

Aquatic Invasive Species Resource List (Revised March 2018)

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1. Aquatic Species Information

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 - iii. Benton SWCD Weed Profiles webpage. <http://www.bentonswcd.org/programs/invasive-species/weed-profiles/>
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- xi. Introduction to Common Native and Potential Invasive Freshwater Plant in Alaska. Vanessa H. Morgan and Mark Systema. PSU, Center for Lakes and Reservoirs, 2009.
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- k. Summary of Aquatic Acute Toxicity Data for Spray Adjuvants Allowed for Use on Aquatic Sites in Washington. WA State Dept. of Agriculture (rev. 7/20/2012). <http://www.ecy.wa.gov/programs/wq/pesticides/enviroReview/riskAssess/AqujuvantAquaticTox2012.pdf>
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- m. National Pesticide Information Center, Herbicide Properties Tool. <http://npic.orst.edu/HPT/>
- n. Aquatic Invasive Weeds, Presentation by Mark Sytsma, Center for Lakes and Reservoirs, Aquatic Bioinvasion Research and Policy Institute, Portland State University <https://www.bentonswcd.org/assets/sytsma-benton-cty-2016.pdf>
- o. Pesticide Risk Assessment and Toxicology. The Framework for Risk Communication. Presentation by Colton Bond, M.S. OSU. 2016. <https://www.bentonswcd.org/assets/RiskComEFatesm-0216-final.pdf>
- p. Understanding Pesticide Fate for the Protection of Water Resources. Presentation by Jeffrey Jenkins, OSU, Dept. of Environmental and Molecular Toxicology. 2016. <https://www.bentonswcd.org/assets/Understanding-pesticide-fate-for-the-protection-of-water-resources-Benton-SWCD-3-10-16.pdf>
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6. **General AIS Survey & Monitoring Protocols**
 - a. Aquatic Plant Survey Methods, Washington State Department of Ecology <http://www.ecy.wa.gov/programs/wq/plants/management/survey.html>
 - b. Aquatic Plant Sampling Protocols, Washington State Department of Ecology, 2001. Publication No. 01-03-017. <https://fortress.wa.gov/ecy/publications/documents/0103017.pdf>
 - c. How to conduct an Aquatic Plant Survey. Vermont Dept. of Environ. Conservation. 2009. https://anrweb.vt.gov/PubDocs/DEC/WSMD/lakes/docs/ans/lp_Aquatic%20Plant%20Surveying%202009%20update.pdf
 - d. Aquatic Pesticide Monitoring Program Field Evaluations of Alternative Pest Control Methods in California Waters. San Francisco Estuary Institute. April 2004. http://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/docs/sfei_reports/pestalt_field.pdf
 - e. A Review of Aquatic Plant Monitoring and Assessment Methods. John D. Madsen and Ryan M. Wersal, Geosystems Research Institute, Mississippi State University for Aquatic Ecosystem Restoration Foundation, May 2012. <http://www.aquatics.org/pubs/plantassessment.pdf>
 - f. Minnesota Lake Plant Survey Manual. MNDNR. February 2016. <http://files.dnr.state.mn.us/eco/lake-habitat/lake-plant-survey-manual.pdf>
 7. **General AIS Reporting and Databases**
 - a. iMapInvasives. Oregon Biodiversity Information Center. Oregon contact: Lindsey Wise, lindsey.wise@pdx.edu. GIS-based data management system to assist citizen scientists and natural resource managers working to protect NR from the threat of invasive species. <http://www.imapinvasives.org/>
 - b. Oregon Invasive Species Online Hotline. Report potential invasive spp. you have found to provide vital early detection info to experts working to stop the spread. <http://oregoninvasiveshotline.org/>
 - c. U.S. Geological Survey, NAS – Nonindigenous Aquatic Species: Central repository for specially referenced biogeographic accounts of introduced aquatic species. <http://nas.er.usgs.gov/default.aspx>
 8. **Permitting & Regulations**
 - a. **NPDES & Department of Environmental Quality (DEQ)**

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Oregon Contact: Beth Moore, DEQ, moore.beth@deq.state.or.us, (503) 229-6402

Permit: National Pollutant Discharge Elimination System (NPDES) Waste Discharge Pesticide General Permit (2300A)

<http://www.oregon.gov/oda/programs/Pesticides/Water/Pages/NPDES.aspx>

<http://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>

Notes:

- DEQ requires a permit for any pesticide application in, over or within three feet of water. The 3 feet is measured horizontally from the water's edge and conveyance.
- An NPDES permit is not needed for terrestrial applications greater than 3 feet from the water.
- Property ownership is not a consideration for determining whether an NPDES permit is required.
- Everyone treating aquatic invasives in Oregon is subject to this permit
- Everyone is required to keep a record of all applications, and have a copy of the NPDES permit on record (can be electronic)
 - Must maintain records of treatment for at least 3 years and follow all specified conditions stated in the permit in: Schedule A, conditions 1 through 4; Schedule B, conditions 1 through 8; and Schedule F, when applicable
- Entities with small-scale pesticide applications receive automatic coverage and only need to download a copy of the permit and adhere to the terms listed in order to satisfy permit terms. They do not need to formally register for permit coverage.
- You must register for a NPDES Pesticide General Permit if:
 - Exceeding the threshold of allowable application of herbicides to water within a one year period. This threshold is 20 river miles or 20 acres. This includes all of your projects (cumulative).
 - Your employer/group/agency is listed in the table on pg. 7 of the permit; this includes all federal and state employees and weed boards with regulatory authority
- Those who are required to register an NPDES permit are also required to complete and maintain a Pesticide Discharge Management Plan (described in the pesticide general permit).
 - [Generic PDMP form](#)

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Documents:

- Main Page for Pesticide General Permit docs:
<http://www.oregon.gov/deq/wq/wqpermits/Pages/Pesticide.aspx>
- Proposed 2300-A Pesticide General Permit:
<http://www.oregon.gov/deq/FilterPermitsDocs/2300ApermitD.pdf>
- Current Pesticide General Permit 2300-A:
<http://www.oregon.gov/deq/FilterPermitsDocs/2300aPermit.pdf>
- Fact Sheet for pesticide use in, on or near water:
<http://www.oregon.gov/deq/FilterDocs/2300APesticides.pdf>
- Table of Operators who are required to register under the permit:
<http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes2300a/2300aTable1.pdf>
- Pesticide Applications Covered Under The NPDES Permit:
<http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes2300a/2300aPermitOverview.pdf>
- Application for NPDES Permit (2300A):
<http://www.oregon.gov/deq/FilterPermitsDocs/2300A.pdf>

The 2300-A pesticide general permit is not required for:

- Pesticide applications to a treatment area at least three feet away from the water's edge
- Applications made solely to land or dry areas
- Applications made to a private lined pond with no connection to groundwater or overflow to surface water
- Agricultural runoff and irrigation return flows.

b. Department of State Lands (DSL)

DSL Contacts: <http://www.oregon.gov/dsl/WW/Pages/WWStaff.aspx>

DSL jurisdiction: "The Oregon Division of State Lands is the lead state agency regulating "fill and removal" activities for stream or watershed restoration. DSL works in conjunction with the US Army Corps of Engineers (USACE) in regulating fill and removal activities in waters of the state. This jurisdiction extends to the bankfull stage, mean high water or high tide line, or to the line of non-aquatic vegetation - whichever is higher. However if the activity involves filling or removing less than 50 cubic yards and is not in Essential Salmonid Habitat or in a State Scenic Waterway, DSL does not have jurisdiction."

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Regarding Removal-Fill of noxious aquatic weeds such as Ludwigia and yellow floating heart: Removing organic material (aside from large wood) does not count as "Removal" for DEQ's purposes, so a removal-fill permit would not be necessary in this instance, unless the control treatment (e.g., hand pulling) were to alter more than one cubic yard of bed and banks at any one site; for example, if you were digging out root masses over large areas.

Navigable Waterways of Oregon

<http://www.oregon.gov/dsl/WW/Pages/WaterwaysMap.aspx>

Required Forms:

- Application for Short-Term Access Agreement:
<http://www.oregon.gov/dsl/WW/Pages/WWforms.aspx#waterways>
- Notification for Certain Exempt Voluntary Habitat Restoration Projects:
<http://www.oregon.gov/dsl/WW/Pages/WWforms.aspx#waterways>

Documents:

- Oregon Aquatic Habitat Restoration and Enhancement Guide. The Oregon Plan for Salmon And Watersheds. May 1999. pgs. 24-25, Riparian Brush and Weed Control.
<http://www.oregon.gov/OWEB/docs/pubs/habguide99-complete.pdf>
- A Guide to the Removal-Fill Permit Process:
http://www.oregon.gov/DSL/WW/Documents/Removal_Fill_Guide.pdf

c. NOAA Fisheries/National Marine Fisheries Service (NMFS)

NOAA Contacts West

Coast: http://www.westcoast.fisheries.noaa.gov/about_us/our_locations.html

http://www.westcoast.fisheries.noaa.gov/habitat/conservation/oregon_state_habitat_office_contacts.html

Notes:

Do I Need to Apply for a Permit?

Need to reach out to NMFS (and U.S. Fish and Wildlife Service, if species under USFWS jurisdiction may also be impacted by proposed activities) to discuss

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whether any informal or formal Endangered Species Act (ESA) consultation (e.g., through Section 10 of ESA or Section 7 of ESA) is needed for the project.

Individuals planning to conduct any activity resulting in the "take" of an endangered or threatened species, whether or not deliberate, must possess a permit to perform that activity. Take under the ESA is defined as ""to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.""

There are two types of permits issued for "take" under the Endangered Species Act (ESA) under Section 10:

- Permits for scientific research or to enhance the propagation and survival of the species (ESA Section 10(a)(1)(A)), and
- Permits for taking species incidental to (not the purpose of) an otherwise lawful activity (ESA Section 10(a)(1)(B)). The latter must be accompanied by a Conservation Plan (CP), often referred to as a Habitat Conservation Plan (HCP). Sometimes this is included as part of a Biological Assessment .

Examples of activities that may require a section 10(a)(1)(A) permit include: surveys, genetic research, hatchery operations, relocations, capture and marking, and telemetric monitoring. Under certain circumstances, a section 10(a)(1)(A) permit may also be required for you to possess listed species' tissues or body parts.

Examples of activities that may require a section 10(a)(1)(B) permit: If you are engaged in an otherwise lawful activity where a listed species may be adversely affected, and the purpose of your activity is not scientific research or species enhancement, you may need to obtain a section 10(a)(1)(B) permit (*Incidental Take Permit*). Examples of activities that may require a section 10(a)(1)(B) permit include: state sportfishing programs, non-listed fish stocking programs, and other instream or watershed activities which may affect listed species.

More info: http://www.nmfs.noaa.gov/pr/permits/ESA_permits.html

Documents:

- List of NMFS Permits & Authorizations:
<http://www.westcoast.fisheries.noaa.gov/permits/index.html>

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- NMFS Application Instructions For Permits For The Incidental Take Of Endangered Or Threatened Species Under The Endangered Species Act: <http://www.nmfs.noaa.gov/pr/permits/index.html>
- Willamette River Biological Opinion (USACE, ESA Section 7 consultation): http://www.westcoast.fisheries.noaa.gov/fish_passage/willamette_opinion/index.html
- Upper Willamette River Salmon Recovery Plan: http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/willamette_river/upper_willamette_river_salmon_recovery_sub_domain.html

d. **U.S. Army Corps of Engineers (USACE)**

Oregon Contacts:

<http://www.nwp.usace.army.mil/Missions/Regulatory/Contact/>

Notes:

- USACE doesn't typically regulate removal of vegetation (e.g., invasive plants) or putting back in native seeds or tubers for habitat restoration
- Herbicide treatments fall under DEQ (water quality)
- If installing shrubs or trees with pots (with dirt) and it's below Ordinary High Water Mark, then need to discuss with USACE about compliance with Clean Water Act
- Can work with DSL to fulfill requirements for removal-fill under certain circumstances. Call to confirm.
- Refer to [SLOPES](#) when planning project.

Does your restoration project also involve the discharge of dredged or fill materials in waters of the U.S.?

[Section 404 of the Clean Water Act](#) (CWA) establishes a program to regulate the discharge of [dredged](#) or [fill](#) material into [waters of the United States](#), including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is [exempt from Section 404 regulation](#) (e.g., certain farming and forestry activities).

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More info: <https://www.epa.gov/cwa-404/section-404-permit-program>

Potential USACE Permit option for restoration projects discharging dredged or fill material (e.g., bank stabilization, reconfiguring channels, woody debris), depending on area of effect: Nation-wide Permit (NWP) 27 for Aquatic Habitat Restoration, Establishment, and Enhancement

Activities: http://www.saw.usace.army.mil/Portals/59/docs/regulatory/regdocs/NWP2012/NWP27_3-23.pdf

Section 10 of the Rivers & Harbors Act of 1899 - establishes a program to regulate activities affecting navigation in United States waters, including wetlands:

<https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>

Section 10 requires approval prior to the accomplishment of any work in or over navigable waters of the United States, or work which affects the course, location, condition or capacity of such waters. Projects typically requiring Section 10 permits include construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats intake structures, and cable or pipeline crossings; dredging and excavation; and Overhead transmission lines, tunnels, or directional bore holes.

Section 10 permits also require Clean Water Act Section 401 DEQ water quality certifications. Section 401 of the CWA gives states and tribes the authority to issue state water quality certifications for projects that require a federal license or permit that may result in a discharge to waters of the US. The Nationwide Permits have the 401 water quality certifications wrapped into them in most cases, but a project must meet specific design standards to obtain this.

More info on permits:

<http://www.nwp.usace.army.mil/Missions/Regulatory/Apply.aspx>

Documents:

- Standard Local Operating Procedures for Endangered Species (SLOPES):
<http://www.nwp.usace.army.mil/Missions/Environment/SLOPES.aspx>
- Restoration Biological Opinion:
http://www.nwp.usace.army.mil/Portals/24/docs/regulatory/SLOPES_V_restoration.pdf
- A Guide to the Removal-Fill Permit Process:
https://www.oregon.gov/dsl/PERMITS/docs/Removal_Fill_Guide_May_2013.pdf

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e. Oregon Department of Fish and Wildlife (ODFW)

Oregon contacts:

http://www.dfw.state.or.us/agency/directory/map_district_offices.asp

Notes:

- Find the in-water work period for the area you are working in using the [Oregon Guidelines for Timing of In-water Work](#).....
- Excerpt from the [Oregon Aquatic Habitat Restoration and Enhancement Guide](#):

“In relation to stream habitat restoration work, ODFW’s main role is to provide technical advice on how to design and implement projects that are the most beneficial to fish and other wildlife associated with aquatic and riparian environments. ODFW is mandated by the Oregon Legislature through the Wildlife Policy (ORS 496.012) and Food Fish Management Policy (ORS 506.109) to manage fishery resources, prevent the serious depletion of any indigenous species and to provide the optimum recreational, commercial, and aesthetic benefits for present and future generations of citizens.

The agency has direct authority related to physical alteration of stream habitat under Oregon legislative statutes. These statutes require the provision of a fish passage that meets criteria set by ODFW at any artificial obstruction placed across a stream. They require all water diversions to be screened where the possibility of diverting game fish exists. State statutes also require permission from ODFW prior to any use of explosives in streams. However, other state agencies with authority to issue permits or approve plans to alter streams and adjacent landscapes, such as Department of Forestry and Division of State Lands, have adopted rules requiring consultation with ODFW prior to such approval or issuance of permits. As part of this consultation, ODFW has set guidelines for the allowable time period when in-water work can be conducted, (Oregon Guidelines For Timing of In-Water Work To Protect Fish and Wildlife Resources), such as, in- channel habitat restoration work. ODFW can grant waivers to allow work outside these guidelines.”

Who must have an ODFW Scientific Taking Permit?

“A scientific taking permit is required to capture or handle marine and

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freshwater fish and shellfish and other marine invertebrates for scientific or educational purposes from the waters of Oregon. If you are targeting freshwater invertebrates (other than shellfish) but may capture fish with the sampling methods used, you will also need a Scientific Taking Permit.”

More info on Scientific Taking Permit application:

http://www.dfw.state.or.us/fish/license_permits_apps/scientific_taking_permit.asp

Documents:

- Frequently Asked Qs:
http://www.dfw.state.or.us/fish/license_permits_apps/scientific_taking_permit.asp#faq
- Oregon Guidelines for Timing of In-water Work to Protect Fish and Wildlife Resources:
http://www.dfw.state.or.us/lands/inwater/Oregon_Guidelines_for_Timing_of_%20InWater_work2008.pdf

f. Other Considerations

i. County Planning Division

- Check with the Community Development/Planning Department in your county to make sure that your project falls within county and city planning regulations.

a. Example: Land Use Compatibility Statement

What is a land use compatibility statement (LUCS)?

A LUCS is a form developed by a state agency to determine whether a state agency permit or approval will be consistent with local government comprehensive plans and land use regulations.

Why is a LUCS required ?

State agencies with permitting or approval activities that affect land use are required by Oregon law to be consistent with local comprehensive plans and have a process for determining consistency. A LUCS is required for state agency permits and certain approvals of plans or related activities (e.g., grant funding) that affect land use

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prior to issuance of a state permit or approval or grant funds.

- From [Oregon Aquatic Habitat Restoration and Enhancement Guide](#):

“Local governments in Oregon have a broad range of authorities and responsibilities which could apply to restoration projects. These include land use planning, storm drain system planning and maintenance, flood management, road system operation and maintenance, and water and sewer system operation and maintenance. Administration of local authorities will be almost unique from jurisdiction to jurisdiction. Restoration projects that occur under one or more authority may need to be reviewed by planning or engineering officials for the jurisdiction in which the project is located.”

ii. County Water Systems Departments

- Check with county public works if there is a water intake near your project site (there may be several offices per county).
- Herbicides have specific label restrictions on use. For example, glyphosate should not be discharged within .5 miles up-stream of a public water intake.
- Check water intake locations by using the following sources:
 - ODEQ Information Available on Drinking Water Intake Locations:
<http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes700pm/IntakeLocations.pdf>
 - Private Drinking Water Sources: Interactive Water Right Map:
<http://www.wrd.state.or.us/OWRD/MAPS/index.shtml>

iii. Oregon Dept. of Agriculture

- [OR Pesticide Licensing Guide](#)
 - Herbicide applicator must have:
 - Public or Commercial Pesticide Applicators License with Laws & Safety and Aquatic Pest Control Categories
 - Maintain record for 3 years for each application

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- Use of approved aquatic formulations registered for use in OR
- Follow all herbicide label requirements!

Prepared by:



Within input from:

[Willamette Aquatic Invasives Network](#)

