboring property owners, but no buffer at all between native eelgrass (*Zostera* marina) and *Zostera japonica.* Indeed, there is no prohibition at all on the spraying of *Zostera marina* in the General Permit, despite the fact it constitutes critical saltwater habitat for a variety of species, including threatened and depressed salmonid and green sturgeon populations, in regulated areas. The General Permit contains only the mild admonition "take all reasonable precautions to prevent spraying of non-vegetated areas". Significantly, the published March 2014 Minutes of a WDFW Commission conference call regarding the then-proposed General Permit erroneously stated that there would be a minimum buffer distance of 10 meters from native eelgrass in the spraying of Imazamox. Such a buffer should be required, but it is not. This failure violates or is inconsistent with the laws,

policies, and guidelines of virtually every state and federal law applicable to Willapa Bay, including the CWA, ESA, MSA, GMA, SMA, and SEPA.

26. The General Permit is in violation of RCW 90.48.445(1)(a)(v) in that this statutory provision requires that "an application shall not be made when a tidal regime leaves the plants dry for less than four hours." Yet, under the terms of the General Permit under Special Condition S.4(A)(6), the Imazamox application requires only one hour of dry time before tidal inundation.

27. Ecology violated WAC 173-802-090 when it allowed the Applicant WGHOGA to prepare the Draft EIS for Ecology's review and use without strict adherence to WAC 173-802-090(3). As a consequence, the Draft EIS and FEIS were both biased in favor of the commercial shellfish industry's interests and ignored or minimized significant actual and potential environmental impacts that will result from the authorized spraying.

28. Ecology violated WAC 173-802-110 by failing to avoid or mitigate adverse environmental impacts which may result from Ecology's decisions; by failing to use all practical means, consistent with other essential considerations of state policy, to improve and coordinate plans, functions, programs, and resources to the end that the State and its citizens may attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or undesirable and unattended consequences; by failing to ensure that presently unquantified environmental amenities and values were given appropriate consideration in decision-making, along with economic and technical consideration; and when the General Permit showed that it would cause significant adverse impacts that were not planned to be mitigated, Ecology did not consider whether the General Permit identified mitigation measures that were reasonable and capable of being accomplished nor did it adequately consider the need and ability to accomplish mitigation measures.

29. Ecology failed to comply with SEPA, WAC 197-11-060, by failing to carefully consider the range of probable impacts, including short-term and long-term effects and those that are likely to arrive or exist over the lifetime of the proposed General Permit, and the direct, as well as indirect, impacts caused by the proposed General Permit and its FEIS.

30. Ecology violated WAC 197-11-080(2) and (3) regarding incomplete or unavailable information by failing to make clear that there were gaps in relevant information or scientific uncertainty concerning significant impacts, or that substantial uncertainty exists in conjunction with its SEPA process and completion of its FEIS. Further, Ecology proceeded in the absence of this vital information when relevant to adverse impacts when it was either essential to a reasoned choice among alternatives, not knowing if the costs of obtaining it would be exorbitant or, alternatively, proceeded when the information relevant to adverse impacts was important to the decision and the means to obtain it were speculative or were not known. Ecology failed to weigh the need for action with the severity of possible adverse impacts which would occur if it were to decide to proceed in the face of uncertainty and, despite proceeding, it failed to generally indicate in the appropriate environmental documents its worst case analysis and the likelihood of occurrence, to the extent this information could reasonably be developed.

31. The FEIS prepared by Ecology fails to comply with WAC 197-11-400(2), in that it does not provide impartial discussion of significant environmental impacts or inform decision-makers and the public of reasonable alternatives, including mitigation measures, that would avoid or minimize adverse impacts or enhance environmental quality.

32. Ecology failed to fully comply with WAC 197-11-440(5) and (6) regarding reasonable alternatives to the chemical spraying, including the proposed

action, so that a lay person could understand the affected environment, significant impacts, and mitigation measures

33. Ecology failed to define the project lands to be sprayed with specificity and failed to map buffer zones between *Zostera japonica* and *Zostera marina* and adjacent state and private clam beds.

34. The General Permit is inconsistent with and violates WAC 173-26-241 regarding shoreline uses. Pursuant to that regulatory provision, all uses "must be consistent with the provisions of the environment designation in which they are located and the general regulations of the Master Program, and the use permitted here – spraying of Imazamox on eelgrass beds that will destroy both *Zostera japonica* and *Zostera marina* and adversely impact the host of water-dependent species – is not consistent with the provisions of this environment designation. In addition, WAC 173-26-241(3)(b)(i)(C) states that "aquaculture should not be permitted in areas where it would result in a net loss of ecological functions, adversely impact eelgrass and macroalgae or significantly conflict with other water-dependent uses and impacts to ecology function shall be mitigated according to the mitigation sequence described in WAC 173-26-201(2)(e). All of these provisions will be violated by the issuance of the General Permit authorizing the spraying of Imazamox, and there will be inadequate, if any, mitigation of impacts of ecological functions caused by the spraying.

35. The General Permit violates WAC 173-220-130 regarding effluent limitations, water quality standards, and other requirements for Permits. The issued General Permit applies the effluent standards and limitations described in WAC 173-220-130(1)(a) requiring compliance with all known, available, and reasonable methods of treatment required under RCW 90.52.040 and RCW 90.54.020(3)(b), AKART, and the discharge authorized by the Permit will violate applicable water quality standards.

36. The General Permit violates WAC 173-220-060(1), in that the Fact Sheet prepared by Ecology fails to comply with the minimum requirements specified by the regulation.

37. The General Permit violates and is inconsistent with RCW 90.54.020(3)(b), in that there is no overriding public interest that will be served by allowing the discharge.

38. The General Permit violates RCW 90.58.340 regarding use policies for land adjacent to shorelines because it is a use not consistent with the policy of Chapter 90.58, the guidelines and the Master Program for the shorelines of the State.

39. The General Permit may result in a violation of the Endangered Species Act ("ESA") in that it will adversely affect critical habitat for the ESA-listed green sturgeon, western snowy plover and marbled murrelet, all of which are threatened species. The snowy plover is also listed an endangered under the Washington Department of Game (now WDFW) Policy #402 (1981).

V. ADDITIONAL SUPPORTING STATEMENT OF FACTS

40. Ecology has been designated as the State water pollution control agency for all purposes of the federal CWA, including issuance and enforcement of NPDES Permits. RCW 90.48.260; WAC 173-225-010; WAC 173-220-010, *et seq.*

41. The coastal waters of Willapa Bay are designated as extraordinary quality for aquatic life uses under WAC 173-201A-612. To be so designated, such waters "must support extraordinary quality salmonid and other fish migration rearing and spawning; clam, oyster, and mussel rearing and spawning, crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning." WAC 173-201A-210(1)(a)(i).

42. There are two species of eelgrass found in Willapa Bay, the native species (*Zostera marina*) and the non-native species or Japanese eelgrass (*Zostera*

japonica). These two species are found throughout the waters of the Pacific Northwest. As its name suggests, *Zostera japonica* is native to Japan and other areas of East Asia. The two seagrasses co-exist well with *japonica* generally occupying a higher elevation in the intertidal zone than *Zostera marina*, but there are mixed beds of *Zostera japonica* and *Zostera marina* present in Willapa Bay, apparently because of its slope characteristics, and, as a consequence, *Zostera marina* will be destroyed under the terms of the challenged General Permit.

43. While shellfish industry representatives contend that *Zostera japonica* "exploded" beginning in the late 1990's, that assertion must be questioned in light of the industry's longstanding practice to remove eelgrass, including native eelgrass, by mechanical means at Willapa Bay to increase shellfish growing areas. *See Black Brant Winter and Spring-Staging Use at Two Washington Coastal Areas in Relation to Eelgrass Abundance,* Wilson and Atkinson (1995). Indeed, the industry's strategic plan identifies both the *Zostera japonica* and *Zostera marina* as "weeds" in their July 2010 publication, *Pest Management Strategic Plan for Bivalves in Oregon and Washington,* DeFrancesco and Murray (Oregon State University). Ironically, the shellfish being commercially produced in Willapa Bay are themselves introduced exotic species, manila clams and Pacific oysters.

44. The issuance of the challenged General Permit was the product of a very successful lobbying campaign on the part of the shellfish industry. In 2011, the WDFW took *Zostera japonica* off the priority habitat list, a step that allowed the State Weed Board, at the urging of the industry, to then list *Zostera japonica* as a noxious weed, and to then lobby for the issuance of a National Pollutant Discharge Elimination System ("NPDES") Permit to spray Imazamox throughout shellfish beds in the State of Washington, all in order to expand greatly the production of commercial shellfish. *See Science and Management of the Introduced Seagrass Zostera japonica in North America*, Shafer, Kaldy and Gaeckle (2013). Neither

this thesis, the most recent and authoritative scientific assessment of *Zostera japonica*, or *Distribution and Potential Effects of a Non-Native Seagrass in Washington State*, Friday Harbor Laboratories, Report for Washington Department of Natural Resources (2010), were "at all" referenced in the FEIS.

45. The industry's efforts were met with considerable opposition, not just from concerned citizens, but more importantly, from scientists and environmental and conservation organizations, and other governmental agencies, both state and federal. Concerns focused not only on the intentional destruction of *Zostera japonica*, but the accompanying inevitable destruction of *Zostera marina* as well because of the singular ecological importance those two seagrasses have for fish and migratory waterfowl.

46. Eelgrass is a type of submerged aquatic vegetation that grows in estuaries and shallow bays. It is not a seaweed; it is a perennial flowering plant that grows both by vegetative growth and seed germination. Eelgrass abundance varies seasonally, with winter die-off and spring-summer regrowth. There is considerable annual variation in abundance due to a variety of factors, including, but not limited to, physical and chemical disturbance changes, change in nutrient availability, and changes in water quality parameters, such as turbidity and salinity. Seagrass ecosystems are recognized as among the most diverse and productive systems in the world, in both ecological and noneconomic value compared to tropical rain forests and the world's richest farmland. Healthy eelgrass beds form dense underwater meadows that provide habitat for invertebrates, substrate for diatom and algae growth, and food and cover for a variety of species. Eelgrass beds are "nursery" areas for many marine and anadromous species. They provide food, shelter, and protection from predators for many juvenile fish and shellfish, and they play an important role in the lifecycles of fish, shellfish, and waterfowl.

47. Of particular interest to those concerned about Ecology's issuance of the General Permit is the impact of the destruction of both *Zostera japonica* and *Zostera marina* in Willapa Bay are the efforts to restore native salmonid populations. Eelgrass has been designated as "Essential Fish Habitat" for juvenile salmonids under the Magnuson-Stevens Act, 16 U.S.C. § 1851, *et seq.* ("MSA"). Juveniles utilize eelgrass beds for cover and forage as they move from fresh water to the oceans. In addition, Pacific herring and other coastal fish specifically spawn in Willapa Bay's eelgrass. Perhaps just as importantly, the eelgrass is directly consumed by migratory birds. In Willapa Bay, that includes black brant geese, widgeon, and other species, as well as snails and sea urchins.

48. *Zostera japonica* in Willapa Bay is the preferred food for Pacific black brant and widgeon, and the approved spraying season between April and June conflicts with the grant's and widgeon's staging and wintering periods. It also conflicts with the time of the year when chum salmon smolts are present in the Bay and use *Zostera japonica* and *Zostera marina* as their preferred habitat.

49. Eelgrass beds also perform a valuable ecological function by uptaking nutrients from the water column for their growth and reproduction, and thereby help to prevent nuisance algae blooms and improve water clarity. The mere fact that *Zostera japonica* is "exotic" does not mean that it is unhealthy or non-beneficial. To the contrary, *Zostera japonica*, as is increasingly recognized with some other so-called "invasive" or "exotic" species, plays a vital role in functioning of the existing ecosystem in Willapa Bay, and other bays, estuaries and nearshore areas, and are substantially beneficial to major components of it. The proposed Permit to allow destruction of this plant will significantly and adversely affect the quality of that ecosystem.

50. Ocean acidification, however, is impacting the waters of Willapa Bay and its commercial shellfish industry. Marine animals are exposed to waters that are

more acidic as a result of carbon dioxide pollution. Ocean waters off the Washington coast exhibit acidification that exceeds the State's water quality standards, including the marine pH standard that requires human-caused pH to remain within 0.2 units of variation. Because the pH scale is logarithmic, a small decrease is a significant change in acidity; *e.g.*, a decrease of 0.2 pH represents an approximate 60% increase in acidity.

51. In 2012, Washington convened a Blue Ribbon Panel to summarize the scientific knowledge about ocean acidification in Washington to provide recommendations for action. Ecology and EPA participated in the Panel, which acknowledged that low pH seawater was responsible for disastrous production failures in state oyster hatcheries, and that shell growth by calcifying organisms was adversely affected in Washington's corrosive coastal waters. Oysters are failing to reproduce in Willapa Bay. Ocean acidification is preventing Willapa Bay from maintaining its designated use as excellent or extraordinary aquatic habitat for plankton and calcifying organisms, and these lower plankton populations threaten the survival of salmonids and other characteristic uses of Willapa Bay. Ocean acidification is causing degradation of ocean water quality in violation of Washington's anti-degradation policy, which provides that existing and designated uses must be maintained and protected and "no degradation may be allowed that would interfere with, or become injurious to, existing or designated uses." WAC 173-201A-310.

52. As a consequence, the Center for Biological Diversity brought a lawsuit in federal court in the Western District of Washington at Seattle in 2013, contending that because Washington's ocean waters, including those of Willapa Bay, do not attain water quality standards, including the narrative criteria, designated uses, and anti-degradation requirements, those waters meet the requirements for inclusion in Washington's list of impaired water bodies under the

Clean Water Act § 303(d) list. 33 U.S.C. § 1313(d). *See Center for Biological Diversity v. EPA, et al.*, U.S. District Court for the Western District of Washington at Seattle Case No. 13-cv-1866-JLR. That case is pending before Judge Robart and will likely result in a decision by the end of this calendar year. That ruling is germane to this action in that *Zostera japonica* and *Zostera marina* are seagrasses that play a significant role in reducing acidification and pollution, by removing nitrogen and phosphorous from estuarine waters. The actions proposed to be taken pursuant to the subject General Permit will only exacerbate that acidification and therefore will violate Washington's anti-degradation policy.

53. The General Permit does not require adequate monitoring. Instead, the voluntary Buffer Validation Study ("Fact Sheet, App. B") was simply requested of the NOI permitees and what little monitoring that will occur disappears if spraying does not take place right up to the 10 meter buffer property line. As a consequence, there was no real adequate determination of baseline conditions, no requirement for post-application analysis of the impacts on *Zostera marina* or other critical habitat within Willapa Bay. Indeed, the *Zostera marina* habitat within Willapa Bay has not been monitored for net loss, and there are no goals, let alone requirements, for restoration for the substantial losses in ecological function in Willapa Bay that will inevitably occur as a consequence of the issuance of this Permit.

54. Willapa Bay is critically important for migratory shorebirds. It is among the most important migratory bird stopover sites on the West Coast. Willapa Bay supports over 100,000 shorebirds during peak periods. Migratory birds are protected by the Migratory Bird Treaty Act ("MBTA"), 16 U.S.C. § 703-712, which makes it illegal to hunt, take, or kill members of more than 800 bird species, including those that migrate through Willapa Bay. The draft MOU issued on February 5, 2014 by the U.S. EPA Office of Pesticide Programs and the U.S. Fish

& Wildlife Service makes clear that Agency's renewed interest in protecting migratory birds from harmful pesticides. This General Permit, which allows the application of pesticides into the waters of Willapa Bay is inconsistent with the provisions of the MBTA because it will harm migratory birds, especially the Pacific or black brant species, that depend upon the targeted *Zostera japonica* eelgrass, but also native eelgrass, *Zostera marina*, for their food source.

55. Ecology failed to adequately consider the significant ecological detriment upon the ecosystem in Willapa Bay that will be caused by approving the Permit, and simply relied upon its recent recharacterization as a "noxious" weed to support the issuance of the General Permit.

56. Ecology also failed to consider the potential synergistic effects of the use of Imazamox, when combined with pesticides and herbicides, that are presently being used and historically have been used to eradicate spartina and burrowing shrimp, and ignored the potential chemical synergies presented by operation by the shellfish industry in Willapa Bay. Imazamox also has the potential to develop resistant "super weeds" in a relatively short time frame.

57. In addition, the potential synergistic effects of other contaminants such as the proposed use of Imidacloprid in an effort to control burrowing shrimp on commercial shellfish beds in Willapa Bay should have been more fully considered. Even if the Imidacloprid is not applied at the same time as the herbicide Imazamox, its use could add to or magnify the environmental impacts of the use of both chemicals. The 2013 NRC Report discusses the importance of evaluating mixtures: "Mixture components that do elicit the relevant response need to be considered in the effects analysis." *See* 2013 NRC Report, p. 134. Furthermore, "in the absence of any data that would support the hypothesis of a synergistic interaction between the pesticide's active ingredients and other mixture

components, the effects analysis should proceed on the assumption that the components have additive effects." *See* 2013 NRC Report, p. 134.

58. In addition, the removal of *Zostera japonica*, a rooted aquatic plant, by the proposed discharge would result in the release of significant nutrients back into the waters of Willapa Bay, along with a loss of a process by which the nutrients are removed from the water. *See, e.g.*, *Aquatic Weed Decay: Dissolved Oxygen Utilization and Nitrogen and Phosphorous Regeneration*, Jewell, William J., Journal (Water Pollution Control Federation), 143 No. 7 (July 1971), pp. 1457-1467, available at *http://www.jstor.org/pss/25037124*. At the end of the growing season or when the weeds are killed, their decomposition will exert heavy demands on the oxygen resources of the water. In addition, large quantities of nutrients are likely to be released from this decaying mass. In this way, the proposed discharge will cause or contribute to the violations of water quality standards for nutrients for which Willapa Bay is already impaired. There has been no demonstration by Ecology that there are sufficient remaining pollutant load allocations to allow for discharge of such nutrients.

59. There is no ability to determine exactly and on whose lands (public, private, federal, or state) that Imazamox is to be applied. Neither the location nor the amount of acreage affected by Imazamox spraying can be determined and there is therefore no ability to meaningfully assess the impacts of Imazamox spraying on any particular site. Site-specific conditions are critical. The impacts of tidal flows and adjacent non-target species, including all life cycles of vertebrates and invertebrates vary greatly in Willapa Bay. For example, flushing durations are naturally much longer in the southern portion of Willapa Bay than near the mouth of the estuary in the northern area which compromises the ability to determine the impacts of spraying.

60. The Discharge Management Program ("DMP"), required to be prepared by each individual permitee in conjunction with the filing of an NOI, has established a threshold for Imazamox spraying treatment which is being interpreted as a "minimum detectable" amount of eelgrass by those individual permitees. Pursuant to Special Condition S.5(A) regarding monitoring, if treatment does not occur "up to the 10 meter property line buffer, then monitoring consists [only] of recording the date treatment occurred, amount of active ingredient applied, the number of acres, and the location(s) of acreage treated." In other words, if the applicator stops his spraying just short of the property line buffer, there is no meaningful monitoring requirement. Compounding that omission is the reliance upon only voluntary self-monitoring by shellfish growers who cannot be expected to independently or accurately assess their compliance with Permit conditions or on non-targeted flora and fauna species.

61. Appellants are particularly concerned about the extensive damage to both *Zostera japonica* and *Zostera marina* where there are mixed beds of both eelgrasses present. Indeed, those mixed beds are present extensively within Willapa Bay. In many cases, a mixed bed is a natural restoration of *Zostera marina* in progress. *Zostera marina* is historically the preferred food for Pacific brant and *Zostera japonica* the preferred food for American widgeon and other ducks in Willapa Bay. There are extensive mixed beds of both species of eelgrass present on the wintering grounds of the Pacific brant in the Bay. The FEIS ignores this, and the General Permit allow these mixed beds to be removed permanently, even where clam beds do not now exist. There is effectively no limit on the amount of acreage to be destroyed or the locations of the authorized destruction, which presumably will be permanent.

62. The consequence of the spraying of Imazamox in Willapa Bay will cause substantial and irrevocable environmental harm, and it is unlawful for the reasons set forth above.

VI. RELIEF SOUGHT

For the foregoing reasons, pursuant to RCW 43.21B.320, the Appellants request that the Pollution Control Hearings Board stay, and thereafter set aside, Ecology's decision to issue a General Permit for *Zostera Japonica* Management on Commercial Clam Beds in Willapa Bay. The Appellants also request that this Board stay issuance by Ecology of any Notices of Intent, enjoin their issuance and declare that the issuance of the General Permit by Ecology was contrary to law as set forth above, and further enjoin all discharges and activities authorized by the General Permit.

VII. VERIFICATION/SIGNATURE OF REPRESENTATIVE OF APPEALING PARTIES

I have read the foregoing Notice of Appeal and believe its contents to be true. Pursuant to WAC 371-08-340(7), the Appellants are not available to sign this Notice of Appeal.

DATED this 1st day of May, 2014.

LANDYE BENNETT BLUMSTEIN LLP

By: _____

Thane W. Tienson, WSBA 13310
Jennifer L. Gates, WSBA 38686
Of Attorneys for Appellants

Issuance Date: April 2, 2014
Effective Date: May 2, 2014
Expiration Date: May 2, 2019

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

National Pollutant Discharge Elimination System and
State Waste Discharge General Permit

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Heather R. Bartlett
Water Quality Program Manager
Washington State Department of Ecology

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SUMMARY OF PERMIT REPORTS AND SUBMITTALS

Refer to the Special and General Conditions of this permit for submittal requirements.

Table 1. Required permit submittals

Permit Condition	Submittal	Frequency	Due Date(s)
S2.C.	Application for new coverage	As necessary	At least 60 days prior to the start of discharge
S3.E.	Discharge Management Plan (DMP)	Once per coverage, or when DMP is updated	With NOI and when updated
S7.A.	Annual Pre-treatment Plan	Annually	March 1
S7.B.	Annual report (post-treatment report)	Annually	December 31
S.7.D.	Noncompliance notification	As necessary	As necessary
S.4.F.	Spill notification	As necessary	As necessary
G5.	Permit modification and revocation	As necessary	Within 14 days of request
G13.	Request for transfer of coverage	As necessary	As necessary
G.18.	Re-Application for permit coverage	Once per permit cycle	At least 180 days prior to the permit expiration date

The text of this permit contains words or phrases in ***bold and italics***. These words or phrases are the first usage in the permit and are defined in Appendix A.

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Activities Covered Under This Permit

This general permit covers all ***Zostera japonica*** (*Z. japonica*) management activities that result in a ***discharge*** of ***aquatic herbicides*** containing the ***active ingredient*** imazamox and ***marker dyes*** from ***treatment*** of ***commercial clam beds*** (excluding geoduck culture) to ***surface waters of the state of Washington***.

This permit will be issued for a duration of 5 years from the effective date. The application of aquatic herbicides and marker dyes is prohibited after the third year. Based on study (Fact Sheet Appendix B) and monitoring results, the Washington State Department of Ecology (Ecology) will make a determination to modify the permit to allow continued application of aquatic herbicides or terminate the permit after the third year.

Permittees may apply chemicals not listed in this permit on a limited basis in the context of a research and development effort under the jurisdiction of the Washington State Department of Agriculture through the issuance of a ***state experimental use permit*** (EUP). Project proponents must obtain coverage under this general permit for any projects conducted under a state EUP (special condition S4.H).

B. Geographic Area Covered

This permit covers the activities listed in special condition S1.A in Willapa Bay. This permit does not cover activities outside of Willapa Bay.

This permit does not apply to:
1. "Indian Country" as defined in 18 USC Sec. 1151.
2. Federal lands in Willapa Bay where a federal agency made the decision to apply herbicides or is the entity applying herbicides.

S2. PERMIT ADMINISTRATION

A. Who Must Apply for Permit Coverage

Pesticide applicators with an ***aquatic license*** and their ***sponsor*** who plan to use imazamox to control *Z. japonica* on commercial clam beds in Willapa Bay must obtain coverage under this permit.

B. Qualifications for Permit Coverage

A pesticide applicator with an aquatic license is the ***Permittee***. A Permittee must have a sponsor for each permit coverage.

Sponsors operating under separate business licenses must obtain separate permit coverages.

A sponsor may only obtain coverage for tidelands that it owns or leases. This permit does not allow the sponsor to violate any aspect of their lease agreement.

C. How to Apply for Permit Coverage

Pesticide applicators that propose to begin *Z. japonica* control using imazamox on or after the effective date of this general permit must:

1. Submit an application for coverage no later than 60 days prior to the first proposed discharge date. A complete application includes:
   a. A complete and signed ***Notice of Intent (NOI)***.
   b. A complete and signed ***Discharge Management Plan*** (DMP) using the template provided in Appendix D and special condition S3.F.
   c. An Annual Pre-treatment Plan (see special condition S7.A)
2. Mail the complete application to:
   Department of Ecology
   Water Quality Program
   Attn: Pesticide Permit Manager
   PO Box 47696
   Olympia, WA 98504-7696

Ecology is moving to online permit application and report submittal. When it becomes available for this permit, Ecology may modify this permit to require electronic submittal of the permit application, supporting documents and reports.

3. Publish twice, one week apart, a public notice in a local newspaper of general circulation that an application for permit coverage has been made pursuant to WAC 173-226-130(5). At the time the second notice is published, a 30-day public comment period begins.

4. Publish the public notice only after Ecology has received the complete application for coverage.

5. Use the **PUBLIC NOTICE TEMPLATE FOR NEW APPLICANTS** provided in Appendix B of this permit. The applicant may add additional information to the template as long as the required information remains as stated on the template.

Applicants may cooperate and publish a single public (following guideline 3. above) notice as long as the public notice contains contact information about each applicant and lists all locations proposed for treatment. At the end of the 30-day public comment period, Ecology will consider any received comments about the applicability of this permit to the proposed treatment activity before issuing a decision on permit coverage.

D. Transfer of Permit Coverage

A Permittee may transfer coverage to a new Permittee using the Transfer of Coverage Form which can be found here:
http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass.html

Both the original Permittee and the new Permittee must sign the form and provide the date that the new applicator will take responsibility for permit coverage. Once both parties have signed the form, the new Permittee becomes responsible for permit compliance and permit fees on the date indicated on the Transfer of Coverage Form. The original Permittee remains responsible for, and subject to, all permit conditions and permit fees until the permit coverage transfer is effective.

E. How to Terminate Permit Coverage

A Permittee may request termination of permit coverage by submitting a Notice of Termination form (NOT) to Ecology. The Permittee will continue to incur an annual permit fee unless it submits an NOT.

S3. DISCHARGE LIMITS

A. Compliance with Standards

1. The application of imazamox must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health criteria in the National Toxics Rule (40 CFR 131.36).

2. Permittees must use ***all known, available, and reasonable methods of prevention, control, and treatment (AKART)*** when applying imazamox. Compliance with this permit, the ***Washington Pesticide Control Act***, the ***Washington Pesticide Application Act***, the requirements of the ***Federal Insecticide, Fungicide, and Rodenticide Act*** (FIFRA) label constitute AKART.

B. Temporary Exceedance of Water Quality Standards

Temporary exceedance of water quality standards are allowed under this permit, provided the Permittee complies with the provisions of WAC 173-201A-410.

C. Impaired Water Bodies

The Permittee must 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.

D. Sensitive, Threatened, or Endangered (Rare) Plants

The Permittee must ensure treatment does not cause permanent harm to ***sensitive, threatened, or endangered*** plant populations.

E. Discharge Management Plans (DMP)

The Permittee must follow their DMP.

1. Multiple Permittees may combine efforts to develop one DMP that applies to all areas that may be treated in Willapa Bay. All Permittees that develop the DMP must follow it unless the Permittee decides to develop their own DMP at a later date.

2. The DMP must include the plan elements in Appendix D. However, equivalent elements of an Environmental Impact Statement prepared for this activity may substitute for DMP plan elements.

3. The Permittee or Permittees if combining efforts to develop one DMP, must update and submit the updated DMP to Ecology whenever there are changes to treatment scenarios or treatment areas.

S4. PRODUCT USE

The Permittee must comply with all requirements on the FIFRA product label. Permit requirements do not reduce the requirements on the FIFRA label.

Ecology prohibits treatment that causes oxygen depletion to the point of stress or lethality to aquatic biota from plant die-off, the mortality of aquatic vertebrates, or unintended impacts to water quality or biota.

This permit does not convey property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

A. Pesticide Application Requirements

The Permittee must ensure that:

1. ***Direct supervision*** of the application of imazamox is performed by an aquatic licensed pesticide applicator.

2. All pesticide applicators must have current training in the use of equipment necessary to apply herbicides correctly.

3. Appropriately trained personnel calibrate the application equipment prior to each application.

The Permittee shall:

1. Only apply imazamox, or another herbicide if the Permittee is also covered under an experimental use permit (special condition S4.H), to commercial clam beds, excluding geoduck beds.

2. Not apply other pesticides to commercial clam beds during the four days before and after application of imazamox.

3. Apply imazamox to its commercial clam beds once *Z. japonica* levels meet or exceed the ***action threshold(s)*** in its DMP based on at least one pre-treatment survey.

4. Apply imazamox from April 15 through June 30 (dates inclusive).

5. 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.

6. Treat only after the commercial clam bed is exposed by the falling tide. After imazamox application there must be at least one hour of dry time before tidal inundation.

7. Aerial application of imazamox is prohibited. Ground based applications must not be made when wind speed exceeds 10 miles per hour.

8. Not directly apply imazamox into any ***drainage*** that contains *Z. marina* and is moving water off the treatment site.

B. Treatment Buffers

The Permittee must maintain a buffer inside their sponsor's property line where treatment will not occur. See Appendix E Figure 1.

A buffer width of 10 meters, measured perpendicular to the parcel boundary, is required for all treatment sites.

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.

C. Annual Pre-treatment Plan Public Notice

The Permittee must submit to Ecology a pre-treatment plan (special condition S7.A) by March 1 annually. Ecology will post pre-treatment plans to the *Zostera japonica* Management on Commercial Clam Beds General Permit website at least 30 days prior to the first application of the season.

D. Shoreline Posting

The Permittee must:

1. Post signs at all corners of the treatment site, using the template provided in Appendix C. The Permittee may add additional treatment-related information to the sign, but may not remove required information.

2. Post signs no more than 24 hours before treatment.

3. Post signs so they are secure from the normal effects of weather and tide but cause minimal damage to private or public property. For example, signs could be posted on long poles so that signs are above the high tide mark.

4. Ensure that the posted signs remain in place for 24 hours after treatment.

5. Remove all signs by the end of the treatment season.

6. Post signs in English and the language, if other than English, commonly spoken by the community that uses the area.

E. Spill Prevention

Permittees must:

1. Handle, store, and use all oil, fuel, chemicals, or products authorized under this permit in a manner that prevents spills.
-
2. Ensure that they maintain all mobile equipment to prevent leaks or spills of petroleum products.

3. Have absorbent materials available for cleanup and the spill containment materials recommended in the Material Safety Data Sheet for imazamox.

F. Spill Notification Requirements

Permittees must immediately report spills to Ecology by calling 800- 258-5990 *and* 800- 424-8802. See http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm for more environmental reporting information.

G. Spill Cleanup Requirements

1. In the event of a spill, Permittees must begin immediate containment and cleanup using appropriate materials. Cleanup takes precedent over normal work.

2. Cleanup includes proper disposal of any spilled materials and used cleanup materials.

H. Experimental Use

Experimental use of chemicals not listed in this permit may occur on a limited basis in the context of a research and development efforts related to the chemical control of *Z. japonica*. Research and development efforts:

1. Must be conducted under coverage of this permit. See special condition S2 for permit application requirements.

2. Must be conducted under a state experimental use permit issued by Washington State Department of Agriculture.

3. Must be limited to one acre or less, except for situations where Ecology has reviewed and approved a federal EUP.

4. Must be in support of chemical approval for inclusion in future versions of this permit.

5. Are subject to all other conditions of this permit.

S5. MONITORING

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit. Ecology may only specify alternative methods for parameters without limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

All samples must be analyzed by a laboratory registered or accredited under the provisions of *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. The following parameters need not be accredited or registered:

a. Flow.
b. Temperature.
c. Settleable solids.
d. Conductivity, except that conductivity must be accredited if the laboratory must otherwise be registered or accredited.

e. pH, except that pH must be accredited if the laboratory must otherwise be registered or accredited.
f. Turbidity, except that turbidity must be accredited if the laboratory must otherwise be registered or accredited.
g. Parameters which are used solely for internal process control

Documentation of monitoring activities and results must include (if applicable):
a. The date, exact place, and time of sampling.
b. The date analyses were performed.
c. Who performed the analyses.
d. The analytical techniques/methods used (if any).
e. The results of such analyses.

A. Monitoring

The Permittee must conduct routine monitoring on all commercial clam beds treated with imazamox.

1. If treatment does not occur up to the 10m property line buffer (see condition S4.B), monitoring consists of recording the date treatment occurred, amount of active ingredient applied, and the number of acres and the location(s) of acreage treated.

2. If treatment occurs up to the 10m property line buffer (see condition S4.B) on a treated parcel the Permittee must measure the distance into the buffer that *Zostera spp.* plants are affected by treatment. See Appendix E for diagrams of how buffers must be implemented on imazamox treated clam beds.

To quantify this distance, 30 days after treatment, the Permittee must measure the width of dead eelgrass (*Zostera spp.*) in the buffer.

The width of dead eelgrass must be measured from the inner edge of the buffer, perpendicular to the buffer edge, to the first instance of live *Zostera spp.*

For situations where no eelgrass is naturally present (not due to the effects of treatment) within the buffer area, no measurements must be taken.

The number of measurements taken will depend on the size of the commercial clam bed treated. Measurements must be spaced approximately equidistant across the parcel edge.

Treatment Acreage	Up to 5 Acres	5.1 to 10 Acres	10.1 to 20 Acres	20+ Acres
# Measurements per Parcel Edge	3	5	8	10

Photographs must be taken at all measured locations to verify the measurement. Each photograph must be labeled by placing a card with the date, Global Positioning System (GPS) coordinates, sample site and permit number within the photographed area.

S6. RECORDS

A. Records Retention

1. The Permittee must retain records of all permitting and monitoring information for a minimum of five (5) years. Such information must include copies of all reports required by this permit and records of all data used to complete the application for coverage.

2. The Permittee must keep records longer in the event of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

3. The Permittee must make the records, reports, surveys, plans, public notices, and other information required by this permit available to Ecology on request.

S7. REPORTING

All reports submitted to Ecology must follow the signatory requirements of general condition G15.

The Permittee must submit a signed and dated copy of the annual Pre-treatment Plan required by this permit to Ecology by March 1 of each year. 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.

The Permittee must submit a signed and dated copy of the Annual Report required by this permit to Ecology by December 31 of each year.

Reports must be mailed or delivered to:

Department of Ecology
Water Quality Program
Attn: Aquatic Pesticide Permit Manager
PO Box 47696
Olympia, WA 98504-7696

Ecology is moving to online permit application and report submittal. When it becomes available for this permit, Ecology may modify this permit to require electronic submittal of the reports.

A. Annual Pre-Treatment Plan

Permittees must submit an annual pre-treatment plan to Ecology by March 1. The plan must include:

a. Locations of acreage planned for treatment, including GPS coordinates of each corner of the area.

b. The size, in acres, of each area planned for treatment.

c. 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.

B. Annual Report

1. Permittees must submit an annual report to Ecology by December 31 each year, regardless of whether treatment or monitoring occurred.

2. The annual report must include:

a. Locations of acreage treated, including GPS coordinates of each corner of the area.
b. The size, in acres, of each treated area.
c. Date treatment occurred on each area treated.
d. The amount of active ingredient applied to the treated area.
e. The results of the monitoring required in special condition S5.A.

C. Noncompliance Notification

In the event a Permittee is unable to comply with any of the terms and conditions of this permit, which may endanger health or the environment, the Permittee must immediately stop the activity causing the noncompliance, correct the problem, orally notify the permit manager at Ecology within 24 hours of the failure to comply, and return to compliance as quickly as possible.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

S8. APPENDICES

The attached appendices are incorporated by reference into this permit.

APPENDIX A – DEFINITIONS

APPENDIX B – PUBLIC NOTICE

APPENDIX C – SIGN TEMPLATE

APPENDIX D – DISCHARGE MANAGEMENT PLAN FOR *ZOSTERA JAPONICA* TREATMENTS ON COMMERCIAL SHELLFISH BEDS

APPENDIX E - FIGURES

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a concentration in excess authorized by this permit, constitutes a violation of the terms and conditions of this permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee must at all times properly operate and maintain all systems of treatment and control to achieve compliance with the terms and conditions of the general permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit. The Permittee must not allow concentrations of imazamox to exceed FIFRA label requirements.

G3. RIGHT OF ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law, at reasonable times:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this general permit;

B. To have access to and to copy any records that must be kept under the terms and conditions of the permit;

C. To inspect any posting, monitoring equipment, or method of monitoring required in this permit;

D. To inspect any collection, treatment, pollution management, or discharge facilities; and

E. To sample any discharge of pollutants.

G4. PERMIT COVERAGE REVOCATION

Pursuant to chapter 43.21B RCW and chapter 173-226 WAC, the Director may require any discharger authorized by this general permit to apply for and obtain coverage under an individual permit or another more specific and appropriate general permit. Cases where revocation of coverage may be required include, but are not limited to the following:

A. Violation of any term or condition of this general permit.

B. Obtaining coverage under this general permit by misrepresentation or failure to disclose fully all relevant facts.

C. Failure or refusal of a Permittee to allow entry as required in RCW 90.48.090.

D. A determination that the permitted activity endangers human health or the environment, or significantly contributes to water quality standards violations.

E. Nonpayment of permit fees or penalties assessed pursuant to chapter 90.48.465 RCW and chapter 173-224 WAC.

F. Failure of a Permittee to satisfy the public notice requirements of WAC 173-226-120(5), when applicable; or Permittees who have their coverage revoked for cause according to WAC 173-226-240, may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within ninety (90) days from the time of revocation and is submitted along with a complete individual permit application form.

G5. GENERAL PERMIT MODIFICATION OR REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of chapter 173-226 WAC. Grounds for modification or revocation and reissuance include, but are not limited to, the following:

A. When a change that occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the Federal Water Pollution Control Act or chapter 90.48 RCW for the category of dischargers covered under this general permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this general permit is approved.

D. When information is obtained which indicates that cumulative effects on the environment from dischargers covered under this general permit are unacceptable.

G6. REPORTING A CAUSE FOR REVOCATION OF COVERAGE

A Permittee who knows, or has reason to believe, that any activity has occurred, or will occur, which would constitute cause for revocation under condition G5 above or 40 CFR 122.62, must report such information to Ecology so that a decision can be made on whether action to revoke coverage under this general permit will be required. Ecology may then require submission of a new application for coverage under this or another

general permit or an application for an individual permit. Submission of a new application does not relieve a Permittee of the duty to comply with all the terms and conditions of the existing general permit until the new application for coverage has been approved.

G7. TOXIC POLLUTANTS

Permittees must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G8. OTHER REQUIREMENTS OF TITLE 40 CODE OF FEDERAL REGULATIONS

All other applicable requirements of 40 CFR 122.41 and 122.42 are incorporated in this general permit by reference.

G9. 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.

G10. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this general permit by administrative order or permit modification.

G11. PAYMENT OF FEES

Permittees must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit coverage or take enforcement, collection, or other actions, if the permit fees established under chapter 173-224 WAC are not paid.

G12. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER A GENERAL PERMIT

Any discharger authorized by this general permit may request to be excluded from coverage under this general permit by applying for an individual permit. The discharger must submit to the Director an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. The reasons must fully document how an individual permit will apply to the applicant in a way that the general permit cannot. The Director may either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit

is issued to a discharger otherwise subject to this general permit, the applicability of this general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G13. TRANSFER OF PERMIT COVERAGE

This permit coverage may be automatically transferred to a new Permittee if:

A. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

B. The notice includes a written signed agreement between the existing and new Permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

C. Ecology does not notify existing Permittee and the proposed new Permittee of its intent to modify or revoke coverage.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit will incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G15. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to Ecology must be signed and certified.

A. In the case of a municipal, state, or public facility, all permit applications must be signed by a principal executive officer or ranking elected official. In the case of a corporation, partnership, or sole proprietorship, all permit applications must be signed by either a principal executive officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.

B. All reports required by this permit and other information requested by Ecology shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of a regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

C. Changes to authorization. If an authorization under paragraph B.2. above is no longer accurate because a different individual or position has responsibility for environmental matters, a new authorization satisfying the requirements of paragraph B.2. must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiries of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

G16. APPEALS

The terms and conditions of the *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit are subject to appeal. There are two different appeal categories:

A. The permit terms and conditions as they apply to the appropriate class of dischargers are subject to appeal within thirty (30) days of issuance of this general permit in accordance with chapter 43.21(B) RCW and chapter 173-226 WAC; and

B. The applicability of the permit terms and conditions to an individual discharger are subject to appeal in accordance with chapter 43.21(B) RCW within thirty (30) days of the effective date of coverage of that discharger.

An appeal of the coverage of this permit to an individual discharger is limited to applicability or non-applicability to that same discharger. Appeal of this permit coverage of an individual discharger will not affect any other individual dischargers. If the terms and conditions of this general permit are found to be inapplicable to any discharger (s), the matter must be remanded to Ecology for consideration of issuance of an individual permit or permits.

G17. SEVERABILITY

The provisions of this general permit are severable, and if any provision of this general permit, or application of any provision of this general permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this general permit shall not be affected thereby.

G18. DUTY TO REAPPLY

Permittees must reapply for coverage under this general permit at least one hundred and eighty (180) days prior to the specified expiration date of this general permit. An expired general permit continues in force and effect until Ecology issues a new general permit or until Ecology cancels it. Only those Permittees that reapply for coverage are covered under the continued permit.

APPENDIX A - DEFINITIONS

All definitions listed below are for use in the context of this permit only.

Action threshold: The density of, or number of individuals in, a pest population that triggers management activities.

All known, available, and reasonable methods of prevention, control, and treatment: (AKART): A technology-based approach to limiting pollution from discharges. Described in chapters 90.48 and 90.54 RCW, and chapters 173-201A, 173-204, 173-216, and 173- 220 WAC.

Applicant: The aquatic licensed pesticide applicator and sponsor applying for permit coverage.

Aquatic License: Means as defined in WAC 16-228-1545(3)(u).

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.

Direct Supervision: Means as defined in RCW 17.21.020(13).

Discharge: The addition of any pollutant to a water of the state.

Discharge: Management Plan: A plan that documents intended pest management strategies based on action thresholds using the principles of ***integrated pest management***.

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.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA): A set of EPA regulations that establishes uniform pesticide product labeling, use restrictions, and review and labeling of new pesticides.

Herbicide: Any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any weed or other higher plant (see chapter 17.21.020 RCW).

Integrated Pest Management: A pest management strategy that incorporates pest population monitoring, multiple control methodologies including the possibility of no control, and setting action thresholds to determine when pest control will be most effective.

Marker dyes: Colorants sprayed onto the targeted weed along with the herbicide to mark the areas already treated.

Notice of Intent (NOI): The application form that Ecology specifies the applicant must use to apply for permit coverage.

Permittee: Any aquatic licensed pesticide applicator with coverage under this permit.

Pesticide: Means as defined in RCW's 15.58.030(31) and 17.21.020(36)

Pesticide Applicator: An individual licensed by Washington State Department of Agriculture under chapters 17.21 RCW and chapter 16-228 WAC to apply pesticides.

Sensitive, threatened, or endangered:

Sensitive: Any species that is vulnerable or declining and could become endangered or threatened in the state without active management or removal of threats.

Threatened: Any species likely to become endangered in Washington within the foreseeable future if factors contributing to its population decline or habitat degradation or loss continue.

Endangered: Any species in danger of becoming extinct or extirpated from Washington within the foreseeable future if factors contributing to its decline continue. Populations of these species are at critically low levels or their habitats have been degraded or depleted to a significant degree.

Sponsor: An individual entity in the business of commercial production and sale of clams that has the legal authority to make the decision to apply herbicide to it's owned or leased clam beds.

State Environmental Policy Act (SEPA): Chapter 43.21C RCW and Chapter 197-11 WAC.

State experimental use permit: A permit issued by WSDA that allows the use of pesticides that are not registered or labeled for a particular use pattern for the purposes of research and development.

Surface waters of the state of Washington: All waters within the geographic boundaries of the State of Washington defined as "waters of the United States" in 40 CFR 122.2, and all waters defined as "waters of the state" in RCW 90.48.020 excluding underground waters. These include lakes, rivers, ponds, streams, inland waters, wetlands, marine waters, estuaries, and all other fresh or brackish waters and water courses, within the jurisdiction of the State of Washington, plus drainages to those surface waters.

Treatment: Applying an herbicide to a plant or plant population.

Washington Pesticide Application Act: Chapter 17.21 RCW.

Washington Pesticide Control Act: Chapter 15.58 RCW.

Zostera japonica: A seagrass species in the family Zosteraceae that is listed as a Class C noxious weed in Washington.

In the absence of other definitions set forth herein, the definitions set forth in 40 CFR Part 403.3 or in chapter 90.48 RCW apply.

APPENDIX B - PUBLIC NOTICE

PUBLIC NOTICE TEMPLATE FOR NEW APPLICANTS

The applicant (applicator and sponsor) must publish a public notice at least once each week for two consecutive weeks, in a single local or regional newspaper of general circulation. The applicant may add additional project information to this template, but must not remove or change any bolded language (other than changing fonts or removing bolding). Applicants may also publish a combined legal notice so long as the legal notice includes the contact information and the treatment location(s) for each applicant.

Applicant name(s) and contact information (e.g., phone number, email address, website-if applicable) – if applicants cooperate, list the name and contact information for each applicant **is seeking coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for the Management of *Zostera japonica* on Commercial Clam Beds in Willapa Bay. Commercial clam beds may be treated with the aquatic herbicide imazamox. The proposed coverage applies to** *(provide the location(s) within Willapa Bay and the number of acres proposed for treatment for each applicant).*

Ecology has made a SEPA determination of significance with the adoption of an existing environmental document for this proposal.

Any person desiring to present their views to the Department of Ecology regarding this application must do so in writing within 30 days of the last date of publication of this notice.

Comments must be submitted to the Department of Ecology. Any person interested in Ecology's action on the application may notify Ecology of their interest within 30 days of the last date of publication of this notice.

Submit comments to:
Department of Ecology
PO Box 47696
Olympia, WA 98504-7696
Attn: Water Quality Program, Aquatic Pesticide Permit Manager
Email: nathan.lubliner@ecy.wa.gov
Telephone: 360-407-6563

Copies of the application are available by contacting the Aquatic Pesticide Permit Manager.

APPENDIX C - POSTING TEMPLATE

CAUTION

Imazamox will be applied under permit on _____ to control the noxious weed *Zostera japonica* on commercial clam beds.

There are no swimming, recreation, or water use restrictions.

For more information about this treatment, contact:

_____ (Permittee to list a phone number for a contact that can explain the treatment and treatment location(s) to the caller).

Phone number: ___ - _____

Or the permitting agency Department of Ecology at ___ - _____

APPENDIX D: - DISCHARGE MANAGEMENT PLAN FOR *ZOSTERA JAPONICA* CONTROL ON COMMERCIAL CLAM BEDS

The following elements are minimum requirements for a Discharge Management Plan (DMP). The applicant must prepare a DMP and submit it to Ecology along with the Notice of Intent (NOI) for review and approval. The Permittee must revise the DMP whenever there are changes in the quantity of chemicals discharged or if it adds additional treatment sites. Changes to the DMP must be made prior to the discharge or as soon as possible thereafter. The Permittee must follow its DMP. Multiple Permittees may combine efforts to produce a single DMP that covers discharge of imazamox on all areas the Permittees plan to treat. Elements from other documents such as Environmental Impact Statements (EIS) may substitute for equivalent elements of the DMP.

A. Discharge Management Plan Team

The DMP must identify the people (including name and contact information) as well as each person's individual responsibilities, including the person(s) responsible for:

1. Managing the *Z. japonica* control project.
2. Developing and revising the DMP.
3. Developing, revising, and implementing corrective actions and other permit requirements.
4. Applying the herbicide (licensed applicators with license numbers and license expiration dates).

When changes to the DMP team occur, the Permittee must provide updated contact information to Ecology.

B. Problem Identification

1. Discuss the problems caused by the growth of *Z. japonica* on commercial clam beds.
2. Identify the commercial clam beds affected by Z. japonica and characterize the extent of the problem.
3. Include a general location map or maps that identify the geographic boundaries of the area to which the plan applies and the locations of the commercial beds.
4. Establish action thresholds that trigger the need to remove Z. japonica. Include the data used in developing the action thresholds and the methods to determine when the action threshold is met.

C. *Zostera japonica* Management Options

The DMP must provide an evaluation of the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms (particularly in relation to native eelgrass and associated organisms), feasibility of implementation, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Cultural methods
5. Biological control agents
6. Herbicides

D. Herbicide Use

The DMP must detail the surveillance procedures that the Permittee will use to determine:

1. When the action threshold is met.
2. Treatment efficacy on *Z. japonica.*
3. Non-target impacts to native eelgrass.

E. Response Procedures

The DMP must detail procedures that the Permittee will use to determine:

1. Compliance with labeled rates (equipment calibration and maintenance).
2. The schedule and procedures for preventing spills and leaks of chemicals or petroleum products (oil, gasoline, and hydraulic fluid) associated with the chemical application.

F. **Signature Requirements**

The DMP must include a signature statement and the signature of Permittee. The signature statement to read:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of those persons directly responsible for gathering information, the information in the DMP is, to the best of my knowledge and belief, true, accurate, and complete and will be updated as necessary. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations.

_____ _____

Signature *Date*

APPENDIX E - FIGURES

Figure 1: Buffers on single parcel

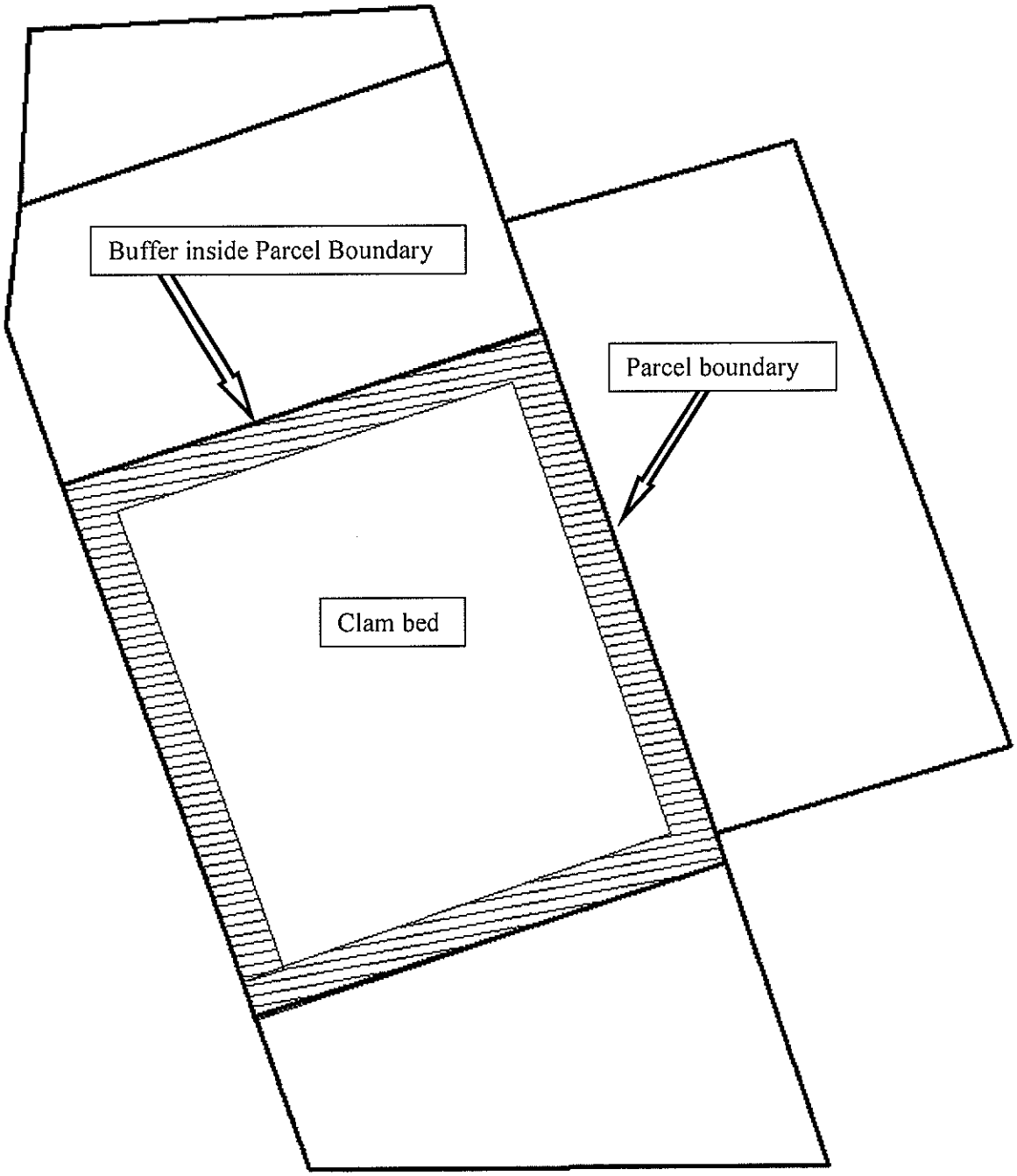


Figure 2: Buffers on Contiguous Clam Beds under same Ownership/Lease or under agreement between sponsors

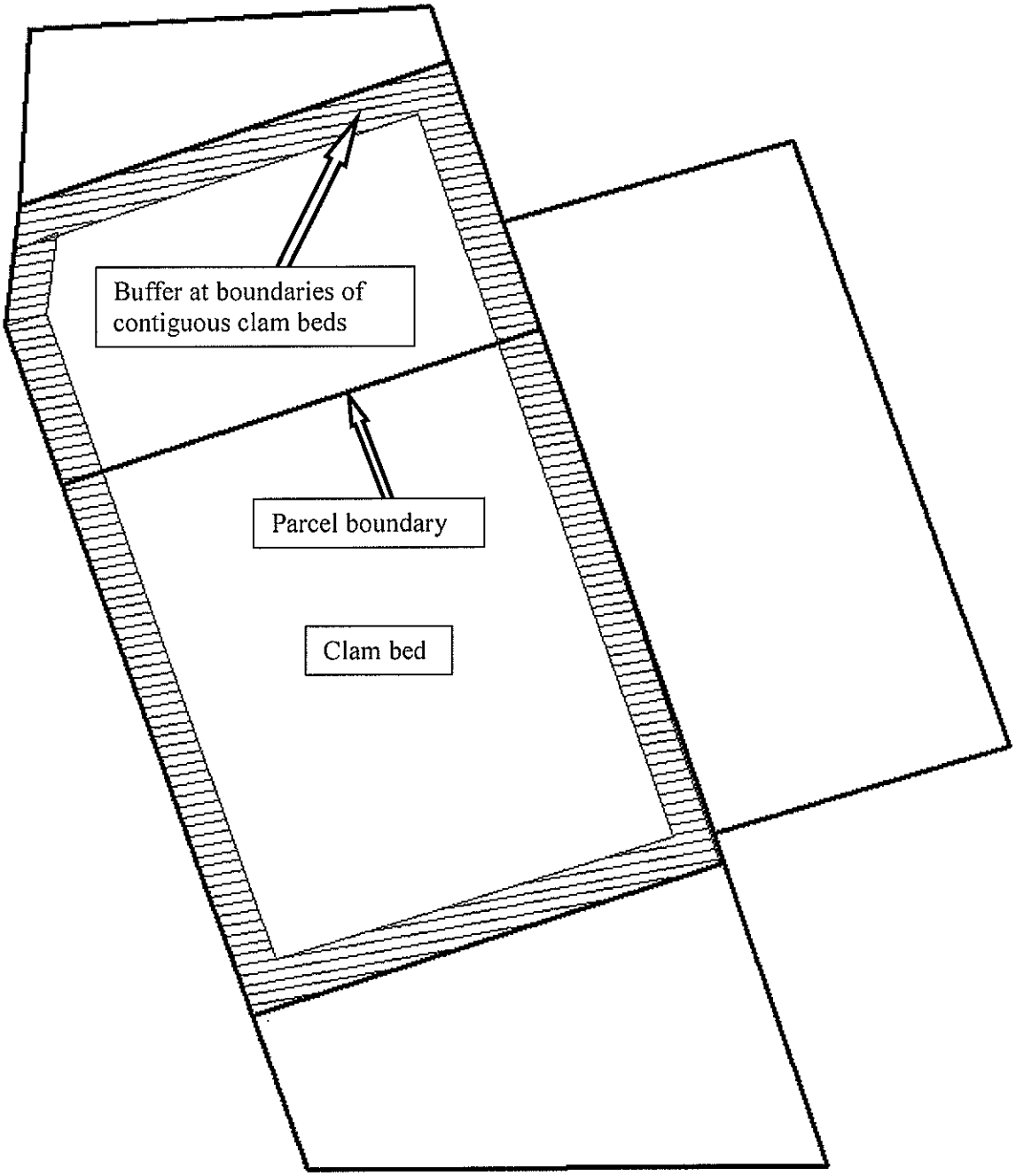
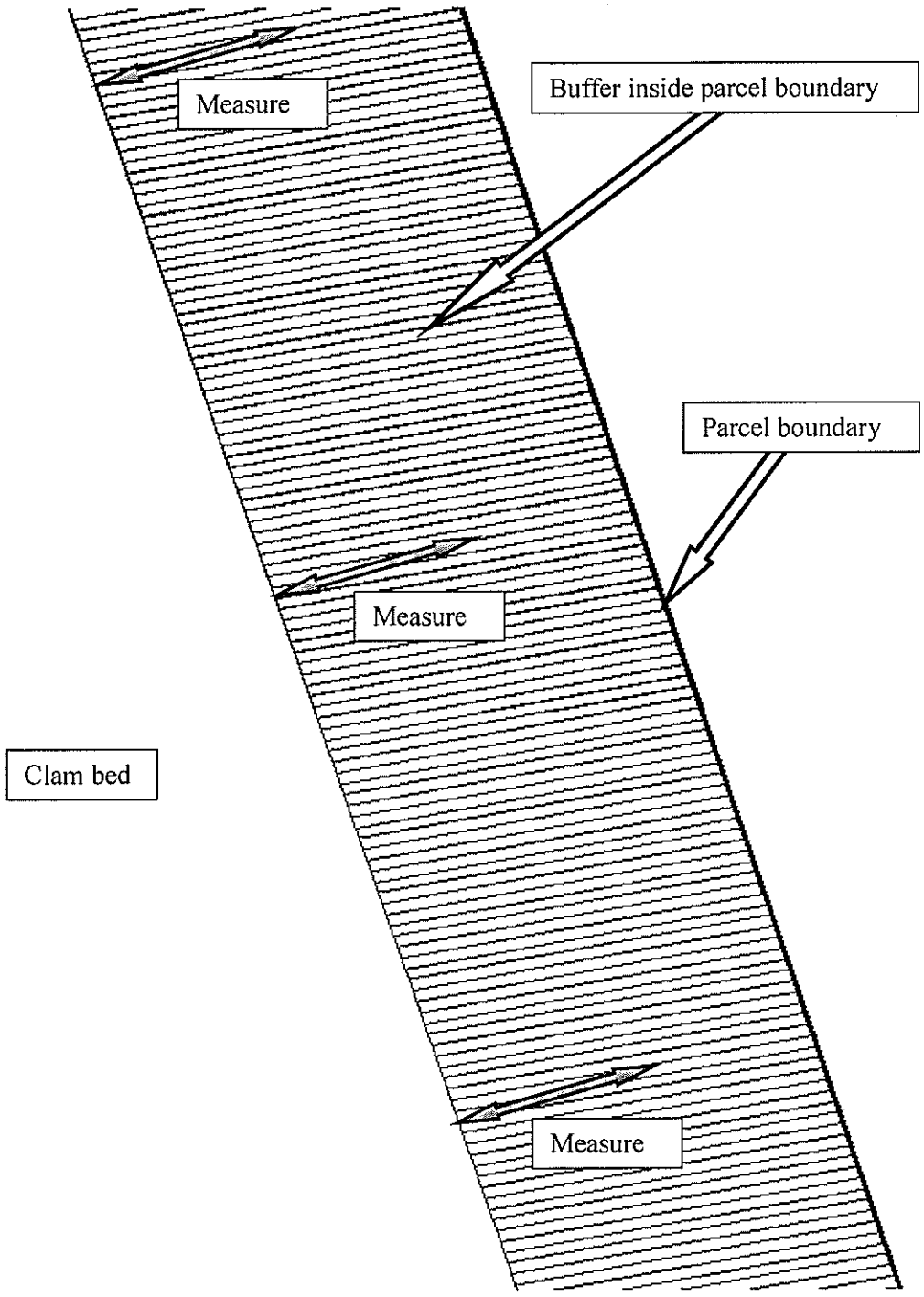


Figure 3: Buffer Location and Monitoring



Clearcast®

Herbicide

SPECIMEN

SePRO

GROUP 2 HERBICIDE

For the control of vegetation in and around aquatic and non-cropland sites including areas that may be grazed or cut for hay.

Active Ingredient	
ammonium salt of imazamox 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol- 2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid[1]	12.1%
Other Ingredients	87.9%
TOTAL	100.0%

[1]Equivalent to 11.4% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid 1 gallon contains 1.0 pound of active ingredient as the free acid

Keep Out of Reach of Children

CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

Refer to the inside of label booklet for additional precautionary information and *Directions for Use* including *Storage and Disposal*.

NOTICE: Read entire label before using. Use only according to label directions. Before buying or using this product, read *Warranty Disclaimer, Inherent Risks of Use* and *Limitation of Remedies* inside label booklet.

®Clearcast is a registered trademark of BASF Corporation.

Manufactured for: SePRO Corporation
11550 N. Meridian St.,
Ste. 600, Carmel, IN 46032 U.S.A.

EPA Reg. No. 241-437-67690
FPL20121009

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION. Harmful if absorbed through skin or inhaled. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing.

FIRST AID	
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth if possible. • Call a poison control center or doctor for further treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact INFOTRAC for emergency medical treatment information: 1-800-535-5053.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants;
- Chemical-resistant gloves, such as butyl rubber ≥ 14 mils, natural rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils; and
- Shoes plus socks.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide may be hazardous to plants outside the treated area. DO NOT apply to water except as specified in this label. DO NOT contaminate water when disposing of equipment washwaters and rinsate.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at the time of pesticide application.

DO NOTapply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Ensure spray drift to nontarget susceptible species does not occur.

DO NOT apply Clearcast® Herbicide in any manner not specifically described in this label.

Observe all cautions and limitations on this label and on the labels of products used in combination with Clearcast. DO NOT use Clearcast other than in accordance with the instructions set forth on this label. Keep containers closed to avoid spills and contamination.

STORAGE AND DISPOSAL

DO NOT contaminate food, feed or water by storage or disposal.

Pesticide Storage

Keep from freezing. DO NOT store below 32°F.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

STORAGE AND DISPOSAL (continued)

Triple rinse containers too large to shake (capacity >5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container. Refill this container with pesticide only. DO NOT reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. DO NOT transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call INFOTRAC at 1-800-535-5053.

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC: 1-800-535-5053

Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

PRODUCT INFORMATION

Clearcast® Herbicide is an aqueous formulation that may be diluted in water and either applied directly to water for the control/suppression of certain submerged aquatic vegetation or applied as a broadcast or spot spray to floating and emergent vegetation. Aquatic sites that may be treated include estuarine and marine sites, ponds, lakes, reservoirs, wetlands, marshes, swamps, bayous, arroyos, ditches, canals, streams, rivers, creeks and other slow-moving or quiescent bodies of water. **Clearcast** may also be used during drawdown conditions. **Clearcast** may also be applied for terrestrial and riparian vegetation control in industrial noncropland sites, and railroad, utility, and highway rights-of-way. Industrial noncropland sites include utility plant sites, tank farms, pumping installations, storage areas, fence rows and ditch banks. **Clearcast** may also be used for the establishment and maintenance of wildlife openings. **Clearcast** may also be used on those sites listed above that may be grazed or cut for hay.

Clearcast is quickly absorbed by foliage and/or plant roots and rapidly translocated to the growing points stopping growth. Susceptible plants may develop a yellow appearance or general discoloration and will eventually die or be severely growth inhibited.

Clearcast is herbicidally active on many submerged, emergent and floating broadleaf and monocot aquatic plants. The relative levels of control and selectivity can be manipulated by using a choice of rates and herbicide placement (water injected or floating/emergent foliar application).

To help maintain the utility of herbicide programs, the use of herbicides with different modes of action is effective in managing weed resistance.

Spray Adjuvants

Applications of **Clearcast** to emergent, floating or shoreline species require the use of a spray adjuvant. Always use a spray adjuvant that is appropriate for aquatic sites.

Nonionic Surfactants - Use a nonionic surfactant at 0.25% volume/volume (v/v) or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with an HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

Methylated Seed Oils or Vegetable Oil Concentrates - Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, mix methylated seed oil or vegetable-based seed oil concentrates at 1% of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in **Clearcast®** Herbicide deposition and uptake by plants under stress.

Silicone-based Surfactants - See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.

Invert Emulsions – Clearcast can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray runoff, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

Other - An antifoaming agent, spray pattern indicator, sinking agent or drift-reducing agent may be applied at the product labeled rate if necessary or desired.

Spray Drift Requirements for Aerial Application

- Applicators are required to use a coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the fixed wingspan or 90% of the rotor blade diameter to reduce spray drift.
- DO NOT apply when wind speed is greater than 10 mph.
- If applying at wind speeds less than 3 mph, the applicator must determine if
  1. Conditions of temperature inversion exist or
  2. Stable atmospheric conditions exist at or below nozzle height.

DO NOT make applications into areas of temperature inversions or stable atmospheric conditions.

Spray Drift Requirements for Ground Boom Application

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.

- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

DO NOT apply when wind conditions may result in drift, when temperature inversion conditions exist, or when spray may be carried to sensitive areas. See *Managing Off-target Movement* section for more drift reduction recommendations.

AQUATIC USE DIRECTIONS

Clearcast® Herbicide may be applied directly to the water for the control of submerged aquatic plant species and some emergent and floating species, or as a foliar application specifically for emergent and floating species.

DO NOT exceed maximum use rate per application:

- Water treatment - 500 parts per billion (ppb) (173 fl ozs of **Clearcast** per acre foot)
- Foliar broadcast application – 1 gallon per acre (1.0 lb ae/A)
- Foliar spot application - up to 5% **Clearcast** by volume

Clearcast may be applied by surface and aerial equipment including both fixed-wing aircraft and helicopter.

Foliar Application

Targeted Emergent and/or Floating Vegetation Application

To make surface applications targeting emergent or floating vegetation, uniformly apply with properly calibrated broadcast or spot treatment equipment in 10 or more gallons of water per acre. Spot treatments can be made with up to 5% **Clearcast** by volume. To ensure thorough spray coverage, higher spray volumes may be required when treating areas with large and/or dense vegetation. Use an appropriate spray pressure to minimize the drift potential depending upon spray equipment, conditions and application objectives.

Foliar Treatment of Emergent and Floating Vegetation Guidelines

- Always use a surfactant for foliar applications of emergent and floating weeds.
- Foliar applications of **Clearcast** may be made as a broadcast spray or as a spot spray with a percent spray solution ranging from 0.25% to 5% **Clearcast** by volume.
- Control will be reduced if spray is washed off foliage by wave action.

In aquatic sites, those application techniques described in the Terrestrial Use Directions section may be used to treat emergent vegetation.

Application to Water

Water Application to Target Submerged and/or Emergent/Floating Vegetation

Clearcast may be broadcast-applied to the water surface or injected below the water surface. **Clearcast** may be applied as undiluted product or diluted with water prior to application. Under surface-matted conditions, inject **Clearcast** below the water surface to achieve better product distribution.

Apply **Clearcast** to water to achieve a final concentration of the active ingredient of no more than 500 ppb. Multiple applications of **Clearcast** may be made during the annual growth cycle to maintain the desired vegetation response.

Clearcast® Herbicide Rates Per Treated Surface Acre

Average Water Depth of Treatment Site (feet)	Desired Active Ingredient Concentration (ppb)†			
	50	100	200	500
	Clearcast Rate per Treated Surface Acre (fl ozs)			
1	17	35	69	173
2	35	69	138	345
3	52	104	207	518
4	70	138	277	691
5	87	173	346	864
6	104	207	415	1,037
7	122	242	484	1,210
8	139	277	553	1,382
9	157	311	622	1,555
10	174	346	691	1,728

† **Clearcast** contains 1.0 pound of active ingredient per gallon. There are 128 fl oz in one gallon.

Aerial Application

Clearcast may be applied by both fixed-wing aircraft and helicopter. There is no minimum spray volume when making applications directly to the water. For applications targeting emergent and/or floating vegetation, uniformly apply with properly calibrated equipment in 5 or more gallons of water per surface acre. For best results, make aerial applications using a minimum of 20 gallons per acre.

Drawdown Application

Clearcast may be used in drawdown situations to provide postemergence and/or preemergence control/suppression of aquatic vegetation. Apply **Clearcast** as a broadcast spray at rates up to 1 gallon/A or as a spot spray treatment with up to 5% **Clearcast** by volume. Make applications when water has receded and exposed soil is moist to dry. For postemergence (foliar) applications, wait at least two weeks after application before reintroducing water. When treating irrigation canals, the initial flush of recharge water after application must not be used for irrigation purposes.

RESTRICTIONS AND LIMITATIONS

- **DO NOT** apply **Clearcast** to achieve a total active ingredient concentration in the water greater than 500 ppb.
- **DO NOT** apply more than 1 gallon of **Clearcast** per surface acre for the control of emergent and floating vegetation.

Irrigation Restrictions

- **DO NOT** use treated water to irrigate greenhouses, nurseries or hydroponics until the imazamox concentration has been determined by an acceptable method to be less than or equal to 1.0 ppb.
- **DO NOT** plant sugar beets, onions, potatoes or non-CLEARFIELD® canola in soils that have been previously irrigated with **Clearcast**-treated water until a soil bioassay successfully demonstrates acceptable levels of crop tolerance.
- **DO NOT** use **Clearcast**-treated waters resulting in a concentration >50 ppb for irrigation until residue levels have been shown to be ≤ 50 ppb by an acceptable method.
- Wait 24 hours before irrigating from still or quiescent waters after making a **Clearcast® Herbicide** application for submerged vegetation < 100 feet from an irrigation intake.
- Wait 24 hours before irrigating from still and quiescent waters after making a **Clearcast** application to emergent and/or floating vegetation if > 25% of the surface area of the water body has been treated or application was made < 100 feet from an irrigation intake.
- Flowing waters may be used to irrigate allowable sites with no restrictions when **Clearcast** is applied at ≤ 2 quarts per acre to waters with an average depth of ≥ 4 feet.
- After application of **Clearcast** to dry irrigation canals/ditches, the initial flush of water during recharge must not be used for irrigation purposes unless the imazamox concentration has been determined by an acceptable method to be < 50 ppb.

Clearcast applied at ≤ 2 quarts per acre in or on waters with a minimum average depth ≥ 4 feet will result in **Clearcast** concentrations < 50 ppb.

Other Water Use Restrictions

There are no restrictions on livestock watering, swimming, fishing, domestic use, or use of treated water for agricultural sprays.

Potable Water

Clearcast may be applied to potable water sources at concentrations up to 500 ppb to within a distance of ¼ mile from an active potable water intake. Within ¼ mile of an active potable water intake, **Clearcast** may be applied, but water concentrations resulting from injection and/or foliar applications may not exceed 50 ppb. If water concentrations greater than 50 ppb are required, the potable water intake must be shut and, if necessary, an alternate water supply be made available until the water concentration can be shown to be less than 50 ppb by an acceptable method.

Endangered Plant Species

To prevent potential negative impacts to endangered plant species, DO NOT apply **Clearcast** in a way that adversely affects federally listed endangered and threatened species.

WEEDS CONTROLLED OR SUPPRESSED BY CLEARCAST

Efficacy and selectivity of **Clearcast** is dependent upon many factors including: dose, time of year, stage of plant growth, plant susceptibility, method of application, and water movement. Rate selection will be partially dependent on characteristics of the treatment area and whether growth regulation or control is desired. Some areas may require a repeat

application to control or suppress regrowth. Consult SePRO Corporation to determine best treatment protocols to manage individual species and to meet specific aquatic plant management objectives.

Emergent, Floating, and Shoreline Species Controlled with Foliar Application

Common Name	Scientific Name	Rate (fl ozs/A)	Comments
Alligatorweed	*Alternanthera philoxeroides*	64 to 128	Repeat applications may be necessary. Add 1 qt/A of AquaPro™ herbicide for quicker brownout.
American lotus	*Nelumbo lutea*	64 to 128	
Arrowhead	*Sagittaria* spp.	32 to 64	
Cattail	*Typha* spp.	32 to 64	Apply after full green up through killing frost.
Chinese tallowtree	*Sapium sebiferum*	64 to 128	
Common reed	*Phragmites* spp.	96 to 128	Use 1 qt/A methylated seed oil (MSO); apply in late vegetative stage up to killing frost. Also apply as a spot treatment using 1% to 2% Clearcast® Herbicide per spray volume. Older stands of phragmites and stands growing in water may be more difficult to control and will require follow-up applications.
Common salvinia	*Salvinia minima*	32 to 64	Apply with MSO or MSO + silicone-based surfactant; retreatment will be necessary.
Floating heart	*Nymphoides* spp.	64 to 128	Also apply as a spot treatment using 2% to 5% Clearcast and 1% MSO per spray volume.
Floating pennywort	*Hydrocotyle ranunculoides*	32 to 64	Repeat applications may be necessary.
Flowering rush	*Butomus umbellatus*	64 to 128	
Four-leaf clover	*Marsilea* spp.	32 to 64	
Frog's bit	*Lymnobium spongia*	16 to 32	
Giant cane	*Arundo donax*	64 to 128	
Japanese knotweed	*Polygonum cuspidatum*	64 to 128	
Mexican lily	*Nymphaea mexicana*	32 to 64	
Mosquito fern	*Azolla* spp.	--	Apply using 2% to 5% Clearcast® Herbicide and 1% MSO by volume.
Parrotfeather	*Myriophyllum aquaticum*	64 to 128	Apply only to emergent vegetation.
Pickerelweed	*Pontederia cordata*	32 to 64	
Saltcedar	*Tamarix* spp.	64 to 128	Also apply using 2% to 5% Clearcast and 1% MSO per spray volume.
Smartweed, ladysthumb Smartweed, Pennsylvania Smartweed, swamp	*Polygonum persicaria* *Polygonum pensylvanicum* *Polygonum coccineum*	64 to 128	
Spatterdock	*Nuphar lutea*	64 to 128	
Variable-leaf milfoil	*Myriophyllum heterophyllum*	64 to 128	Apply with MSO (1% v/v) as an emergent foliar treatment when plants have emerged on the surface. Also apply as a spot treatment using 1% to 3% Clearcast per spray volume.
Water chestnut	*Trapa natans*	64 to 128	Apply with MSO to emergent part of plant. Also apply as a spot treatment using 2% to 5% Clearcast per spray volume.
Water hyacinth	*Eichhornia crassipes*	16 to 32	
Water lettuce	*Pistia stratiotes*	48 to 96	
Water lily	*Nymphaea* spp.	32 to 64	
Water primrose	*Ludwigia* spp.	32 to 64	Add 1 qt/A of AquaPro™ herbicide for quicker brownout.
Watershield	*Brasenia schreberi*	48 to 64	
Wild taro	*Colocasia esculenta*	96 to 128	

Species Susceptible to Water-Injected Applications

The following categories are provided to define species that may be growth regulated or controlled with 50 to 500 ppb Clearcast following in-water applications: susceptible, moderately susceptible, and less susceptible. The rates associated with each susceptibility category, including the *Special Weed Control* section, are provided as guidance with the overriding allowance that an application rate from 50 to 500 ppb may be used depending on the aquatic vegetation management objective and the characteristics of the aquatic vegetation and water body being treated.

Some species that are susceptible to foliar applications of Clearcast® Herbicide may be less susceptible to in-water applications. Use of higher rates are necessary to achieve desired control/suppression in areas of greater water exchange; when treating more mature or less susceptible plants; when targeting more difficult-to-control aquatic species; and when treating small areas in larger bodies of water (partial or spot treatments). Lower concentrations are generally used when conducting early season large-scale treatments; when greater selectivity is desired; and treating larger areas, more immature or susceptible plants, and areas with less potential for rapid water exchange.

Use of lower rates may increase selectivity on some species within the same category. Effects on susceptible plants can range from control to growth regulation depending on treatment site characteristics, exposure time, and application rate. Susceptible plant species may exhibit herbicide stress or reduced growth during active treatment phases. Whole lake applications with lower rates may provide plant growth regulation or greater selectivity while higher rates will generally provide broader activity.

Susceptible Vascular Aquatic Plants (50 to 200 ppb)

Common Name	Scientific Name
Curlyleaf pondweed	*Potamogeton crispus*
Eurasian watermilfoil	*Myriophyllum spicatum*
Hydrilla	*Hydrilla verticillata*
Sago pondweed	*Stuckenia pectinata*
Water hyacinth	*Eichhornia crassipes*
Water stargrass	*Heteranthera dubia*

Moderately Susceptible Vascular Aquatic Plants (100 to 300 ppb)

Common Name	Scientific Name
American pondweed	*Potamogeton nodosus*
Bladderwort	*Utricularia* spp.
Frog's bit	*Lymnobium spongia*
Illinois pondweed	*Potamogeton illinoensis*
Pickerelweed	*Pontederia cordata*
Salvinia	*Salvinia* spp.
Spikerush	*Eleocharis baldwinii*
Variable-leaf milfoil	*Myriophyllum heterophyllum*
Wigeon grass	*Ruppia maritima*

Less Susceptible Vascular Aquatic Plants (200 to 500 ppb)

Common Name	Scientific Name
Bulrush	*Schoenoplectus californicus*
Cattail	*Typha* spp.
Coontail	*Ceratophyllum demersum*
Egeria	*Egeria densa*
Flowering rush	*Butomus umbellatus*
Spatterdock	*Nuphar lutea*
Southern naiad	*Najas guadalupensis*
Water lily	*Nymphaea odorata*
Watershield	*Brasenia schreberi*

Special Weed Control

Eurasian Watermilfoil. Apply Clearcast® Herbicide at 100 to 200 ppb to actively growing plants early in the growing season. Applications made to mature Eurasian watermilfoil (vegetation topped out) may require multiple applications.

Hydrilla. Apply Clearcast at 150 to 200 ppb to actively growing plants early in the growing season. Applications made prior to topped-out hydrilla may require repeat application. A single application of 50 to 75 ppb can be used to suppress and growth-regulate hydrilla for up to 10 to 12 weeks. If desired, an additional 50 to 75 ppb can be applied to extend the period of growth suppression when normal hydrilla growth resumes.

Sago Pondweed. In dry ditches (drainage and irrigation), sago pondweed may be controlled or growth-suppressed with soil-applied Clearcast at 64 to 128 fl ozs/A. In irrigation canals, apply Clearcast after drawdown and prior to water recharge.

TERRESTRIAL USE DIRECTIONS

Clearcast may be applied with ground and aerial equipment including both fixed-wing aircraft and helicopter. Applications may be made using foliar broadcast spray, foliar spot spray, injection (hack and squirt), frill and girdle, cut stump, or basal methods.

Broadcast Spray Application

DO NOT apply more than 1 gallon of Clearcast per acre.

Foliar Spot Application

Apply Clearcast as a percent solution, containing up to 5% Clearcast by volume.

Injection (Hack and Squirt), Frill and Girdle, and Cut Stump Application

Treatments may be made using up to 100% Clearcast by volume.

Basal Application

Treatments can be made using up to 25% Clearcast® Herbicide by volume. Basal applications require the use of a good emulsion system to maintain Clearcast in a stable emulsion with the penetrating agent being used.

All foliar applications of Clearcast require the use of a spray adjuvant. Refer to the Spray Adjuvants section for additional information.

Managing Off-target Movement

The following information is general guidance for managing and minimizing off-target exposure of this product. Specific use directions in this label may vary from these general guidelines depending on the application method and objectives and should supersede the general information provided below.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outermost nozzles on the boom must not exceed ¾ the length of the fixed wingspan or 90% of the rotor blade diameter.
2. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.
3. DO NOT apply if wind speed is greater than 10 mph, except when making injection or subsurface applications to water.

Where states have more stringent regulations, they must be observed.

The applicator must be familiar with and take into account the information covered in the following aerial drift reduction advisory information.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see *Wind; Temperature and Humidity;* and *Temperature Inversions*).

Controlling Droplet Size:

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – DO NOT exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles - Use the minimum number of nozzles that provides uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

For some use patterns, reducing the effective boom length to less than ¾ of the fixed wingspan or 90% of rotor blade diameter may further reduce drift without reducing swath width.

Application Height

Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential.

NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing that causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light, variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light-to-no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Applicator is responsible for any loss or damage which results from spraying Clearcast® Herbicide in a manner other than directed in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

Clearcast® Herbicide may be used for the control of the following plant species. Clearcast may be effective for the control or suppression of additional plant species not listed below. The use of Clearcast for the control or suppression of undesirable plants not listed below may be done at the discretion of the user.

To the extent consistent with applicable law, the user assumes responsibility for any lack of control or suppression associated with application to weeds not listed on this label.

Weeds Controlled			
Common Name	Scientific Name	Rate Foliar (fl ozs/A)	Comments
Alligator weed	*Alternanthera philoxeroides*	64 to 128	Addition of AquaPro™ herbicide will improve efficacy.
Annual ryegrass	*Lolium multiflorum*	16 to 32	
Artichoke, Jerusalem	*Helianthus tuberosus*	64 to 128	
Bedstraw	*Galium aparine*	64 to 128	
Beet, wild	*Beta procumbens*	64 to 128	
Brazilian pepper* Christmasberry*	*Schinus terebinthifolius*	96 to 128	Also apply using 2% to 5% Clearcast per spray volume.
Buckwheat, wild	*Polygonum convolvulus*	64 to 128	
Buttercup	*Ranunculus spp.*	64 to 128	
California bulrush*	*Schoenoplectus californicus*	64 to 128	
Camphor tree*	*Cinnamomum camphora*	2% to 5% v/v	
Canola, volunteer (non-Clearfield®)	*Brassica campestris Brassica napus*	64 to 128	
Cattail	*Typha spp.*	32 to 64	
Chickweed, common	*Stellaria media*	64 to 128	
Chinese tallowtree; Popcorn tree	*Sapium sebiferum*	64 to 128	See *Special Weed Control* section.
Cocklebur, common	*Xanthium strumarium*	64 to 128	
Filaree, redstem Filaree, whitestem	*Erodium cicutarium Erodium moschatum*	64 to 128	
Flixweed	*Descurainia sophia*	64 to 128	
Giant ragweed**	*Ambrosia trifida*	32 to 64	
Henbit	*Lamium amplexicaule*	64 to 128	
Jamaican nightshade*	*Solanum jamaicense*	2% to 5% v/v	
Japanese stiltgrass	*Microstegium vimineum*	32 to 64	Use MSO at 1% by spray volume. Clearcast® Herbicide will provide some residual control of subsequent seedling emergence.
Jimsonweed	*Datura stramonium*	64 to 128	
Johnsongrass, rhizome Johnsongrass, seedling	*Sorghum halepense*	32 to 64 16 to 32	
Knotweed, prostrate	*Polygonum aviculare*	64 to 128	
Kochia	*Kochia scoparia*	64 to 128	
Lambsquarters, common	*Chenopodium album*	64 to 128	
Lettuce, miner's	*Montia perfoliata*	64 to 128	
Mallow, common Mallow, Venice	*Malva neglecta Hibiscus trionum*	64 to 128	
Mustard spp.	*Brassica spp.*	64 to 128	
Nettle, burning	*Urtica urens*	64 to 128	
Nettleleaf goosefoot	*Chenopodium murale*	64 to 128	
Nightshade, black Nightshade, Eastern black Nightshade, hairy	*Solanum nigrum Solanum ptycanthum Solanum sarrachoides*	64 to 128	
Old world climbing fern*	*Lygodium microphyllum*	5% v/v	
Pennycress, field	*Thlaspi arvense*	64 to 128	
Phragmites*	*Phragmites australis*	64 to 128	Use 1 qt/A methylated seed oil (MSO); apply in late vegetative stage up to killing frost. Also apply as a spot treatment using 1% to 2% Clearcast per spray volume. Older stands of phragmites and stands growing in water may be more difficult to control and will require follow-up applications.
Pigweed, prostrate Pigweed, redroot Pigweed, smooth Pigweed, spiny	*Amaranthus blitoides Amaranthus retroflexus Amaranthus hybridus Amaranthus spinosus*	64 to 128	
Puncturvine	*Tribulus terrestris*	64 to 128	
Purple loosestrife*	*Lythrum salicaria*	32 to 64	
Purslane, common	*Portulaca oleracea*	64 to 128	
Radish, wild	*Raphanus raphanistrum*	64 to 128	
Ragweed, common Ragweed, giant	*Ambrosia artemisiifolia Ambrosia trifida*	64 to 128	
Rocket, London Rocket, yellow	*Sisymbrium irio Barbarea vulgaris*	64 to 128	
Saltcedar*	*Tamarix spp.*	64 to 128	Also apply using 2% to 5% Clearcast® Herbicide and 1% MSO per spray volume.
Sedge*, purple Sedge*, yellow	*Cyperus rotundus Cyperus esculentus*	32 to 64	Also apply using 2% to 5% Clearcast per spray volume.
Shepherd's-purse	*Capsella bursa-pastoris*	64 to 128	

(continued)

Weeds Controlled			
Common Name	Scientific Name	Rate Foliar (fl ozs/A)	Comments
Smartweed, ladysthumb Smartweed, Pennsylvania Smartweed, swamp	*Polygonum persicaria Polygonum pensylvanicum Polygonum coccineum*	64 to 128	
Spike rush*	*Eleocharis spp.*	64 to 128	
Spurge, prostrate	*Euphorbia maculata*	64 to 128	
Sunflower, common	*Helianthus annuus*	64 to 128	
Swinecress	*Coronopus didymus*	64 to 128	
Tansymustard, green	*Descurainia pinnata*	64 to 128	
Taro	*Taro spp.*	64 to 128 5% v/v	
Thistle, Russian	*Salsola iberica*	64 to 128	
Tropical soda apple*	*Solanum viarum*	2% to 5% v/v	
Water primrose	*Ludwigia spp.*	32 to 64	Addition of AquaPro™ herbicide will improve efficacy.
Wetland nightshade*	*Solanum tampicense*	2% to 5% v/v	
Whitetop* Hoary cress*	*Cardaria draba*	8 to 16	
Willowweed panicle	*Epilobium brachycarpum*	64 to 128	
Velvetleaf	*Abutilon theophrasti*	64 to 128	

* Use not permitted in California unless otherwise directed by supplemental labeling
** Suppression of larger, well-established plants

In general, the use of methylated seed oil (MSO) at 1% v/v will provide the best control with foliar applications.

Special Weed Control - Chinese Tallowtree

Clearcast at 64 to 128 fl ozs/A or 0.5 to 2.0% v/v may be applied as a foliar application for selective control of Chinese tallowtree in and around tolerant tree species. Control Chinese tallowtree with foliar applications using aerial, handgun, or backpack application methods. When treating Chinese tallowtree, ensure that application method and spray volume provide adequate coverage of targeted Chinese tallowtree plants. Add methylated seed oil at 32 fl ozs/A for broadcast applications, or at 1% v/v for spot backpack and handgun applications. Tolerant hardwood species may exhibit varying degrees of leaf discoloration and temporary injury.

Areas that may be Grazed or Cut for Hay

Apply Clearcast to listed aquatic and terrestrial noncrop sites that may be grazed or cut for hay at a maximum use rate of 1 gallon per acre of Clearcast or 5% (v/v) spray solution for spot treatments. There are no grazing or haying restrictions.

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